

Syllabus Chemistry 3A Introduction to General Chemistry  
Reedley College Fall 1999

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Lectures: MW 1:00 pm- 2:15 in LFS 11  
Lab : W 2:30 pm -5:20 in PHY 82  
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Course objectives. Chemistry 3A is an elementary survey course in chemistry including lab work. It is designed to give the student a chemistry background for a wide variety of careers including ag business, forestry, nutrition, nursing, physical therapy, and other biological and health related fields.

Texts and Materials. The textbooks used in this course include

1. Introductory Chemistry FlexText by Peters and Cracolice.
2. Introduction to Chemical Principles, A Laboratory Approach 5th ed. authored by Weiner and Peters.
3. Chemical Calculations Series B by G. Sackheim 16th ed.
4. Scantron forms 815-E.

You will need materials to take notes and you always need to bring to class a calculator with exponential notation and logarithmic functions.

Lecture notes. The ability to listen effectively and to take good lecture notes represents an essential college skill. Taking notes in this class is not only mandatory but also required to know what topics are emphasized, and what will be asked to reproduce on quizzes and exams.

Laboratory work. Lab work will follow as closely as possible the material discussed in lecture. The student is required to complete all the assigned experiments. Occassionally, the lab instructor might deem it necessary to give a pop quiz. 50% of the final lab grade will include the average of the graded lab report sheets, the efforts to reach the goal of the experiment, the accuracy of measurements and calculations, and the lab technique shown during the experiments. The other 50% of your lab grade is determined by the average of the three lab quizzes. Please, refer to the lab schedule.

Success in Chemistry. To be successful in this class you will need at least 2 hours daily outside the classroom. This time will include reading, studying and preparing homework assignments and labs. It is essential that you listen effectively and that you take good lecture notes in class. Taking notes in this class is not only mandatory but also required to know what topics are emphasized, and what will be covered on quizzes and exams.

DROP DATE. The drop date is Friday, October 15, 1999. After that date the instructor is required to assign a letter grade, that will appear on your transcripts. September 3, 1999 is the last day to avoid a W for this class.

Attendance. Attendance in lecture and lab is mandatory. The student will be dropped automatically if she/he misses two consecutive lab sessions or four consecutive lectures without prior consent of the instructor.

ALWAYS inform the instructor ahead of time if you have to miss a quiz or exam. Without prior notification your grade is a 0 (zero) for a no show.

Quizzes and Exams. In lecture: There will be three quizzes covering the material of previous lectures. There will be three exams, the first one after 6 weeks, the second one after 12 weeks and a final, all dealing with more material than the quizzes. Each exam will be equally weighted.

In lab: After every experiment you will have to submit a brief lab report to your lab instructor. A pop quiz in lab counts as a lab report, A popquiz in lecture counts as a homework grade.

QUIZZES AND EXAMS, DATES.

W 9/1 Quiz 1

W 9/22 Exam 1

W 10/13 Quiz 2

W 11/3 Exam 2

W 11/24 Quiz 3

F 12/17 Final Exam at 1:00 pm in room LFS 11.

Grading. The lowest grade obtained for a quiz or popquiz in lecture or a lab report, whatever is more favorable for your average, will be dropped if you have fulfilled all your assignments properly and submitted to the instructor in time. To achieve this incentive your attendance has to be 90%.

The final grade is calculated as follows: Exams 40%, Quizzes 20%, Homework 15%, Lab 25%.

Please be aware of the following rules. Tardiness, leaving early, and sleeping during lecture or lab sessions are considered disruptive behavior and are punished with an absence.

Fraudulent behavior during quizzes and exams is graded with a 0 (zero). Copying of homework or experimental data and lab reports is considered fraudulent behavior for the copier and the originator.

Turning in lab reports after the due date (and due time) will result in deduction of points at the discretion of the instructor.

For lecture topics, please turn over.

Lecture topics.

The chapters mentioned here are from Peters' Introductory Chemistry- FlexText.

Week     Subject

- 1/2.     Matter and Energy, Chapter M. Measurement and Calculations, Chapter C.
- 3/4.     The Gas Laws, Ch G. Atomic Theory: the Nuclear Model of the Atom Ch A.
- 5/6.     Chemical Nomenclature, Ch N. Chemical Formula Problems, Ch F.
- 7/8.     Reactions and Equations, Ch R. Quantity Relationships in Chemical Reactions, Ch H. Atomic Theory: the Quantum Model of the Atom, Ch Q.
- 9/10.    Chemical Bonding: The Formation of Ionic Compounds and Molecules, Ch B. The structure and Shape of Molecules, Ch D. The Use of Molecular Modelling Programs.
- 11/12.   The Ideal Gas Law and its Applications, Ch I. Gases, Liquids and Solids, Ch W.
- 13/14.   Solutions, Ch S. The Water Equilibrium, The pH Concept, Ch P.
- 15/16/17. A choice from the following topics: Net Ionic Equations, Ch Z; Acid-Base Reactions, Ch P or Chemical Equilibrium, Ch E.

Note: There will be no lecture on M 9/6 (Labor Day).

Suggested computer programs and readings available in the Chemistry Department. Ask your the student-aids and your instructor.

1. Appling, Math Survival Guide. Tips for Science Students.
2. Lewis Structures. Program available on the computers in lab.
3. Gebelein, Chemistry and our world.
4. Stoker, Introduction to Chemical Principles.
5. Smith et. al., Falcon Software. General Chemistry.
6. Wynn, Inorganic Nomenclature Flashcards.

## Lab Rules and Lab Schedule CHEM 3A Fall 1999

- It is MANDATORY TO USE SAFETY GLASSES AT ANY TIME THAT YOU ARE IN THE LAB. Wearing a lab coat is optional, but highly recommended.
- You will have to perform all the assigned experiments. When you miss an experiment for whatever reason you must make arrangements immediately with the instructor for a make-up. You are accountable to do this ASAP! A zero (0) grade will be given for a lab that is not made up.
- An overall average F grade in the lab means an F in the class.
- Prepare for the labs by reading the experiment ahead of time and doing the pre-lab questions in the Advance Study Assignment.

### Lab Schedule

W	Lab assignment
8/18	Check in desk inventory. Introduction to safety in the lab. Take the Lab Safety Quiz. Sign the Lab Safety Agreement.
8/25	Experiment 1, Properties and Changes of Matter.
9/1	Experiment 2, Significant Figures.
9/8	Experiment 3, Calibration of the Thermometer.
9/15	Review of Safety in the lab and review of Experiments 1-3. LAB QUIZ 1.
9/22	Experiment 4, Separation of Cations by Paper Chromatography.
9/29	Experiment 5, Densities of Liquids and Solids.
10/6	Experiment 6, Empirical Formulas.
10/13	Experiment 7, Hydrates.
10/20	Experiment 8, Percentage of Oxygen in Potassium Chlorate.
10/27	Review of Experiments 4-8. LAB QUIZ 2.
11/3	Experiment 9, Calorimetry.
11/10	Experiment 10, Names of Formulas and Compounds.
11/17	Experiment 11, Chemical Equations.
11/24	Experiment 12, Qualitative analysis of Some Common Ions.
12/1	Experiment 13, Types of Chemical Reactions.
12/8	Review of Experiments 9-13. LAB QUIZ 3. Turn in desk inventory in a clean and proper condition.

Important: Even if you drop the class you will have to check out your desk inventory with the stockroom person before or on 12/8 4:00 pm. We will have to put a hold on your grades if you omit to do this.