Chem 1C-61 General Chemistry Course Outline Spring, 2016

Dr. Billie Lo (billielo@comcast.net)

Lecture**: TTh 6:00 –7:15 PM SC2208**
Laboratory**: TTh 7:30 – 10:20 PM SC2208**
Office Hours: T 5:00 – 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.

TEXTS

Chemistry, The Molecular Nature of Matter and Change, Martin Silberberg, McGraw Hill, 7th edition, 2015.
Lab Manual: Available on-line. At the bottom right corner of the MyPortal homepage. Click on the "View All Groups" link and you should see the DA Chemistry Department site.

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 (Extra credit 10 points)
Students need to get 65% of the assigned points of the on-line "Connect" homework to get the extra credit 10 points. There are two assignments per chapter, i.e, the "Conceptual" and the "End of the chapter" assignments. The former is assigned 2 points per question and the latter is only 1 point per question. Please pay attention to the due date - 20% deduction in score for every day past due**. The on-line assignments are not required for the course but you may use it as a on-line tutor.** Doing them in a timely manner may help you understand the material better and get a better grade. **Since only 65% of the assigned problem is required, try to use "hint" or "help" when needed.** An access code may come with your textbook as a package or be purchased on-line. To access the "CONNECT" homework use the web **a**ddress: http://connect.mheducation.com/class/b-lo-chem-1c-section-61-spring2016.

Chapter	Date open	Date Due	Connect assignments (**conceptual or "end of the chapter problems"**)
19 concept	4/4/16	4/18/16	14 problems (2 points each)
19	4/4/16	4/20/16	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 (1point ea)
13	4/18/16	5/10/16	
21 conceptual	4/20/16	5/21/16	12 problems (2 points each)
21	4/20/16	5/22/16	28,30a,34a,39,43b,45a,59a,63a,66,68,70a,(81),82,88,90,92,96,98,101,104,110,112a,d,144,152,154 (1 point ea)
23 conceptual	5/2/16	6/4/16	18 problems (2 points each)
23	5/2/16	6/5/16	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.(1 point ea)
15	5/16/16	6/18/16	11 problems (2 points each)
15	5/16/16	6/19/16	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.(1 point ea) ****For assignments, which require drawing You may submit on separate sheet**
24 conceptual	5/30/16	6/24/16	14 problems (2 points each)
24	5/30/16	6/24/16	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 (1 point ea)

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	4/5/16	4/18/16	10
2	Buffer	4/5/16	4/14/16	10
3	Balance equations	5/3/16	5/10/16	10
4 ?	Organic compounds	5/24/16	6/18/16	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)	
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 in doubt.
6. Pre-lab and post lab questions.

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 S16 TENTATIVE LECTURE AND EXAM SCHEDULE Lo

	CHEM 1C	LECTURE &	EXAM SCHEDULE	LABORATORY SCHEDULE
WK	DATE	CHAPTER	CONTENT	
1	T 4/4/16	Chapter 18,19	Acid, base, buffers, Buffers and buffer calculations	**Lab Check-In**
	Th 4/6/16	Chapter 19	Predict the Species at different stages of titrations, or when different amount of acid and base are mixed	Buffers Day 1
2	T 4/11/16	Chapter 19	Slightly soluble salts	Buffers Day 2
	Th 4/13/16	Chapter 19	, K_{sp} and Solubility Common ion Effects and The Properties of Mixtures – Solutions and colloids, Colligative properties	K_{sp} ,Common Ion Effects Day1
	4/16/16	Last day to add a class		
3	T 4/18/16	Chapter19 Chapter 13	Other effects on solutility – acids, base and complex formation Colligative properties	K_{sp}, Common Ion Effects Day 2
	Th 4/20/16	Chapter 13	The Properties of Mixtures – Solutions and colloids, Colligative properties	Freezing Point Day 1
4	T 4/25/16	Chapter 13 &	**Exam 1** The Properties of Mixtures – Solutions and colloids, Colligative properties	Freezing Point Day 2
	Th 4/27/16	Chapter 21	Electrochemistry	Anions DAY 1
5	T 5/3/16	Chapter 21	Electrochemistry	Anion DAY 2
	Th 5/5/16	Chapter 21	Electrochemistry	Microscale Electrochem DAY 1
6	T 5/10/16	Chapter 21	Electrochemistry	Microscale Electrochem DAY
	Th 5/12/16	Chapter 21 &	**Exam 2**	Cation (1)
7	T 5/17/16	Chapter 23	Transition Elements and Their Coordination Compounds Chemical	Cation (2)
	Th 5/19/16	Chapter 23	Transition Elements and Their Coordination Compounds	**Lab Midterm** Cation (3)
8	T 5/24/16	Chapter 23	Transition Elements and Their Coordination Compounds	Cation (4)
	Th 5/26/16	Chapter 23	Transition Elements and Their Coordination Complexes	Cation (5)
	F 5/27/16	**Last Day to drop with a"W**		
9	T 5/28-31/16	Chapter 15	Organic compounds	Cation (6)
	Th 6/2/16	Chapter 15	Organic compounds	Cation (7)
10	T 6/7/16	Chapter 24	Nuclear Chemistry	Cation (8)
	Th 6/9/16	Chapter 24	Nuclear Chemistry	Cation (9)
11	T 6/14/16	Chapter 24	**Exam 3**	Cation (10)
	Th 6/16/16	Chapter 24	Nuclear Chemistry	**Lab Final** & Lab Check-out
12	T 6/21/16		Final	
