



Department of Chemistry  
College of Natural and Social Sciences  
CHE101 (Chemistry and Society)  
4 Units  
Fall 2018

**Days:** MWF (08/28/2018 – 12/07/2018)

**Time:** 1:30pm – 2:40pm

**Location:** Liberty Station Conf Center Rm 203

**Final Exam:** December 12 (W) 1:30pm – 4:00pm

**Review Sessions:** Latter 1 (M 6:00pm – 7:00pm)

**Instructor:** Dr. Jonathan Lockner

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**Office:** Rohr Trailer #4 / Sator 216

**Review Session Leader:** Aaron Sumner

### **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.

### **Welcome to CHE101**

Chemistry 101 is an introductory chemistry course and satisfies a General Education requirement. It is designed to be accessible whether or not you have studied chemistry before. Chemistry might be intimidating for some of you, but if you actively participate in class and commit to routine study, you can succeed and even find the subject to be surprisingly relevant and thoroughly enjoyable. Some teaching methods used in this course might be different from what you are used to, but I am confident that they will enhance your learning experience and you will be better prepared for your future endeavors. I'm glad you're here and I look forward to helping you see the importance of chemistry in society!

### **Course Description**

Designed to introduce non-science students to the major ideas of modern chemistry and their relevance in contemporary society. Chemical principles are examined and applied to areas such as nutrition, medicine, agriculture, pollution, and energy issues. (Meets a general education requirement; does not count toward any Chemistry Department majors.)

### **Course Learning Outcomes**

The following outcomes are expected and will be assessed on quizzes, exams, and projects:

- a) Demonstrate knowledge of atomic structure, bonding, acids/bases, oxidation/reduction, and nomenclature
- b) Demonstrate knowledge of fundamentals of nuclear chemistry
- c) Demonstrate knowledge of key terminology in organic chemistry and biochemistry
- d) Demonstrate knowledge of key concepts in energy production and consumption
- e) Perform research on a topic and deliver a presentation intended to teach others about the key concepts

GE Learning Outcome 1e will be assessed in this course using student performance on problems that are quantitative in nature on the comprehensive final exam.

## **Canvas**

You will be required to access this course regularly on Canvas, where you may keep track of readings, access assignments, view lecture slides, read notifications, check your grades, etc.

## **Textbook**

*Chemistry For Changing Times*, 14th Edition, John W. Hill, Terry W. McCreary, ISBN: 9780133923186 (MasteringChemistry with eText), 9780133923162 (Books a la Carte + MasteringChemistry with eText), 9780321971180 (Hardbound Text + MasteringChemistry with eText)

## **MasteringChemistry**

This is a web-based homework site. You are required to purchase access. If you bought a new textbook from the bookstore, you already have an access code for MasteringChemistry in your bundle. Go to [www.masteringchemistry.com](http://www.masteringchemistry.com) You will need to provide your email address, your 6-digit PLNU student ID, the Course ID (MCLOCKNER90816), and an access code (packaged with your textbook or as a standalone item).

## **Homework**

You will be assigned a set of homework problems for each chapter to be completed online at the MasteringChemistry website. The assignment for each chapter will be due by 7:00pm on the date specified in the course schedule found in this syllabus (see below). You may also consult the assignment calendar within MasteringChemistry. Late homework completion will not be allowed. These assignments are invaluable in preparing you for the in-class exams. Working problems is the only practical way to learn the material, and you should try your best to solve the problems before looking at the solutions. Online homework will count for 12% of your overall course grade.

## **Group Work**

We will also have regular in-class group work and in-class group assignments. Group work will count for 9% of your overall course grade. *This is where "Board Shorts" will come into play.*

## **Group Projects**

During the semester, we will enjoy in-class presentations by you, the students! I will assign various topics for which you will be expected to research, work collaboratively outside of class, prepare for, and deliver a presentation using PowerPoint, whiteboards, etc. Group projects count for 9% of your overall course grade.

## **Office Hours**

I will make every effort to be available in my office during the times indicated here for office hours: MWF 11:00am – 12:00pm. You may schedule an appointment or take your chances and drop by.

## **Review Sessions**

I will do my best to schedule some in-class time prior to each exam for me to answer any questions that you might have. In addition, there will be student-led review sessions during the semester. Your student review session leader is Aaron Sumner ([asumner1024@pointloma.edu](mailto:asumner1024@pointloma.edu)). Aaron will host a review session each week (unless otherwise noted).

## **Quizzes**

There will be six quizzes worth 10 points each given throughout the semester. Your lowest quiz score will be dropped. These quizzes may take on different forms, including but not limited to the following: take-home, in-class, in-class open-book, or in-class group work. Quizzes will count for 5% of your overall course grade.

## **Exams**

**Hour Exams:** Exams will cover material in the textbook and the lecture material as well as any other assigned material. There will be three major exams (150 points each). These are worth 45% of your overall course grade. No exam scores will be dropped. **If you are caught cheating, I reserve the right to assign you a zero on that quiz or exam, and you may be subject to further action as stated in the University policy. Makeup exams will only be given for excused absences supported by the appropriate documentation.** You should make sure to contact me before your scheduled exam time. My phone has a 24-hour voicemail service so you may leave a message (always leave a phone number where you may be reached). If you are unable to call me, then have your roommate, parents, etc., make contact for you. If you find that there are errors in the grading of your exam, you should come by my office as soon as possible.

**Exam Schedule:** A tentative, but reasonably accurate, schedule for the three hour exams is given in the course schedule found on the last two pages of this syllabus. Changes to exam dates will be announced at least two days in advance. If you miss class and do not find out about the changes, that is your problem and it is not a valid reason for requesting a makeup exam.

**Final Exam:** The date for your final exam is firmly set as per University policy. Successful completion of this class requires taking the final examination **on its scheduled day**. The final examination schedule is posted on the [Class Schedules](#) site. No requests for early examinations or alternative days will be approved. The final exam will consist of one portion over material covered in class since Exam 3 and one portion that will be comprehensive over the rest of the course. The final exam is worth 20% of your overall course grade.

## **Course Grade**

Your overall course grade will be based on your performance in various course activities described above. The weighting of each course activity is shown below.

Homework	12% (120 points)
Group Work	9% (90 points)
Group Projects	9% (90 points)
Quizzes	5% (50 points)
Hour Exams	45% (450 points)
Final Exam	20% (200 points)

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 – 90%
C	70 – 80%
D	60 – 70%
NC/F	< 60%

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

## **Course Schedule**

Listed below is a schedule with approximate lecture coverage and approximate exam dates indicated.

### **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 of 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.

### **PLNU Academic Accommodations Policy★**

If you have a diagnosed disability, please contact PLNU's Disability Resource Center (DRC) to demonstrate need and to register for accommodation by phone at 619-849-2486 or by email at [DRC@pointloma.edu](mailto:DRC@pointloma.edu). See [Disability Resource Center](#) for additional information.

### **PLNU Attendance and Participation Policy★**

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, the faculty member can file a written report which may result in de-enrollment. If the absences exceed 20 percent, 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.

Week	Date (Day)	In-Class Plan	HW (MasteringChemistry)
1	Aug 28 (T)	Introduction & Syllabus	
	Aug 29 (W)	Lecture (Ch. 1) / Board Shorts	
	Aug 31 (F)	Lecture (Ch. 1) / ICA (Math)	Intro HW due by 7:00pm
2	<b>Sep 3 (M)</b>	<b>NO CLASS (Labor Day)</b>	
	Sep 5 (W)	Lecture (Ch. 2) / Board Shorts	Ch. 1 HW due by 7:00pm
	Sep 7 (F)	Lecture (Ch. 2) / Quiz	
3	Sep 10 (M)	Group Projects (Proposal)	
	Sep 12 (W)	Lecture (Ch. 3) / Board Shorts	Ch. 2 HW due by 7:00pm
	Sep 14 (F)	Lecture (Ch. 3) / ICA (Atomic Structure)	
4	Sep 17 (M)	Lecture (Ch. 4)	
	Sep 19 (W)	Lecture (Ch. 4) / Board Shorts	Ch. 3 HW due by 7:00pm
	Sep 21 (F)	Lecture (Ch. 4) / Quiz	
5	Sep 24 (M)	Exam 1	
	Sep 26 (W)	Lecture (Ch. 5)	Ch. 4 HW due by 7:00pm
	Sep 28 (F)	Lecture (Ch. 5) / Board Shorts	
6	Oct 1 (M)	Lecture (Ch. 5) / Quiz	
	Oct 3 (W)	Group Projects (Plan)	
	Oct 5 (F)	Lecture (Ch. 6)	Ch. 5 HW due by 7:00pm
7	Oct 8 (M)	Lecture (Ch. 6) / Board Shorts	
	Oct 10 (W)	Lecture (Ch. 6) / ICA (Phases & IMFs)	
	Oct 12 (F)	Lecture (Ch. 7)	Ch. 6 HW due by 7:00pm
8	Oct 15 (M)	Lecture (Ch. 7) / Board Shorts	
	Oct 17 (W)	Lecture (Ch. 7) / <i>Special Treat</i>	
	<b>Oct 19 (F)</b>	<b>NO CLASS (Fall Break Day)</b>	Ch. 7 HW due by 7:00pm
9	Oct 22 (M)	Exam 2	
	Oct 24 (W)	Lecture (Ch. 8)	
	Oct 26 (F)	Lecture (Ch. 8) / Board Shorts	

Week	Date	In-Class Plan	HW (MasteringChemistry)
10	Oct 29 (M)	Lecture (Ch. 8) / Quiz	
	Oct 31 (W)	Lecture (Ch. 9)	Ch. 8 HW due by 7:00pm
	Nov 2 (F)	Lecture (Ch. 9) / Board Shorts	
11	Nov 5 (M)	Lecture (Ch. 9) / ICA (OChem)	
	Nov 7 (W)	Lecture (Ch. 11) / Quiz	Ch. 9 HW due by 7:00pm
	Nov 9 (F)	Lecture (Ch. 11) / Board Shorts	
12	Nov 12 (M)	Lecture (Ch. 11)	
	Nov 14 (W)	Exam 3	
	Nov 16 (F)	Lecture (Ch. 15)	Ch. 11 HW due by 7:00pm
13	Nov 19 (M)	Lecture (Ch. 15) / Board Shorts	
	<b>Nov 21 (W)</b>	<b>NO CLASS (Thanksgiving Recess)</b>	
	<b>Nov 23 (F)</b>	<b>NO CLASS (Thanksgiving Recess)</b>	
14	Nov 26 (M)	Lecture (Ch. 15) / Quiz	
	Nov 28 (W)	Group Projects (Presentation)	Ch. 15 HW due by 7:00pm
	Nov 30 (F)	Group Projects (Presentation)	
15	Dec 3 (M)	Lecture (Ch. 16) / Board Shorts	
	Dec 5 (W)	Lecture (Ch. 16) / ICA (Biochem)	
	Dec 7 (F)	<i>Who Wants to Be a Chemistry Millionaire?</i>	Ch. 16 HW due by 7:00pm
16	Dec 10 (M)		
	Dec 12 (W)	FINAL EXAM	
	Dec 14 (F)		