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

**Meeting Days:** MWF (01/09/2018 – 04/27/2018)
**Meeting Time (Section 1):** 10:55am – 12:05pm
**Meeting Time (Section 2):** 1:30pm – 2:40pm
**Meeting Location:** Evans 114
**Final Exam (S1):** May 4 (F) 10:30am – 1:00pm
**Final Exam (S2):** Apr 30 (M) 1:30pm – 4:00pm

**Instructor:** Dr. Jonathan Lockner
**Phone:** 619-849-2900
**Email:** jlockner@pointloma.edu
**Office:** Rohr Science 313B (MWF 3:00pm – 4:00pm)
**Review Sessions:** Latter 1 (M 5:45pm – 6:45pm)
**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 You will need to provide your email address, your 6-digit PLNU student ID, the Course ID (MCLOCKNER96912), 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 (Rohr 313B) during the times I've indicated for office hours. You may schedule an appointment or take your chances and drop by. **Office Hours: MWF 3:00pm – 4:00pm**

**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). Each week (unless otherwise noted), Aaron will host a review session in Latter 1. **Review Sessions: M 5:45pm – 6:45pm**

**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 worth 150 points each. These will count for 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. A mandatory, 200-point final exam will be given at the time dictated by the University schedule. 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 will count for 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. 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.

Board Shorts (in-class, 2-5 minutes, 12 opportunities)
Quizzes (in-class, 10 minutes, 6 quizzes)
Group Projects (in-class, 15 minutes, 4 opportunities)
Homework (MasteringChemistry: outside of class, 1 Intro assignment and 12 chapter assignments)
Exams (in-class, 70 minutes, 3 exams)

| Week | Date (Day) | In-Class Plan | HW (MasteringChemistry) |
|---|---|---|---|
| 1 | Jan 9 (T) | Introduction & Syllabus | |
| | Jan 10 (W) | Lecture (Ch. 1) / Board Shorts | |
| | Jan 12 (F) | Lecture (Ch. 1) / Review (Math) | Intro HW due by 7:00pm |
| 2 | **Jan 15 (M)** | **NO CLASS (MLK Day)** | |
| | Jan 17 (W) | Lecture (Ch. 2) / Board Shorts | Ch. 1 HW due by 7:00pm |
| | Jan 19 (F) | Lecture (Ch. 2) / Quiz | |
| 3 | Jan 22 (M) | Group Projects | |
| | Jan 24 (W) | Lecture (Ch. 3) / Board Shorts | Ch. 2 HW due by 7:00pm |
| | Jan 26 (F) | Lecture (Ch. 3) / Review (Atomic Structure) | |
| 4 | Jan 29 (M) | Lecture (Ch. 4) | |
| | Jan 31 (W) | Lecture (Ch. 4) / Board Shorts | Ch. 3 HW due by 7:00pm |
| | Feb 2 (F) | Lecture (Ch. 4) / Quiz | |
| 5 | Feb 5 (M) | Exam 1 | |
| | Feb 7 (W) | Lecture (Ch. 5) | Ch. 4 HW due by 7:00pm |
| | Feb 9 (F) | Lecture (Ch. 5) / Board Shorts | |
| 6 | Feb 12 (M) | Lecture (Ch. 5) / Quiz | |
| | Feb 14 (W) | Group Projects | |
| | Feb 16 (F) | Lecture (Ch. 6) | Ch. 5 HW due by 7:00pm |
| 7 | Feb 19 (M) | Lecture (Ch. 6) / Board Shorts | |
| | Feb 21 (W) | Lecture (Ch. 6) / Review (Phases & IMFs) | |

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|---|---|---|---|
| | Feb 23 (F) | Lecture (Ch. 7) | Ch. 6 HW due by 7:00pm |
| 8 | Feb 26 (M) | Lecture (Ch. 7) / Board Shorts | |
| | Feb 28 (W) | Lecture (Ch. 7) / *Special Treat* | |
| | Mar 2 (F) | Exam 2 | |
| 9 | **Mar 5 (M)** | **NO CLASS (Spring Break)** | |
| | **Mar 7 (W)** | **NO CLASS (Spring Break)** | |
| | **Mar 9 (F)** | **NO CLASS (Spring Break)** | |

| **Week** | **Date** | **In-Class Plan** | **HW (MasteringChemistry)** |
|---|---|---|---|
| 10 | Mar 12 (M) | Lecture (Ch. 8) | Ch. 7 HW due by 7:00pm |
| | Mar 14 (W) | Lecture (Ch. 8) / Board Shorts | |
| | Mar 16 (F) | Lecture (Ch. 8) / Quiz | |
| 11 | Mar 19 (M) | Group Projects | |
| | Mar 21 (W) | Lecture (Ch. 9) | Ch. 8 HW due by 7:00pm |
| | Mar 23 (F) | Lecture (Ch. 9) / Board Shorts | |
| 12 | Mar 26 (M) | Lecture (Ch. 9) / Review (OChem) | |
| | Mar 28 (W) | Lecture (Ch. 11) | Ch. 9 HW due by 7:00pm |
| | **Mar 30 (F)** | **NO CLASS (Easter Recess)** | |
| 13 | **Apr 2 (M)** | **NO CLASS (Easter Recess)** | |
| | Apr 4 (W) | Lecture (Ch. 11) / Board Shorts | |
| | Apr 6 (F) | Lecture (Ch. 11) / Quiz | |
| 14 | Apr 9 (M) | Exam 3 | |

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|---|---|---|---|
| | Apr 11 (W) | Lecture (Ch. 15) | Ch. 11 HW due by 7:00pm |
| | Apr 13 (F) | Lecture (Ch. 15) / Board Shorts | |
| 15 | Apr 16 (M) | Lecture (Ch. 15) / Quiz | |
| | Apr 18 (W) | Group Projects | |
| | Apr 20 (F) | Lecture (Ch. 16) | Ch. 15 HW due by 7:00pm |
| 16 | Apr 23 (M) | Lecture (Ch. 16) / Board Shorts | |
| | Apr 25 (W) | Lecture (Ch. 16) / Review (Biochem) | |
| | Apr 27 (F) | *Who Wants to Be a Chemistry Millionaire?* | Ch. 16 HW due by 7:00pm |
| 17 | Apr 30 (M) | FINAL EXAM (Section 2) | |
| | May 2 (W) | | |
| | May 4 (F) | FINAL EXAM (Section 1) | |