WEST LOS ANGELES COLLEGE

CHEMISTRY 60 SYLLABUS Section 3492 Fall 2015

Instructor:	**Dr. John Nguyen, chemprofessorjohn@gmail.com**		
Lecture:	**Mon. & Wed.**	**5:10 - 6:35 pm**	**MSA 005**
Conference:	**Mon.**	**6:45 - 8:50 pm**	**MSA 005**
Lab:	**Wed.**	**6:45 - 8:50 pm**	**MSA 402**

Office hour: before and after classes in our lecture, MSA005 or lab, MSA 402

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Course description and objectives

This course provides an introduction to the chemical elements and general principles and laws of modern general chemistry. It includes a study of chemical reactions basic atomic theory, and molecular structure, as well as chemical bonding and the behavior of gases. It also covers nomenclature and problem solving. The laboratory exercises include gravimetric and volumetric analyses,, elementary qualitative analysis, and experiments in solution chemistry.

Students whose previous chemistry background is inadequate for Chemistry 101 could take this course in preparation for chemistry 101. This course is also recommended for students who have been away from high school chemistry for more than two years.

Upon a successful completion of the course, you will be able to:

A) Gain familiarity with fundamental concepts of chemistry and technical and abstract scientific ideas, which you can utilize to enlarge upon and enrich your own personal experiences.

B) Apply appropriate mathematics in the solution of various chemical problems, which can prepare you to participate in an ever-increasing technological environment.

C) Create abstract models of various chemical entities based upon concrete observations and current modern interpretation.

D) Get familiarity with standard chemical laboratory equipment and differentiate between precision and accuracy of laboratory measurement and their effect on experimental results.

E) Perform experiments that illustrate fundamental chemical principles and applications and interpret observations in the context of accepted chemical theory.

Text: Zumdahl Introductory Chemistry, A Foundation 8th Ed, Houghton Mifflin

Lab Manual: James F. Hall, Introductory Chemistry in the Laboratory, D. C. heath and Company, 8th Ed.

Optional Supplementary Materials:

A) Hein, ET al., Foundations of College Chemistry, Publishing Company,

B) P.C. Scott, Study Guide for Hein, et al Foundations of College Chemistry

Provides you with a means of self-evolution in determining how well you understand the materials of each chapter. It can be helpful if you look at the solutions only AFTER you try the exercises by yourself.

C) S. Stoker, preparatory Chemistry, Macmillan publishing Co. , Inc.

Contains problems and explanatory material as well as text.

D) D. M. Goldish, Basic Mathematics for beginning Chemistry, Macmillan Publishing Co. gives elementary, extensive discussions of the sort of algebraic operations needed in chemistry 60. This book might be helpful to you if your math background is weak.

The assigned readings and suggested exercises (see syllabus and lecture schedule) are designed to cover most of the important concepts presented in this course, and their applications. You will find that you need to practice on more exercises than are given on the "suggested" list in order to gain acceptable mastery of the material. There is no substitute for determined and perhaps lengthy effort to work out problems on your own. **You should not seek help until you have done at least some work on the exercise yourself.**

PLEASE UNDERSTAND THAT YOU CANNOT LEARN MERELY BY OBSERVING; IF YOU JUST WATCH ME WORK EXERCISES, OR READ THE SOLUTIONS IN THE SOLUTIONS MANUAL, WITHOUT FIRST HAVING MADE A SERIOUS ATTEMPT BY YOURSELVES, YOU WILL BE SEVERELY HANDICAPPED IN DOING EXAMINATIONS

Laboratory:

Chem.60 is a laboratory course. Failure to perform the experiments and hand in reports **on time** will result in unsatisfactory grade in the course.

For reasons of safety, lab work may be done only during the assigned laboratory periods and when the instructor is around.

Note: You must wear eye protection whenever you are in the Lab. if you do not have the appropriate eye protection you may be dismissed from the laboratory section with loss of credit for that exercise.

Do not wear contact glasses in the Lab. They can absorb or trap some organic vapors and fumes and could cause eye damage.

Eating or drinking in the Lab. is prohibited. Read the instructions and the procedures for the experiment before coming to the Lab. Preparing flow charts before coming to the Lab will help you to finish the experiment in time and prevents avoidable accidents from happening.

Record all the data (including your observations). Have your lab instructor **sign your report book** before you leave the lab at the end of experiment.

ABSENCES: There will be NO MAKE UP LABS! A grade of zero will be given for a missed lab session unless you can present a DOCUMENTED AND VALID excuse. LAB SWAPPING will be allowed only IF WRITTEN APPROVAL is obtained from me and the other instructor.

* PLEASE NOTE THAT A PASSING GRADE IN THE COURSE WILL BE CONTINGENT ON SUCCESSFUL COMPLETION OF ASSIGNED LAB EXPERIMENTS.

For important deadlines, please refer to the calendar section of your class schedule.

THE COLLEGE ACADEMIC HONESTY POLICY (PLEASE READ YOUR CATALOG) WILL BE ABSOLUTELY UPHELD FULLY IN THE COURSE. NEITHER CHEATING OR COPYING WILL BE TOLERATED.

CHEME 60 SYLLABUS AND TENTATIVE LECTURE SCHEDULE

Week of	Topic	Reading Assignment
Aug. 31	Introductory remarks;	Chapter 1
Sept. 2	Math review	Appendix 1
	Measurements and calculations	Chapter 2
Sept. 7-9	Monday is Holiday.	
	Matter and Energy	Chapter 3, 10
	Elements, Atoms and Ions	Chapter 4
Sept. 14-16	Ch. 4 cont. and then Nomenclature	Chapter 4, 5
	Mini exam #1 (Chap: 1, 2, 3) Wed.	
Sept. 21-23	**Review for Exam 1 Monday**	
	Exam # 1 (Chap. 1-4 and 10) Wed.	
Sept.28-30	Nomenclature (cont.)	Chapter 5
	Chemical Reactions/Rxn in aqueous solutions	Chapter 6
Oct. 5-7	Reactions in aqueous solutions	Chapter 7
	Chemical composition	Chapter 8
Oct. 12-14	**Catch up, Review for Mini Exam 2 Monday**	
	Mini Exam # 2 (Chap. 5-7) Wed.	
Oct. 19-21	**Review for Exam 2 Monday**	
	Exam # 2 (Chap. 5-8) Wed.	
Oct. 26-28	Chemical calculation/Stoichiometry	Chapter 9
	Modern Atomic Theory	Chapter 11
Nov. 2-4	Chemical Bonding	Chapter 12
Nov. 9	Gases	Chapter 13
Nov. 11	**Holiday**	
Nov. 16-18	Review for Exam 3 on Mon.	
	Exam # 3 (Chap. 9, 11, 12, 13) on Wed.	
Nov. 23	Liquids and solids / Solutions	Chapters 14 &15
	Acids and Bases	Chapter 16

Nov. 25	**Thanksgiving (?)**	
Nov. 30-Dec. 2	Equilibrium, Redox	Chapters 17, 18
Dec. 9-11	Organic Chemistry	Chapter 20
	Reviews, Final Exam Practice (required) **Mini Exam 3 (Lab materials) on Wed** **(all lab concepts, calculations, techniques)**	
Dec. 14	**Final Exam on Dec. 14, 2015 , 5:10 - 7:10pm**	

Grading

Three 60-min exams (12 pts each)	36 points
Four homework sets (2 pts each)	8 points Each HW is due on Exam date
Lab (reports, techniques)	15 points (-1 pt for each time you dispose chemical in the sink without my approval or leaving the hood/station unclean or missing lab equipments)
Three mini exams (5 pts each)	15 points
Final exam (Comprehensive)	26 points
Total	**100 points**

I will check and sign your lab report before you leave. Incomplete or unsigned lab reports will result in point deduction. Lab report is due at the beginning of the next class meeting (Monday). You may turn in your complete lab report on the day we perform the lab.

Grading Scale

A: 90 – 100% B: 80 - 89% C: 70 - 79% D: 60 - 69% F: below 60%

Laboratory

You will be working in a group of two or three; your instructor will choose your lab partners.

Chem. 60 Tentative Laboratory experiment schedule

Instructor: Dr. John Nguyen

Lab: W 6:45-8:50 pm Room: MSA 402

Lab Manual: James F. Hall, Introductory chemistry in Laboratory, D.C Heath and Company, 8nd Ed.

Week	Date	Expt #	Laboratory experiment
1	Sep. 2		Check in, Laboratory safety
2	Sep. 9	Exp# 1 and 2	Mass determinations and Use of Volumetric glasswares
3	Sep.16	Exp# 5	Density determinations for: Solids, liquids, solutions
4	Sep.23	Exp 9	Calorimetry: Specific heat determinationof metals and Glass beads (Part B only)
5	Sep.30	Exp# 7	Properties of some representative elements a. Alkaliand AlkalineEarth Metals b. .Metallic and nonmetallic oxides Parts 1 & 2 only c. The Halogen Family; Parts 1 and d. 2 only
6	Oct.7	Handout	Nomenclature of inorganic compounds
7	Oct.14	Exp 19	Preparation and properties of oxygen
8	Oct.21	Exp 11	Acid-Base reactions
9	Oct.28	Exp 10	Precipitation reaction
10	Nov.4	Exp 15	Stoichiometry of Magnesium oxide
11	Nov.11		Holiday
12	Nov.18	Exp 18	Lewis Structures and Molecular shapes
13	Nov.25		TBA
14	Dec.2	Exp 21	Ideal gas Law and Boyle's Law video
15	Dec.9	Exp. 26	Acid-Base Titration/Check-out

Additional Topics

- Random access devices (eg: cell phones, iphones, ipods, blackberries, etc) are not allowed in this room. If you bring them they must be **turned off** and **kept out of sight.** No excuses or exceptions to this rule.
- Food and Drink (including bottled water) are **absolutely prohibited** in this room (Chemistry Lab). All food and beverages must be secured inside your belongings.
- Please **arrive on time** and attend every lecture and lab.
- College procedures with respect to probation, suspension or expulsion will be followed in cases of cheating.

▪	You are responsible for all handwritten materials covered in the class and in lecture notes. All efforts will be made by the instructor to maintain the course schedule and other things related to the class. However, should changes be made (including in case of substitute teacher), it is your responsibility to adapt to any of them.

POINTS EARNED

	1	**2**	**3**	**4**	**total**
Exams (3 x 12 pts) = 36 pts					

	1	**2**	**3**	**4**	**total**
H W (4 x 2 pts) = 8 pts					

Mini exams	**1**	**2**	**3**	**total**
3 x 5 pts = 15 pts				

	Wk 1-3	**Wk 4-6**	**Wk 7-8**	**Wk 9-10**	**Wk10-11**	**Wk 13-14**	**total**
Lab reports and tech = 15 pts (2.5 pts each block)							

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Final = 26 pts	

If you are experiencing difficulty (lectures, labs, homework problems, exams,…) please come to see me immediately (WITHOUT DELAY!).

Additional Notes:

Course SLOs are located on the West Los Angeles College SLO website. Please visit http://www.wlac.edu/slo/course_slos.html; be sure to bookmark it for future reference. Follow the link on the page to the course SLO listing. Locate Science Division on the tabs at the bottom of the window. Click on the tab and locate your course. Besides the CSLOs (Course Student Learning Outcomes), included, for your reference, are also the ISLOs (Institutional Student Learning Outcomes) and the PSLOs (Program Student Learning Outcomes.

If you have any question or concern, the best way is to please come to see me in-person immediately.