WEST LOS ANGELES COLLEGE

Summer 2015 Session

CHEMISTRY 60 SYLLABUS

Instructor: Ms. O. C. Garcia

Lecture & conference:	**M**	**T**	**W**	**Th**	**11:00- 2:45 am**	**Rm. # MSA 003**
LAB:	**M**	**T**	**W**		**2:55-4:55 pm**	**Rm. # MSA 402**

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.

Student Learning Out come (SLO): 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) Use the periodic table to predict some properties of the elements

D) Name and write chemical formulas of inorganic compounds

E) Balance chemical equations and predict yield from stoichiometric information

F) Understand and prepare solutions of certain concentrations

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

H) 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; 7th Ed, Houghton Miffin Company.

Lab Manual: James F Hall; Introductory Chemistry In The laboratory: D.C Heath and Company, 7nd Ed.

Optional Supplementary Materials:

A) P.C. Scott, Study Guide for Hein, et al Foundations of College Chemistry, 8th Ed. of 5th alternate Ed. 1993. 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.

B) Hein, et al., Foundations of College Chemistry, Brook/Cole Publishing Co.

C) Ebbing, "Introductory Chemistry"

D) S. Stoker, Preparatory Chemistry, 3rd Edition, Macmillan Publishing Co. Contains problems and explanatory material as well as text.

E) 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 the Lab. Preparing f low 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 note 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.

Cell phones and any noise making devices must be turned off during class

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

Last day to withdraw without a "W": June 19, 2015

Last day to withdraw with a "W": July 6 , 2015

For other important deadlines, please refer to your summer session 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 SUMMER SYLLABUS AND TENTATIVE LECTURE SCHEDULE

Week of	Topic	Reading Assignment
June 15	Introductory remarks; Math review; standards for measurement; the metric system	Appendix 1 Chap 1 Chap 2
	Matter and Energy	Chap 3/10
	Elements, Atoms and ions	Chap 4
	First hour exam	
June 22	Nomenclature of inorganic compounds	Chap 5
	Chem. Reaction/ Rxn. in aqueous solutions Chemical composition (of compounds)	Chap 6 Chap 7 Chap 8
	Second hour exam	
June 29	Chemical quantities/Stoichiometry	Chap 9
	Modern Atomic theory (and the Periodic Table)	Chap 11
	Chemical Bonding	Chap 12
	Third hour exam	
July 6	Gaseous	Chap 13
	Liquids and Solutions	Chap 14,15
	Acids and Bases	Chap 16
	Fourth hour exam	
July. 13	Chemical Equilibrium	Chap 17
	Oxidation Reduction(Redox.) reactions;	Chap 18
July 20	Organic Chemistry	Chap 20
	Review and **Final Exam July 23, 2015**	

EXAMINATION AND GRADING

There will be four, 1- hour examinations (tentative dates given on lecture schedule). You may drop the lowest of the four exam scores.

The hour examinations cumulatively account 40% of your final course grade. A final examination, which contributes 40% to your course grade will be given at the scheduled time and **it is comprehensive.**

During exams students may leave the exam hall only after submitting their exam paper. A student who left the hall for any reason may not be allowed to come back and finish the exam or make any changes in his/her answers.

A student who comes to the exam hall after the exam is started, may not be allowed to take the exam, if at least one student has left the exam hall before he/she came into the hall.

Surprise quizzes (10 min) may also be given at the beginning or at the end of the lecture. Cumulatively, quiz scores may represent 5% of your final grade.

Your laboratory grade will be contributing 15% to your final course grade. (please see also the lab schedule)

There will be no make-up exam or quiz. If you miss a quiz or an hour exam for good reason (need to show documentation), the weight of the remaining quizzes or exams will be increased accordingly.

After all accumulated points in the course including final exam) are totaled the final grades for the course will be assigned according to the following percentages:

> 85	A
84 - 70	B
69 - 55	C
54 - 50	D
< 50	F

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Tentative Laboratory Schedule

CHEMISTRY 60 SUMMER SESSION

Instructor Dr. Mesfin Alemayehu

Lab: M T W 7:55 - 9:55 PM Rm. # MSA

Lab Manual: James F. Hall, Introductory Chemistry in Laboratory, D.C Heath and Company, 7nd Ed.

Week	Date	Exp. #	Laboratory experiment
1	6/16		Laboratory safety, and check in
		Exp. # 1 & 2	Mass determinations and use of volumetric glassware
		Exp. # 4	Density determinations for solids, liquids and solutions
2	6/23	Exp. # 7	Properties of some representative elements
		handout	Nomenclature of inorganic compounds
		Exp. 9	Calorimeter: Specific heat determination of Metals and Glass beads (part B only)
3	6/30	Exp. 19	Preparation and properties of oxygen
		Exp. 11	Acid-base reactions
		Exp. 10	Precipitation reaction
4	7/7	Exp. # 13	Video: The periodic Table and Atomic properties
		Exp. 15	Stoichiometry of Magnesium oxide
		Video	Atomic structure
5	7/14	Video	Charles Law
		Exp. 18	Lewis Structure and Molecular shapes
		Video	Boyle's Law and Charles' Law
6	7/21	Exp. 21	Ideal Gas law
		Exp. 25	Acid-Base Titration
			Check out