

Las Positas College
Chemistry 31-V01 and VO2
CRN: 30568 and 30860
Spring 2011

SYLLABUS

Chemistry 31: Intro to College Chemistry

Course Description

Chem 31 teaches concepts of chemistry with an emphasis on mathematical calculations. You will learn basic lab skills and safety procedures. This course is designed to prepare you as a science or engineering major to be successful in College Chemistry. Topics include dimensional analysis, nomenclature, atomic theory, chemical equations, stoichiometry, gas laws, bonding, and elementary acid-base theory.

Instructor: Dr. Michael A. Ansell

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Office Hours:

Mondays 10:30-11:30 am	Room 4237
Tuesdays 12:30-1:20pm	Room 4237
Wednesdays 10:30-11:30 am	Room 2401 (<u>Tutorial Center</u>)
Fridays 8:00-8:50 am & 12:00-1:00 pm	Room 4237

Meeting Times

Lecture:	MW	9:00 am - 10:15 am	Room 1816
Laboratory:	Section 1: Thursday	8:00 am - 10:50 pm	Room 1805
	or Section 2: Friday	9:00 am - 11:50 pm	Room 1805

Prerequisite

Completion of Mathematics 55 or 55B with a grade of "C" or higher, or the equivalent.

Course Web Page: <http://lpc1.clpccd.cc.ca.us/lpc/ansell/home.html> includes homework, handouts, syllabus, answer keys, etc.

REQUIRED MATERIALS

Introductory Chemistry, Nivaldo Tro, Third Edition with Mastering Chemistry Online Homework
Your Safety in the Laboratory packet, by Jim Adams
Chem 31: Intro to College Chemistry, Laboratory Manual, Las Positas College

Laboratory Notebook with duplicating pages

Safety Goggles for Chemistry: in bookstore, must seal to face for full protection.

Permanent Marker, Very fine point, ("Sharpie")

Scientific Calculator: non-programmable, inexpensive

Recommended Materials:

Selected Student Solutions Manual, 3rd Edition, by Matthew Johll

Study Guide, 3rd Edition, by Donna Friedman

Rubber gloves, physician-style, box of 50

Attendance

You are expected to attend **all** class sessions. **You may be dropped or failed by an instructor at any time for an absence of four consecutive hours or six cumulative hours of instruction (i.e., if you miss half a week or any two labs).** Therefore, you should inform your instructor immediately by phone or email of any illness or situation that will require you to miss two consecutive class sessions. Note however that it is possible to attend all class sessions and still fail the course.

Reading and Quizzes

You must read assignments in the text before each lecture. My lectures will assume that you have read the assignment. Unannounced quizzes will be given periodically during class and assume you have done the reading for the day. **No quiz scores will be dropped.**

Testing

There will be four (4) one-hour tests. See the tentative lecture schedule. The tests will include problems, short answer questions, multiple-choice and short explanations. There will be no make-up tests. Missed tests will receive a grade of zero. The lowest test score will be dropped when final grades are prepared.

Final Exam

The final exam on **Monday, May 23rd, from 7:30-9:20 am**, will be comprehensive; that is, it will cover the entire course, not just the last weeks of class. The final exam will neither be given early, nor will it be given late.

Homework

You may think that you understand a concept, but you do not understand it sufficiently until you can explain it verbally and in writing. We will be using Mastering Chemistry Online homework. Homework gives you a chance to test your understanding of chemistry concepts in a variety of situations and problems. No late homework will be accepted, period. Early submissions will be accepted. Additional problems may be assigned periodically.

Grading - Letter Grades and Grading factors

A 90% or higher	5% Homework
B 80 - 89%	10% Quizzes
C 67 - 79%	25% Laboratory
D 55 - 66%	35% Tests
F less than 55%	25% Final Exam

Your overall grade is a weighted average of your grade in the various categories; your percentage score is what counts.

Laboratory

Chemistry is a lab science. Therefore, the laboratory is a most important learning tool in this course. There you will **experience chemistry first hand**. You may feel somewhat intimidated at first. However, by the end of the semester, may be surprised at what you have accomplished.

Sometimes, even if you follow all directions, experiments don't go as expected-this is not uncommon. Use these occasions to understand why things happened as they did. Some of the greatest discoveries were made this way.

Read each lab carefully and complete **pre-lab** work *before* coming to lab. In the laboratory, don't be afraid to ask questions. There is no such thing as a stupid question. Before you begin any experimental step, read the entire paragraph before proceeding, even if you've read it before class.

Safety in the laboratory is of primary importance. Lab grades may be penalized for careless or unsafe activities. You are expected to wear approved safety goggles at all times. You will not be permitted to work in the laboratory at all unless you are wearing appropriate shoes and clothing and you have brought your safety goggles with you.

Your **grade** will be based on (1) your performance in lab, (2) observance of safe practices including wearing goggles and appropriate attire, (3) the cleanliness of your desk and the surrounding work areas, (4) your written answers to the questions (including the appropriate use of ink for data collection, appropriate use of significant figures and units, and appropriate error correction techniques). Lab reports will be due at the beginning of the next lab period. Each experiment is worth 20 points. You cannot miss more than one laboratory or you may be failed from the course. Questions about laboratory experiments may be included on tests.

Academic Honesty

Honesty and integrity are highly cherished and very necessary attributes in scientific endeavors and in life. 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 college. 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 (provided) and a pencil or pen. All other items are **forbidden**, including but not limited to:

- 1.) Cell phones - 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.

Academic Dishonesty in a pre-med course is especially appalling and will not be tolerated. Imagine having surgery from a doctor who had cheated his or her way through school.

Personal Responsibility

Chemistry 31 is a college-level course. It transfers to a number of universities for full college credit. I expect you to treat everyone in the class with respect, both me and other students. This means

- cell phones and pagers turned off
- arriving on time for class (allow enough time for traffic jams and to find parking)
- remembering to bring pens, goggles, calculators, etc with you
- not leaving class unless you have a personal physical emergency
- not talking or sleeping during class
- not bringing children or visitors to class.

Deadlines

February 4th Last day to add or **drop** “NGR” (no grade of record) in person.
 April 8th Last day to withdraw with an automatic “W” grade

Tentative Lecture Schedule

<u>Date</u>	
January 19-24	Introduction, Chapter 1
January 24-26	Chapter 2: Measurement and Problem Solving
January 31-Feb 2	Chapter 3: Matter and Energy
February 7-14	Chapter 4: Atoms and Elements
February 16th	TEST #1
<i>February 18-21</i>	<i>President's Day Weekend (No Class)</i>
February 23-28	Chapter 5: Molecules and Compounds
March 2-7	Chapter 6: Chemical Composition
March 9-16	Chapter 7: Chemical Reactions
March 21	TEST #2
March 16-28	Chapter 8: Quantities in Chemical Reactions
March 28-April 2	Chapter 9: Electrons in Atoms/Periodic Table
April 6-11	Chapter 10: Chemical Bonding
April 13	TEST #3
<i>April 18-22</i>	<i>Spring Break (No classes)</i>
April 25-27	Chapter 11: Gases
May 2-4	Chapter 12: Liquids, Solids, Intermolecular Forces
May 9-11	Chapter 13: Solutions
May 16	TEST #4
May 11-18	Chapter 14: Acids and Bases
Monday, May 23rd	FINAL EXAM -- 7:30 – 9:20 am in 1816

LPC, Chemistry 31, Spring 2011, Dr. Ansell

Tentative Laboratory Schedule
(subject to change)

Date (Thursday or Friday labs)	Activity
January 20 or 21	Introduction to the Lab, Bring “Your Safety in the Laboratory”
January 27 or 28	Safety, 3101 Measurement Skills, Check-in
Feb 3 or 4	3103 Separation of a Mixture
Feb 10 or 11	3102 Physical and Chemical Properties (Chemical Sleuth)
Feb 17 or 18	Review (Feb 18 is a holiday)
Feb 24 or 25	3107 Nomenclature Worksheets*
March 4 or 4	3104 Elements, Compounds and the Mole
March 10 or 11	3115 Net Ionic Equations*
March 17 or 18	3108 Reaction Stoichiometry (skip Supplement)
March 24 or 25	3109 Limiting Reagents
March 31-April 1	Flex Day Thursday – No Classes
April 7 or 8	3110 Molecular Geometry*
April 14 or 15	3105 Empirical Formula of a Compound
April 21 or 22	Spring Break – No Classes
April 28 or 29	3111 Experiment with Gases
May 5 or 6	3112 Solutions and Concentrations
May 12 or 13	Read 3113 Titration Techniques*, begin 3114 An Acid-Base Titration
May 19 or 20	Finish 3114 An Acid-Base Titration; check out

* indicates that the activity will be done on worksheets and not in the lab notebook.