WEST LOS ANGELES COLLEGE

CHEMISTRY 101 SYLLABUS Fall 2015

Instructor: Surendra Menon Ph.D. smenon101@aol.com (Preferred)
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Lecture:	**T, TH**	**5:10-6:35 PM**	**MSA-403**
Conference:	**T, TH**	**6:40-7.45 PM**	**MSB-403**
LAB:	**T, TH**	**7:50-9:55 PM**	**MSA-405**

Office hour: 4:15-5:00 PM (T,TH) –MSA 405

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Course description and objectives

CHM 101 General Chemistry, the first semester part of the year-long General Chemistry sequence is designed for science majors who require a two-semester general chemistry course. This course will cover a range of topics during the first term including stoichiometry and chemical reactions, basic atomic theory, structure and bonding of molecules, properties of gases, liquids and solids, intermolecular interactions.

Chemistry is often referred to as the central science. Chemistry touches many other scientific fields such as biology, physics, medicine, agricultural science, environmental science, materials science and nanotechnology among others. Chemists ask questions like: What are the properties of this substance? Why do these substances differ in their properties? How can we control these properties? How can we use what we know about substances and their properties to make new medicines, new building materials, innovative electronics, efficient power plants and automobiles that do not rely on gasoline?

In this course we will be asking some of these questions and exploring some of the most fundamental concepts in chemistry. Chemistry is an experimental science, so we will be exploring chemical concepts in the laboratory as well as in lecture. This is quantitative course, and that means you will do problems, a lot of problems! A good understanding of basic algebra is required to successfully do the problems.

Students whose previous chemistry background is inadequate for Chemistry 101 are strongly advised to take preparatory course like chemistry 60 or equivalent before enrolling in Chemistry 101. If there is a gap between the last time you took a chemistry class and your current enrollment in this class, then I advice to begin your review now.

Required Text Books:

- **Textbook: Chemistry- 9th Edition**
- **Zumdhal**
- **ISBN: 978-1-2859-9298-3**

- **Lab Manual: Laboratory Manual for Principles of General Chemistry**
- **10th Edition: J. A. Beran**
- **ISBN: 978-1-1186-2151-6**

The syllabus and lecture schedule are designed to cover most of the important concepts presented in this course, and their applications. 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

There are services on campus for Students with learning disabilities. Such students may contact the office and get the appropriate help and accommodations.

Attendance:

- Attendance is **Mandatory.** Attendance will be taken during each class period until census. Regular attendance is absolutely mandatory in order to pass this course. **I do not drop any students; therefore it is the student's responsibility to withdraw from this course.** Students who have not officially dropped this class and have stopped attending will be assigned a letter grade of "F" if the name appears on the grade roster.
- In case of absence you are responsible for any announcements pertaining to the class, hand-outs distributed, changes in the schedule etc. If you are absent for three consecutive lectures or three consecutive labs or three class meetings (lab & lecture combined) during the semester without a valid excuse **you will be excluded** from the class. Again, **You are responsible for officially dropping the class when you stop attending**.

Home Work: There is no homework. But you should attempt to solve the problems recommended at the end each chapter. There is no alternative to a determined and serious effort on your part to do the suggested exercises at the end of each chapter.

WHAT NEEDS TO BE DONE TO SUCCED IN THIS CLASS?

1. You need to do problems. **Lots of them.** There are significant numbers of problems in the textbook. If you work through ***all*** of those and feel you need to do more, I can give you more. Don't do problems just to say you did them. Work through them to understand the techniques used to solve the various problems you will encounter in the class. When doing problems, don't look up the answers before you have arrived at an answer yourself. If you have to look at the answer to "solve" the problem, you **DO NOT** know how to solve it.

2. If you have questions, **ASK THEM!!! Do not be Afraid!!** I have no idea of what concepts you do not understand unless you make me aware of it. This is done by asking questions. I have also given my e-mail address, which allows you to ask questions asynchronously (you have to wait for an answer).

3**.** I will be constantly emailing you practice problems. I do no want them to be turned in, but I will call up on you during conference time for solutions. So I expect to you put an effort to do these problems and thereby gain confidence in problem solving

4. **Students who make serious attempts to follow the lectures and practice problem solving will only succeed in this class.**

Laboratory:

Chem.101 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 strictly prohibited. Read the instructions and the procedures for the experiment before coming 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 EXPERIMENTS.

Drop the class with refund **September 11, 2015**

Last day to withdraw without a "W": **September 11, 2015**

Last day to withdraw with a "W": **November 20, 2015**

If the deadlines fall on a holiday, use the telephone registration system to drop classes

For other important deadlines, please refer to your Fall 2015 semester 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.**

CELL PHONES: CELL PHONES MUST BE TURNED OFF OR IN VIBRATE MODE DURING THE CLASS. IF YOU NEED TO VIEW YOUE MESSAGES, EMAILS, TEXT ETC, STEP OUTSIDE THE CLASS.

Course Grade:
Your course grade will be determined by your performance in 4 Midterms, 5 Quizzes, and a Final and Lab grade. There will be **no make-up** quiz or midterms under any circumstance. **You must bring your own charged calculator with you for each exam; no borrowing or sharing is allowed. No Programmable Calculators allowed during exams and quizzes.** An incomplete grade for the final will be given only if you are likely to pass the course. In addition, you must provide an adequate proof to show the reason for missing the final. A make-up final can only be given at my convenience, and may take up to the end of the following semester. If you miss **one** quiz or **one** mid-term for a valid reason, the weighting of the missed quiz or exam will be increased proportionately as below

Missed Quiz #1	Quiz #2 weighting affected
Missed Quiz #2	Quiz # 3 weighting affected
Missed Quiz #3	Final Exam weighting affected
Missed Quiz #4	Quiz #5 Weighting affected
Missed Quiz #5	Final Exam weighting affected

Missed Midterm #1 Midterm #2 weighting affected

Missed Midterm #2 Final Exm weighting affected
Missed Midterm #3 Midterm #4 weighting affected
Missed Midterm #4 Final Exam Weighting affected

If you miss more than one quiz or mid-term, the rest of the missed quiz or midterms will have zero grade.

Note: Midterm 2 covers some of the fundamental concepts of this Course. If you miss this exam your final will have more questions related to Midterm 2 than normal.

Final Exam: The final exam is a comprehensive Final that will cover all the topics covered during the semester.

Course grade Distribution:

Midterms: 4 exams @ 100 points	= 400 points
Quiz: 5 quizzes @ 20 points	= 100 points
Final: comprehensive	= 125 points
Lab: 15 reports @ 10 points	= 150 points
Total	= 775 points

Course Grade:
697–775 = A
620–696 = B
543–619 = C
465–542 = D

Every quiz, midterm and final will have bonus points.

If you have an "A" in all the mid-terms (≥ 90%) and have ≥ 90% of points in all quizzes, you will be exempt from taking the final.

CHEM 101 Fall 2015 -Tentative Lecture Schedule
Surendra Menon Ph.D.

Week	Lecture (MSA 403)	Date
1	Chapter 1	9/1
		9/3
2	Chapter 1/2	9/8
		9/10
	09/11/15 Last day to drop with refund	
3	Chapter 3	9/15
		9/17
4	Chapter 3	9/22
	Exam I (9/24/15)	
5	Chapter 4	9/29
		10/1
6	Chapter 4/5	10/6
		10/8
7	Chapter 5	10/13
		10/15
8	Chapter 5	10/20
	Exam II (10/22/15)	
9	Chapter 7	10/27
		10/29
10	Chapter 7/8	11/3
		11/5
11	Chapter 8	11/10
		11/12
12	**Exam III (11/17/15)**	
	Chapter 9	11/19
	11/20/15 Last day to drop with W	
13	**Chapter 9**	11/24
14	**Chapter 10**	12/1
	Chapter 10/11	12/3
15	Chapter 11	12/8
	Exam IV (12/10/15)	

FINAL (12/15/15): 6.00 - 8.30 P.M.

Quiz: **Wk 3,6,7,10 (11/3),14 (12/3), (TU)**

Chem. 101 Tentative Laboratory experiment schedule

Instructor: Surendra Menon Ph.D.

Lab: T, TH 7:55-9:55 P.M. MSA 405

Lab Manual: Experiments in General Chemistry
Beran & Brady 10th Edition

Week	Date	Exp. #	Laboratory experiment
1	9/1	**CHECK IN**	Lab Safety Video
	9/3	Dry Lab	The laboratory and SI
2	9/8	Exp1	Basic Laboratory Operations
	9/10	Handout	Identification of Substances by Physical Properties
3	9/15	Expt #2	Identification of compounds by Chemical Properties
	9/17	Dry Lab	Inorganic Nomenclature 2a, 2b, 2c
4	9/22	Handout	Separation of Components of mixture
	9/24	Expt #3	Water Analysis: Solids
5	9/29	Expt #5	Percent of water in Hydrated Salt
	10/1	Expt #7	Empirical Formulas
6	10/6	Expt #6	Acids, Bases, and Salts
	10/8	Expt #8	Limiting Reactant
7	10/13	Expt #28	Chemistry of Copper
	10/15	Handout	Gravimetric Analysis of a Chloride Salt
8	10/20	Expt #9	Standardization of NaOH
			Determination of HCl
9	10/27	Expt #9	Vinegar Analysis
	10/29	Expt #10	Balancing Redox Reactions
10	11/3	Handout	Gas Laws (Boyle, Charles, Grahams)
	11/5	Handout	Atomic Structure
11	11/10	Video	Periodic Table and Law (A, B, C & D)
	11/12	Expt #11	Periodic Table and Law (E & F)
12	11/17	Expt #11	Redox Reactions Part A
	11/19	Expt #27	Redox Reactions Part B
13	11/24	Expt #27	Molar Mass of Volatile Liquid
14	12/1	Expt #12	Atomic Spectroscopy-H atom
	12/3	Handout	Writing Lewis Structures
15	12/8	Handout	Calorimeter and Specific heat
	12/10	**CHECK OUT**	

Final Comment on learning Chemistry.

The study of chemistry can be exciting and rewarding when there is a joint effort among students and instructors to continually improve learning. The General Chemistry program is designed to give you every opportunity to master fundamental concepts of chemistry and to show your good work by learning chemistry and earning a good grade.

Learning chemistry can be a challenge: you are going to be confronted with a new language (terminology and symbolism) and you must synthesize new ideas while integrating your previous understanding of basic math and science. Success is a matter of exposure and practice, as any successful chemistry student will tell you. Take advantage of all facets provided for your study of chemistry: the text, lecture, lab, help sessions, and office hours with your instructor. To earn a good grade you must apply yourself in all of these areas. Your goal is to understand the material well enough to answer questions, both numerical calculations and questions that test your conceptual understanding, with an ease that comes from familiarity with a subject. Read your text, and stay about One-half of a chapter ahead of your instructor. After each lecture go back to your book to reinforce things that were unclear in class. This is important -- **do some chemistry every day**. Study of your text and attention in class will be the most effective if you work with chemistry in small sessions, as opposed to "cramming" right before an exam. NO STUDENT HAS SUCCEDED THAT IN MY CLASS.

Do not expect that just because you go to class and listen that you are learning. You must explore chemistry on your own to make the subject a part of your working knowledge. Learning is hard work. Make the effort to put in the time necessary to understand chemistry and you will be rewarded. If you fall behind seek help immediately. See your instructor as soon as you feel unsure of your learning so that together you can determine how to fix small problems early to avoid big problems later.