



CHEMISTRY 101 SYLLABUS

(Section 0494)

Spring 2014

Instructor: Dr. Farzaneh Paknia

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Lecture:	M, W	9:35 AM - 11:00 AM	MSA 003
Conference:	M, W	11:10 AM - 12:15 PM	MSA 003
Lab:	Tu, Th	9:35 AM - 11:40 AM	MSA 405
Office hours:	M, W	12:15 PM - 1:15 PM	MSB 211

Course Description and Objectives

Chemistry 101 is the first course of the first year general chemistry and the topics covered for this course include: Atomic structure, nomenclature, stoichiometry, chemical bonding, thermochemistry as well as study of the solids, liquids and gases.

Prerequisites: High school chemistry and/or Chemistry 60 with a grade of "C" or higher.

Textbooks and Materials Required:

- Lecture: Chemistry by Steven S. Zumdahl & Susan A. Zumdahl , 9th Ed., Brooks Cole Cengage Learning, 2010 ISBN: 978-1-133-61109-7
- Laboratory: Laboratory Manual for Principles of General Chemistry, by J.A. Beran, 9th Ed. John Wiley & Sons, Inc., 2011 ISBN: 978-0-470-64789-9
- Scientific calculator
- Safety glasses

Student Learning Outcome (SLO):

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

- Gain familiarity with measurements, physical and chemical properties
- Obtain the knowledge on atomic theory, periodic table, as well as molecules and ions.
- Write chemical formulas, balanced equations and extract stoichiometric information.
- Compare the ionic, covalent and intermolecular bonding.
- Learn thermochemistry and energy changes in chemical reactions
- Understand different behaviors of gases as ideal or real, and be familiar with Gas Laws.

Course Policies

Attendance:

Attendance in class and lab is absolutely mandatory in order to pass this course. Roll will be taken during each class period. If you are going to be absent for more than two class meetings, NOTIFY ME! Students who are absent for three consecutive class meetings, or six class meetings throughout the course without valid excuse, will be dropped from the course.

- ❖ Cell phones/pagers are NOT permitted in the class. They are very disruptive! Points will be immediately taken off over cell phone use during lecture.

Study Guide:

Be prepared in every class. Study the materials from the last lecture and also the next section which is going to be discussed.

Homework problems: The assigned and suggested exercises at the end of every lecture are designed to cover most of the important concepts presented in this course. You need to practice by solving more exercises than are given on the "suggested" list in order to gain acceptable mastery of the materials. I strongly suggest doing all the problems at the end of each chapter. This course is based on your ability to solve the problems. Just reading the text and following problems given either in the text or in lectures may not be adequate for passing this course.

Tips for Maximum Success:

- Never miss a class! Arrive on time and stay for the duration of all classes.
- Take notes during discussion. Go over your notes right after the class, complete the missing parts, and add more details if needed. This also helps to better understand the discussed subject.
- Chemistry requires lots of calculations and drawing many structures. Therefore, you should write when you study. Do not simply look at the text or your notes and think that you know them.
- Be persistent in asking questions. Come to office hours as soon as you are having problems.
- If you feel, you need a tutor, get one early on. The HLRC in campus provides free tutorial services.

Quizzes:

Seven quizzes will be given during the semester. The quiz questions will be similar to your homework questions. If you solve your homework problems, you should have little problem with the quizzes.

Exams:

There are three non-cumulative midterm exams scheduled and one cumulative final exam. Exams will be combination of multiple choices, fill-in, drawings, computation and short answer questions. **THERE WILL BE NO MAKE-UP EXAMS** for any reason. If you miss a midterm exam due to documented medical condition the lowest percentage of remaining exams will be used as the score for the missed exam.

❖ *There are some services on campus for students with learning disabilities. Such students may contact the office of Disabled Student Programs and Services (DSPS) and get the appropriate help and accommodations.*

Grading Policy:

Three Midterm Exams	300 points
Seven Quizzes (Best five)	175 points
Final Exam	300 points
Lab (Attendance & Lab reports)	200 points
Attendance (Lecture)	25 points
Total	1000 points

The final letter grades will be assigned according to the following percentages:

> 86	A
85 - 74	B
73 - 62	C
61 - 50	D
< 50	F

Laboratory:

You are to carry out every assigned experiment at the scheduled time and complete your reports upon completion on the same day, but no later than the next lab period. Failure to perform the experiments and hand in reports **on time** will result in unsatisfactory grade in the course. While you work with a partner, you are individually responsible for data collection and lab reports.

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 on 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: Assigned grade for each experiment will be based on attendance and on time lab reports. 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.

Important Dates:

Last day to withdraw without a "W":	February 21, 2014
Last day to withdraw with a "W":	May 9, 2014
FINAL EXAM: June 4, 2014	10:15 a.m. - 12:15 p.m.

For other important deadlines, please refer to the Academic Calendar section of your class schedule.

Academic Honesty

THE COLLEGE ACADEMIC HONESTY POLICY (PLEASE READ YOUR CATALOG) WILL BE ABSOLUTELY UPHELD FULLY IN THE COURSE. NEITHER CHEATING NOR COPYING WILL BE TOLERATED.

NOTE: Course Syllabus Subject to update by the Instructor.

TENTATIVE LECTURE SCHEDULE (CHEM. 101, SPRING 2014)

WEEK	DATES	CHAPTERS & TOPICS
1	Feb. 10, 12	Chapter 1: (Chemical Foundations)
2	Feb. 17, 19	<i>No class on Feb. 17, (President's Day)</i> Chapter 2: Atoms, Molecules, and Ions
3	Feb. 24, 26	Chapter 3: Stoichiometry Quiz #1 (Chap. 1,2)
4	Mar. 3, 5	Chapter 4: Chemical Rxn. & Soln. Stoichiometry Quiz #2 (Chap. 3)
5	Mar. 10, 12	Chapter 5: Gasses Midterm Exam # 1 (Chap.1, 2, 3, 4)
6	Mar. 17, 19	Chapter 7: Atomic Structure and Periodicity Quiz# 3 (Chap. 5)
7	Mar. 24, 26	<i>Continue Chapter 7</i>
8	Mar. 31, Apr. 2	<i>No Class on March 31, (Cesar Chavez Day)</i> Quiz# 4 (Chap. 7) Chapter 8: Bonding
9	Apr. 7, 9	<i>Spring Break</i>
10	Apr. 14, 16	<i>Continue Chapter 8</i> Midterm Exam # 2 (Chap. 5, 7, 8)
11	Apr. 21, 23	Chapter 9: Covalent Bonding: Orbitals
12	Apr. 28, 30	Chapter 10: Liquids and Solids Quiz # 5 (Chap. 9)
13	May 5, 7	Chapter 6: Thermochemistry Quiz # 6 (Chap. 10)
14	May 12, 14	Chapter 11: Properties of Solutions Quiz # 7 (Chap. 6)
15	May 19, 21	<i>Continue Chapter 11</i> Midterm Exam # 3 (Chap. 6, 9, and 10)
16	May 26, 28	<i>No Class on May 26, (Memorial Day)</i> Review Exams # 1, 2, 3
17	Jun 2 Jun 4 (Wed.)	<i>No class on Monday Jun 2</i> Final Cumulative Exam, 10:15 AM- 12:15 PM

LABORATORY SCHEDULE (CHEM. 101, SPRING 2014)

WEEK & Points	DATES	EXP.#	ASSIGNED EXPERIMENTS
1 (5 pts)	Feb. 11, 13	Check in Dry Lab	Lab Safety Video The Laboratory and SI
2 (15 pts)	Feb. 18, 20	Exp. 1 Handout	Basic Laboratory Operations Identification of Substances by Physical Properties
3 (15 pts)	Feb. 25, 27	Exp. 2 Dry Lab	Identification of Compounds by Chemical Properties Inorganic Nomenclature 2a, 2b, 2c
4 (15 pts)	Mar. 4, 6	Handout Exp. 3	Separation of Components of a mixture Water Analysis: Solids
5 (20 pts)	Mar. 11, 13	Exp. 5 Exp. 7	Percent of water in Hydrated Salt Empirical Formulas
6 (20 pts)	Mar. 18, 20	Exp. 6 Exp. 8	Acids, Bases, and Salts Limiting Reactant
7 (15 pts)	Mar. 25, 27	Exp. 28 Handout	Chemistry of Copper Gravimetric Analysis of a Chloride Salt
8 (10 pts)	Apr. 1, 3	Exp. 9 Exp. 9	Standardization of NaOH Determination of HCl
9	Apr. 8, 10	<i>No Exp.</i>	<i>Spring Break</i>
10 (15 pts)	Apr. 15, 16	Exp. 10 Handout	Vinegar Analysis Balancing Redox Reactions
11 (15 pts)	Apr. 22, 24	Handout Exp. 4	Gas Laws (Boyle, Charles, Grahams) Paper Chromatography
12 (10 pts)	Apr. 29, May 1	Exp. 11 Exp. 11	Periodic Table and Law (A, B, C & D) Periodic Table and Law (E & F)
13 (10 pts)	May 6, 8	Exp. 27 Exp. 27	Redox Reactions Part A Redox Reactions Part B
14 (15 pts)	May 13, 15	Exp. 12 Handout	Molar Mass of Volatile Liquid Atomic Spectroscopy-H atom
15 (5 pts)	May 20, 22	Handout	Writing Lewis Structures
16 (10 pts)	May 27, 29	Exp. 25 Check Out	Calorimeter and Specific Heat Check Out