

# Chem 1C-61& 62 General Chemistry Course Outline

Fall, 2016

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Lecture: **MW 6:00 – 7:15 PM SC32**

Laboratory: **Section 61 MW 2:30 – 5:20 PM SC2208**

**Section 62 MW 7:30 – 10:20 PM SC2208**

**Office Hours: MW 2:00 – 2:30 PM SC2208**

**5:30 – 6:00 PM S32**

**PREREQUISITE:** Chem. 1B with a C or better.

**ACCEPTABLE FOR CREDIT:**

University of California, California State University and Colleges.

## **COURSE DESCRIPTION:**

Electrochemistry including the solution equilibrium, thermodynamics of voltaic cells, nuclear chemistry with emphasis on applications, coordination chemistry, an introduction to organic and biochemistry. Laboratory parallels lecture topics with an emphasis on qualitative analysis.

## **TEXTBOOK**

We will use the free online textbook from OpenStax. The textbook can be found here: <https://openstax.org/details/chemistry>  
Students can also purchase an individual printed copy of the text through Amazon for \$55. If you wish to order a printed copy you should order it ASAP so it will arrive on time before classes start on the 26th.

Lab Manual: Can be found on-line at <http://deanza.edu/chemistry/Chem1C.html>

A simple Scientific Calculator (non-programmable) is required for all the quizzes and exams; and **Safety goggles** is a must for the labs.

## **THE LABORATORY**

Lab safety rules are strictly enforced. **SAFETY GLASSES or GOGGLES** must be worn **AT ALL TIMES** while you are in the laboratory. Each student is required to have a **lab notebook** to outline the lab procedures, record experiment data, and calculations. It will be evaluated as part of the grade. You are expected to arrive in the laboratory on time. Preview the lab materials before coming to lab is required. Students must check out with me at the end of each lab to have their notebook stamped and sign a roll sheet. Each laboratory experiment must be completed within the specified time. When that period is over, no credit can be given for the lab, but **all labs must be completed to receive a grade in the course.** All lab work not conducted will be graded as a zero.

## **BASIS OF EVALUATION**

### **A. Quizzes (Approx. 5 - 10 minutes):**

Quizzes will be given either in the beginning or at the end of the lecture to those students who are present when the quizzes are passed out. No make-up quiz will be given.

### **B. Hourly Exam:**

Three hourly exams will be given during the quarter. Make-up exam shall be given for serious and compelling reasons only. Arrangement should be made with your instructor **PRIOR TO EXAM TIME** by all means. Any late exams if allowed will be subject to 10% deduction in grade.

### **C. Final Exam:**

A comprehensive final exam will be given. Student who misses or fails the final exam will not receive a grade C or better.

### **D. Homework**

#### E. Attendance and withdraws:

Attendance at every meeting is required and will be count towards your grade.

**\*\*\*Academic Dishonesty: Any form of academic dishonesty will be ground for dismissal from the course.**

#### F. Worksheets

Three worksheets will be assigned, each counts as 10 extra points.

Worksheet #	Content	Start Date	Due Date	Max Points
1	Molecular Geometry	9/26/16	10/3/16	10
2	pH review	10/3/16	10/10/16	10
3	Balance equations	10/19/16	10/26/16	10

#### G. Grading:

Quizzes	100+
Exams	330 Points
Final exam	250 Points
Lab Grade	320 Points
Lab Exams (140)	
Lab Reports(90)	
Lab Notebook (40)	
Performance/Unknown (50)	

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Total 100%

**880+ pts A**

**780+ pts B**

**650+pts C**

**500+pts D**

#### I. CHEMISTRY 1C LABORATORY SAFETY RULES

1. **SAFETY GLASSES OR GOGGLES** must be worn **AT ALL TIMES** while you are in the laboratory.
2. Each student is required to have a **lab notebook** to outline the lab procedures, record experiment data, and calculations. It will be evaluated as part of the grade.
3. You are expected to arrive in the laboratory on time. Tardiness of 15 minutes or more will not be permitted. Preview the lab materials before coming to lab is required
4. Students must clean and return all items from the stock room **no later than 10:15 PM** each day of the experiment.
5. Student must check out with the instructor at the end of each lab to have their notebook stamped and sign a roll sheet.
6. Each laboratory experiment must be completed within the specified time. When that period is over, no credit will be given for the lab, but **all labs must be completed to receive a grade in the course.** All lab work not conducted will be graded as a zero.
7. **Chemical Disposal:**  
Proper chemical disposal is essential. Students who do not comply with directed procedures may be dropped from the course for repeated offenses.
8. Please note that you are required to **officially** check out of your lab locker whether you remain in the course or drop the course. Failure to check out of lab on time will result in a late fee and may also result in your grades being held and a block placed on your future registration.

9. **If you drop within the first two weeks of class and fail to check out of lab, your locker may be reassigned to another student by the instructor, and you will be held responsible for any missing or broken lab locker equipment. After the first two weeks of class you must checkout by the assigned checkout date for your laboratory section.**

#### **J. FORMAT OF THE LABNOTEBOOK (a permanently bound notebook):**

1. Number and Title of the experiment
2. Purpose/theory of the experiment (brief)
3. Formula for the calculation.
4. Procedure in detail for the experiment. A photocopy of the lab manual is not allowed. Check with the lab instructor which section will be performed next to minimize preparation time and effort.

**The above should be fully prepared prior to attending the lab lecture and it should be stamped before lab lecture.**

5. Data (laboratory work) must be entered **immediately** and **directly** into the lab notebook **in ink**.

6. Calculations

The laboratory midterm and final are “**open-notebook**”. A well-prepared notebook would be helpful during these exams.

#### **K. FORMAT OF THE LAB REPORT**

1. Number and Title of the experiment.
2. Theory (more detail) and formula for the calculation
3. Procedure for the experiment (brief).
4. Data and calculation. Show at least one set-up for each different type of calculations.
5. Results (including all graphs) and discussion.
6. Pre-lab and post lab questions if listed in the lab manual..

**Report is due on day 2 of the next experiment. Penalty for late reports: 1-2 day late less 10%, 2-7 day late less 40% More than 1 week late, less 60%**

## CHEMISTRY 1C Fall 2016 TENTATIVE LECTURE, LAB AND EXAM SCHEDULE

	CHEM 1C	LECTURE &	EXAM SCHEDULE	LABORATORY SCHEDULE
WK	DATE	CHAPTER	CONTENT	
1	M 9/26/16	Chapter 10	Liquids and Solids-IMF, Phase Diagram	<b>Lab Check-In</b>
	W 9/28/16	Chapter 10	Dissolution process,	Freezing Point Day 1
2	M 10/3/16	Chapter 11	Solubility, Colligative Pro's	Freezing Point Day 2
	W 10/5/16	Chapter 14	Relative strength of Acids and Bases Bronsted-Lowry Acids and Bases,	Buffers Day 1
	10/8/16	Last day to add a class		
3	M 10/10/16	Chapter 14	Hydrolysis of salt solutions, Buffer	Buffers Day 2
	W 10/12/16		<b>Exam 1</b>	$K_{sp}$ , Common Ion Effects Day 1
4	M 10/17/16	Chapter 15	Precipitation and Dissolution, multiple equilibrium Solubility & Complex-Ion Equilibrium	$K_{sp}$ , Common Ion Effects Day 2
	W 10/19/16	Chapter 17	Electrochemistry - Galvanic cells, Batteries, Standard Reduction potentials, Nernst equation	ANIONS DAY 1
5	M 10/24/16	Chapter 17	Electrochemistry – Balance equations, corrosion	ANIONS DAY 2
	W 10/26/16	Chapter 17	Electrochemistry - Electrolysis	Microscale Electrochem DAY 1
6	M 10/31/16	Chapter 19	Transition Elements and Their Coordination Complexes	Microscale Electrochem DAY 2
	W 11/2/16	Chapter 19	Transition Elements and Their Coordination Compounds Chemical	Cation (1)
7	M 11/7/16		<b>Exam 2</b>	Cation (2)
	W 11/9/16	Chapter 19	Transition Elements and Their Coordination Compounds	<b>Lab Midterm</b> Cation (3)
8	M 11/14/16	Chapter 19	Transition Elements and Their Coordination Compounds	Cation (4)
	W 11/16/16	Chapter 19 Chapter 20	Transition Elements and Their Coordination Compounds Organic Chemistry	Cation (5)
	11/18/16	<b>Last Day to drop</b>	with a "W"	
9	M 11/21/16	Chapter 20	Organic Chemistry	Cation (6)
	W 11/23/16	Chapter 20	Organic Chemistry	Cation (7)
	<b>Nov. 24 - 27</b>	School closed	Thanksgiving Holiday Recess	
10	M 11/28/16		<b>Exam 3</b>	Cation (8)
	W 11/30/16	Chapter 24	Nuclear Chemistry	Cation (9)
11	M 12/5/16	Chapter 24	Nuclear Chemistry	Cation (10)
	W 12/7/16	Chapter 24	Nuclear Chemistry	<b>Lab Final &amp; Lab Check-out</b>
12	M 12/12/16	Chapter 24	Nuclear Chemistry <b>Review</b>	
	W 12/14/16		Final	

Chem 1C Lab

[Parent Directory](#)



[Experiment C1- Freezing Point.pdf](#)



[Experiment C2- Common Ion.pdf](#)



[Experiment C3- Electrochemistry.pdf](#)



[Experiment C4- Buffers.pdf](#)



[Experiment C5- Anions.pdf](#)



[Experiment C6- Cations.pdf](#)