Chem 1C-61 General Chemistry Course Outline Spring 2015

Dr. Billie Lo (billielo@comcast.net)

Lecture**: TTh 6:00 –7:15 PM SC2208**
Laboratory**: TTh 7:30 – 10:15 PM SC2208**
Office Hours: T 5:00 – 6:00 PM SC2208

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.

TEXTS

Chemistry, The Molecular Nature of Matter and Change, Martin Silberberg, McGraw Hill, 7th edition, 2015.
Lab: General Chemistry Laboratory Manual 1A-1B-1C. Wiley Custom Services, 2006 Edition.

A simple Scientific Calculator (non-programmable) and **Safety goggles.**

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
Students need to do 75% of the assigned on-line "Connect" homework to get the full 50 points.
The "Connect" on-line assignments provide answers or help on the spot and they are the same as the homework at the end of each chapter, the number of the problems assigned is listed. When do them in a timely manner would help you understand the concepts and score better**.** It would be much faster to solve the problems if you understand the concepts. Try to finish the assignments on time. There is a 10% deduction in score for every day past due**.** The access code may come with your textbook as a package or be purchased on-line. To access "CONNECT" go to:

http://connect.mheducation.com/class/b-lo-section-61-s15

Chapter	Date open	Date Due	Problems assignment (**same as "end of the chapter problems"**)
19 concept	4/4/15	4/15/15	14 problems
19	4/4/15	4/17/15	15,19,22,29,30,32,43,53,58a,67a,c,70,73,75,77,78,79,96,98,102,105,106,131,139,140b,141a,143a,b,147,148
21 concept	4/9/15	4/30/15	12 problems
21	4/11/115	5/3/15	28,30a,34a,39,43b,45a,59a,63a,66,68,70a,82,88,90,92,96,98,101,104,110,112a,d,144,152,154
23 concept	4/17/15	5/5/15	18 problems
23	4/22/15	5/18/15	9a,13c,15c,d,17c,19,27,31b,d,33a,40,46b,50c,54c,58b,68,72,74,80c,83,87,92,93,1074a,e,108,113,122.
15 concept	5/5/15	5/25/15	11 problems
15	5/15/15	6/14/15	18a,c,d,19c,20a,b,c,25a,b,28b,c,30b,d,35,40a,41,42b,43a,c,44a,b,45,62, 68a,70a,b,71a,72a,b, 97,110a,b,116c. ****For assignments, which require drawing You may submit on separate sheet**
24 concept	5/27/15	6/24/15	14 problems
24	6/1/15	6/24/15	9c,11b,15a,16,23,24,44,54b,61,62,63,76.77,80,91,99,100,105,106,108,109,112,123,138,144

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	pH review	4/9/15	4/16/15	10
2	Balance equations	4//21/15	4/28/15	10
3	Molecular Geometry	5/14/15	5/24/15	10

G. Grading:

Quizzes	100+
Exams	300 Points
Final exam	250 Points
Homework**	50 Points
Lab Grade	300 Points
Lab Exams (120)	
Lab Reports(90)	
Lab Notebook (40)	
Performance/Unknown (50)	
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 4:55 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.**
10. **ADDITIONALLY, FAILURE TO BRING A PADLOCK TO THE SECOND DAY OF LABORATORY WILL RESULT IN YOU BEING AUTOMATICALLY DROPPED FROM THE COURSE. YOUR PADLOCK MAY BE REMOVED FROM YOUR LOCKER AT ANYTIME IF YOUR LOCKER IS REASSIGNED OR IF YOU FAIL TO CHECK OUT OF LAB.**

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 in doubt.

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 TENTATIVE LECTURE AND EXAM SCHEDULE Lo

	CHEM 1C	LECTURE &	EXAM SCHEDULE	LABORATORY SCHEDULE
WK	DATE	CHAPTER	CONTENT	
1	T 4/7/15	Chapter 18,19	Principle of Chemical Equilibrium Review	**Lab Check-In**
	TH 4/9/15	Chapter 19	Ionic Equilibria in Aqueous Equilibrium , Simultaneous Equilibrium	Freezing Point Depression Day 1
2	T 4/14/15	Chapter 19	Solubility & Complex-Ion Equilibrium	Freezing Point Depression Day 2
	Th 4/16/15	Chapter 21	Electrochemistry	K_{sp} & Common Ion Effects Day 1
	4/18/15	Last day to add a class		
3	T 4/21/15	Chapter 21	Electrochemistry	K_{sp} & Common Ion Effects Day 2
	Th 4/23/15	Chapter 21	Electrochemistry **Exam 1**	K_{sp} & Common Ion Effects Day 3
4	T 4/28/15	Chapter 21	Electrochemistry	Microscale ELECTRO CHEM DAY 1
	Th 4/30/15	Chapter 23	Transition Elements and Their Coordination Compounds	Microscale ELECTRO CHEM DAY 2
5	T 5/5/15	Chapter 23	Transition Elements and Their Coordination Compounds	ANIONS DAY 1
	Th 5/7/15	Chapter 23	Transition Elements and Their Coordination Compounds	ANIONS DAY 2
6	T 5/12/15	Chapter 23	Transition Elements and Their Coordination Complexes	GROUP A DAY 1
	Th 5/14/15	Chapter 10, 11	Chemical Bonding, Hybrid Orbitals Molecular Geometry-Polarity;	GROUP A DAY 2
7	T 5/19/15	Chapter 10, 11	Valence Bond Theory & M. O. Theory	GROUP B DAY 1
	Th 5/21/15	Chapter 15	**Exam 2** Organic Chemistry	**Lab Midterm** GROUP B DAY 2
	5/23-25	Memorial Day Holiday		
8	**T** 5/26/15	Chapter 15	Organic Chemistry	GROUP B DAY 3
	Th 5/28/15	Chapter 15	Organic Chemistry	GROUP C DAY 1
	5/29/15	**Last Day to drop with a "W"**		
9	T 6/2/15	Chapter 15	Organic Chemistry	GROUP C DAY 2
	Th 6/4/15	Chapter 15	Organic Chemistry Chemistry of the Living State	GROUP D DAY 1
10	T 6/9/15		**Exam 3** Organic Chemistry	GROUP D DAY 2
	Th 6/11/15		Nuclear Chemistry	COBALT COMPLEX DAY 1
11	T 6/16/15	Chapter 24	Nuclear Chemistry	COBALT COMPLEX DAY 2
	Th 6/18/15	Chapter 24	Nuclear Chemistry Review	**Lab Final** & Lab Check-out
12	T 6/23/15	Chapter 24	**Final**	
