

**WEST LOS ANGELES COLLEGE**  
**Introduction to General Chemistry**  
**CHEMISTRY 60 SYLLABUS; 5 units**  
SPRING 2014; Section 3492

**Instructor Information**

Instructor	Michael Ghebreab, Ph.D.	
E-mail	ghebremb@wlaac.edu	
Lecture Room MSA 005	Monday	5:10-8:50 pm
	Wednesday	5:10-6:35 pm
Laboratory Session Room MSA 402	Wednesday	6:45-8:50 pm
Office Hours MSB 211	Mon & Wed	2:00-4:00 pm
	Thu	2:00-5:00 pm

**General Information**

**Course Description**

This course provides an insight into general chemistry at an introductory level. The course covers some basic scientific measurements using SI units, an introduction to atomic theory and periodic table. The nomenclature of inorganic compounds and their chemical compositions of reactions including balancing, stoichiometric calculations, and type of reactions are described. In the later part of the course we will be studying the types of chemical bonding, Lewis structures, and the various gas laws. We will conclude the course with study of acid and bases, how to calculate the pH of strong acids and strong bases, equilibrium and basic redox reactions.

**Expectations and Goals**

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. However, this course requires you to have basic algebra or two years of high school algebra background.

## Course Materials

### Required Materials

#### *Textbook*

- 1) Zumdahl Introductory Chemistry, A Foundation 8<sup>th</sup> Ed, Houghton Mifflin Company.

#### *Laboratory Manual*

- 2) James F. Hall, Introductory Chemistry in the Laboratory, D.C. Health and Company, 7<sup>th</sup> Ed.
- 3) Scientific Calculator (capable of doing exponential notation calculations)
- 4) Safety glasses (Instructor Approved) / Goggles

#### *Optional Supplementary Materials*

- A) Hein, ET al., Foundation of College Chemistry,
- B) Stoker, Preparatory Chemistry, Macmillan publishing Co. inc.
- C) D.M. Goldish, Basic Mathematics for beginning Chemistry, Macmillan Publishing CO.  
(This book is helpful if your math background is weak).

## Additional Information and Resources

### Student services

There are services on campus for students with learning disabilities and are encouraged to get appropriate help.

### Classroom Courtesy

All cell phones and electronic sound-emitting devices shall be turned off at all times during classes, exams and laboratory session. Cell phones and pagers put on vibrate are acceptable, headsets are not permitted. You are NOT allowed to use cellphones as calculators in classroom or during exams.

### Recording devices

State law in California prohibits the use of any electronic listening or recording device in the classroom without prior consent of the lecturer and college administration. Any student who needs to use electronic aids must secure the consent of the instructor. If the instructor agrees to the request, a notice of consent must be forwarded to the Dean of Academic Affairs for approval.

The college **academic honesty policy** is held at all times during the course.

## Tentative Lecture Course Schedule

<b>Week</b>	<b>Topic</b>	<b>Reading</b>
<b>Feb 10</b>	Introductory Remarks Chemistry Overview Measurement and Calculations	Appendix 1 Chapter 1 Chapter 2
<b>Feb 17</b>	Matter Energy	Chapter 3 Chapter 10
<b>Feb 24</b>	Chemical Foundations: Elements, Atoms, and Ions <b>EXAM # 1 (Chapters 1-4 &amp;10)</b>	Chapter 4
<b>March 3</b>	Nomenclature	Chapter 5
<b>March 10</b>	Chemical Reactions	Chapter 6
<b>March 17</b>	Reactions on Aqueous Solutions	Chapter 7
<b>March 24</b>	Chemical Composition <b>EXAM # 2 (Chapter 5-8)</b>	Chapter 8
<b>March 31</b>	Chemical Quantities	Chapter 9
<b>April 7</b>	<b>Spring Break</b>	
<b>April 14</b>	Modern Atomic Theory	Chapter 11
<b>April 21</b>	Chemical Bonding <b>Exam #3 (Chapter 9,11,12)</b>	Chapter 12
<b>April 28</b>	Gases	Chapter 13
<b>May 5 -12</b>	Liquids and Solids	Chapter 14 & 15
<b>May 19</b>	Acid and Bases <b>Exam #4 (Chapter 13-16)</b>	Chapter 16
<b>May 26</b>	Equilibrium	Chapter 17
<b>May 26</b>	Oxidation/Reduction Organic Chemistry	Chapter 18 Chapter 20
<b>June 4</b>	<b>Final Exam</b>	Comprehensive

## Examination and grading

Exams will be given at the beginning of lecture tentative dates given on lecture schedule. You may drop the lowest of the four exam scores. There will be NO makeup exam, you can miss one exam by providing a valid document otherwise you will get grade of zero for the missing exam.

The maximum time for each exam is 1.5 hours depending on the materials covered. Students are responsible for anything covered and discussed in the lecture according to the course curriculum requirement. In general, materials discussed or stressed in the class are what the instructor believes to be most important including the problem sets and homework assigned are likely to be stressed on exams. However, some of the previous materials covered are required for understanding and should not be forgotten. The total cumulatively of the 4 exams during semester contribute to 45 % of your final course grade.

Assigned homework from the textbook and surprise quizzes given at beginning or end of the lecture (max 20 min) will represent 10 % of your final grade. It is the student's responsibility to submit their homework on time. It is highly advisable that students also work through the suggested problem sets assigned during the course but will not be collected or graded. All assignments are due according to dates noted on syllabus or indicated by the instructor.

Your laboratory grade will contribute 15 % of your final course grade. (See attached Laboratory Schedule Syllabus). It is mandatory for students to attend all the laboratory experiments and a passing grade in this course is contingent on successful completion of assigned experiments.

A final exam will be given at the scheduled time. Failure of taking final exam will result in receiving grade of F in this course and will be a 2 hour cumulative exam that contributes 30 % of your total grade.

<b>Evaluation</b>	<b>Grade</b>
<b>Exams (1-4)</b>	45%
<b>Quiz/Homework</b>	10%
<b>Laboratory</b>	15%
<b>Final</b>	30%
<b>Grade distribution:</b>	A: >85%, B: 84-70% C: 69-55% D: 54-50% F: <50%

## CHEM 60: Tentative Laboratory experiment schedule

Instructor: Michael Ghebreab, Ph.D.

Laboratory Room: MSA 402

Time: Wed 6:45 - 8:50 pm

Week	Date	Experiment #	Experiment
1	2/12	Hand out Sign in	Check in Laboratory Safety
2	2/19	Exp # 1 & 2	Mass Determinations and Use of Volumetric glassware
3	2/26	Exp # 5	Density determination for solids. Liquids, solutions
4	3/5	Exp # 9	Calorimetry: Specific heat determination of metals and glass beads (Part B only)
5	3/12	Exp # 7	Properties of some representative elements a. Alkali and Alkaline Earth metals b. Metallic and nonmetallic oxides (Part 1 & 2 only) c. The halogen family (Part 1 & 2 only)
6	3/19	Hand out	Nomenclature of inorganic compounds
7	3/26	Exp # 19	Preparation and properties of oxygen
8	4/2	Exp # 11	Properties and reaction of Acid and Base
9	4/9		Spring Break
10	4/16	Exp # 10	Precipitation reaction
11	4/23	Exp # 16	Percentage composition of magnesium oxide
12	4/30	Exp # 18	Lewis Structure and Molecular Shapes
13	5/7	Video	Boyle's and Charles Laws
14	5/14	Exp # 21	Molar mass of volatile liquid (Ideal gas law)
15	5/21	Exp # 26	Acid base titration
16	5/28		Check out

## Lab Reports and Policy

All students must comply with the safety rules once there are in the laboratory rooms. You must wear eye protection at all times whenever you are in the lab. All cell phones & personal electronic devices must be turned **OFF** during laboratory sessions.

Attendance of lectures and laboratory is mandatory to pass this course. It is the responsibility of students to attend and read laboratory instruction ahead of lab time.

There will be quizzes (10 min) at the beginning or at the end of the lab related to the laboratory experiment of the day.

Have your instructor **SIGN** your report sheet before you leave the lab at the end of the experiment.

All lab report are submitted a week after the experiment performed. It is the responsibility of the students to submit all their lab report sheets before the beginning of the following experiment. **No late** lab report will be collected.

There are **NO** makeup labs. A grade of zero will be given for missed lab sessions unless you present a valid excuse with supporting documents.