



Chemistry 1A: General Chemistry

Syllabus

Las Positas College

Spring 2009, Section V01, CRN# 30255

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Office hours: Monday 10:00-11:00 am in 1804

Tuesday 12:00 – 1:20 pm in 1804

Wed. 9:30-10:30 am (Room 2401, Tutorial Center)

Thursday 12:00 – 1:20 pm in 1804

I. Course Description

Chemistry 1A is the 1st Semester of a rigorous, year long course in college chemistry. This semester will consist of an introduction to atomic structure, bonding, stoichiometry, thermochemistry, gases, matter and energy, oxidation-reduction, chemical equations, liquids and solids, solutions, chemical energetics and equilibrium. The lab will contain quantitative and qualitative experiments and will emphasize safety. 5.0 Units.

II. Meeting Times

Lecture: MW 8:00-9:15 am in Room 2450

Lab: TTh 8:00-10:50 am in Room 1802

III. Books and Supplies

A. Required Materials

- Chemistry, Zumdahl and Zumdahl, 7th edition, Houghton and Mifflin, 2006.
- Chemistry 1A, Handouts, Reference Material, Laboratory Assignments, Las Positas College Faculty.
- Safety Goggles for Chemistry (must seal to the face for full splash protection.)
- Scientific Calculator, for labs, homework, and in-class work, bring to class. (Non-programmable calculators will be provided for exams. Model TI-30X IIS)
- Laboratory notebook with “carbonless” copies
- “Extra Fine” point Permanent Marker (“Sharpie”) for labeling glassware.
- *Highly Recommended*: Student Solutions Manual and Study Guide
- 1 Large “Green Book” for quizzes.

IV. Prerequisites

MATH 55 or 55B or 2 years of high school algebra (recent, with a grade of C or better), Chemistry 31 or appropriate skill level demonstrated by the Chemistry Diagnostic test.

V. Dates to Remember

February 6th	Last day to drop (NGR) in person
February 13-16 th	President's day holiday (No Classes)
April 6-11 th	Spring Break (No Classes)
April 10 th	Last day to drop with a "W" in person
May 27th	FINAL EXAM (Wednesday, 7:30-9:20 am in Room 2450).

VI. ATTENDANCE

You are expected to attend all class and laboratory sessions. You may be **dropped or failed for missing a total 4 consecutive or 6 total hours of lecture and/or lab**, but it is your responsibility to make sure that you are dropped from the course. This means that if you miss more than one lab period, you will be dropped or failed. It is wise to inform the instructor of an illness or other circumstance that causes absence of more than a day or two. The instructor will keep track of students who are absent or **late** and your final course grade may be affected by your attendance.

VII. Reading

A tentative lecture and laboratory schedule is provided. It is crucial that both reading and pre-laboratory work be completed *before* you come to class or lab. Come to class prepared to answer question related to the reading. If you are unsure whether the schedule has changed, it is your responsibility to ask.

VIII. Basis for Evaluation

Homework	5%	> 90%	A
Lab	25%	80-89%	B
Quizzes	10%	67-79%	C
Midterms (4)	35%	55-66%	D
Final Exam	25%	< 54%	F

- There will be 4 midterms and one final exam covering current and past materials (see lecture schedule). There will be *no make-up exams*. If there are conflicts or unexpected circumstances, contact the instructor as soon as possible. The lowest midterm score will be dropped. If you miss a midterm, this will be the one dropped. All tests may be cumulative.
- Unscheduled quizzes covering current and past materials will be given from time to time in your Bluebooks. These quizzes will test your preparation for lecture and/or lab. There will be *no make-up quizzes*, but you are allowed to drop one quiz. If you are absent from a quiz, this will be the score you drop.
- No credit is given for only answers to the problems (except multiple choice); all supporting calculations must be presented in to receive full credit.

IX. Homework/etc.

Homework will be assigned for each chapter and will be collected at the beginning of the next lecture period after the lecture/discussion is completed for that chapter. Homework will be checked for completeness and solutions will be provided. **No late homework will be accepted for credit**, but you are encouraged to finish late homework in order to prepare for the exams and quizzes.

X. Laboratory

Chemistry is a lab science. Therefore lab is perhaps the most important learning tool in the course. You will experience chemistry first-hand.

Come prepared! Be sure to always bring your lab manual, text, supplement, and calculator with you. Be sure to be on time and allow for traffic, parking, eating, etc. If you are late to lab, points will be deducted from your lab score. Pre-lab work will be checked at the beginning of lab and you may be asked to leave the lab for safety reasons if it is not complete. Lab reports are due at the beginning of the next lab period after the completion of the experiment, although you may ask a few questions at the beginning of the next lab before turning in the report. Study the labs ahead of time and ask questions beforehand. There is no such thing as a stupid question. *There are no make-up labs. Safety is of primary importance.*

XI. Dropping the course.

It is your responsibility to file the proper paperwork if you decide to drop the class and to check in your drawer and key. If you withdraw without informing the instructor or after the "W" date, a grade of "F" may be assigned for the course. If you miss four consecutive or 6 cumulative hours of instruction, you may be dropped from this course. If this happens after the automatic "W" date, a course grade of "F" may be assigned.

XII. Academic Honesty

Honesty and integrity are highly cherished and very necessary attributes in scientific endeavors. You are expected to do your own work and report your data honestly. Plagiarism (copying another person's work) or falsifying data or dishonest work will be dealt with harshly. Punitive response may include assigning a failing grade for the work or for the entire course or expulsion from the course. A note can also be made on your permanent academic transcript.

During an exam or a quiz the only things you are allowed to have on your desk are: a non-programmable scientific calculator, a pencil or pen, and a periodic table provided by the instructor. All other items are **forbidden**, including but not limited to: 1.) Cell phones – these are programmable and distracting to others. If a cell phone is seen or heard during an exam or quiz without specific permission, you will be asked to leave and will receive a zero on the quiz or exam. 2.) Dictionaries, textbooks, notes or references of any kind. 3.) Water bottles – students have been caught in the past with notes written on the bottles.

The schedule below will give you an idea of the topics that we will cover and the pace of the class. Please note that this schedule is tentative and the class may not necessarily follow it exactly as it appears below.

WK	DATE	MON	TUE (LAB)	WED	THU (LAB)
1	Jan 20-22		Lab intro/ Safety: YSIL Math Review	CH 1 – Chemical Foundations	Writing Formulas and Nomenclature Library Orientation
2	Jan 26-29	CH 1 – Measurement	Locker Check-in Exp 1: Sig. Figs. Exp. 2: Lib. Assignment*	CH 2 – Atoms, Molecules, and Ions	Exp 3: Composition and Formula of a Hydrate
3	Feb 2-5	CH 2 – Atoms, Molecules, and Ions	Exp 4: Mixing Alcohol and Water Exp 5: Identification of Reaction Products	CH 3 – Stoichiometry	Exp 6: Ions in Sol'n: Electrolyte Strength... <i>Stoichiometry (Handout)*</i>
4	Feb 9-12	CH 3 – Stoichiometry	Exp 7: Ions in Solution: Net Ionic Equations...	CH 4 – Chem Rxns/ Solution Stoichiometry	EXAM 1
5	Feb 16-19	President's Day Holiday No Classes	Exp 8: Determination of Copper in a Coin	CH 4 – Chem Rxns/ Solution Stoichiometry	Cont. Exp 8
6	Feb 23-26	CH 4 – Chem Rxns/ Solution Stoichiometry	Exp 9: Redox Reactions	CH 5 – Gases	Exp 10: Determination of the Gas Constant
7	March 2-5	CH 5 – Gases	Exp 11: Det. of NaHCO ₃ in Alka-Seltzer	CH 6 – Thermochemistry	Exp 12: Heat of Reaction
8	March 9-12	CH 6 – Thermochemistry	Exp 13: Calorimetry	CH 6 – Thermochemistry	<i>Cont' Exp 13</i>
9	March 16-19	CH 6 – Thermochemistry	EXAM 2	CH 7 – Atomic Structure and Periodicity	Atomic Absorption Lab (Handout)
10	March 23-26	CH 7 – Atomic Structure and Periodicity	Exp 14: Crystal Violet Spectrometry	CH 8 – Bonding: General Concepts	Exp 15: Group Relationships and Periodic Properties
11	Mar 30-Apr 2	CH 8 – Bonding: General Concepts	Continue Exp 15	CH 8 – Bonding: General Concepts	No lab (Class Canceled)
12	Apr 6-10	Spring	Break	No	Classes
13	Apr 13-16	CH 9 – Covalent Bonding: Orbitals	Exp 16*: Model Making and Geometry	CH 9 – Covalent Bonding: Orbitals	Cont. Exp 16*
14	Apr 20-23	CH 9 – Covalent Bonding: Orbitals	EXAM 3	CH 10 – Liquids and Solids	Exp 17*: Metallic and Ionic Crystal Lattices
15	Apr 27-30	CH 10 – Liquids and Solids	Cont: Exp 17*	CH 10 – Liquids and Solids	Exp 24: Measuring Sulfur Dioxide in Wine
16	May 4-7	CH 11 – Solutions	Cont. Exp 24	CH 11 – Solutions	Exp 18: Evap. and Intermolecular Interactions Exp 19: Using F_{dep} to determine mol. wt.
17	May 11-14	CH 11 – Solutions	EXAM 4	CH 13 – Chemical Equilibrium	Exp 20: Acid Rain
18	May 18-21	CH 13 – Chemical Equilibrium	Exp 21: Chemical Equilibrium - Finding a constant, K_c	CH 13 – Chemical Equilibrium	Review Lab check-out

The FINAL EXAM will be on Wednesday, May 27th from 7:30-9:20am in 2450.

*Experiments denoted with an asterisk do not need to be done in your notebook. Results will be recorded in the supplement report form/s. A discussion of results should be attached.