

Syllabus for Chemistry 3A
Introduction to General Chemistry
Saturday 9-11.30 a.m. in PHY-76
Labs Sat. 12-2.50 p.m. in PHY-82

Instructor: **Veronica Cornel**

Contact info: e-mail mozzieman@mindspring.com or leave message in mailbox

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 forestry, nutrition, nursing, physical therapy, and other biological and health related fields.

Text and Materials:

1. Peters and Cracolice, Introductory Chemistry Flextext
2. Sackheim, Chemical Calculations Workbook
3. Weiner and Peters, Intro. to Chemical Principles, A Laboratory Approach, 5th Ed.

You will need materials to take notes and a calculator with exponential and logarithmic functions.

Lecture Notes: The ability to listen carefully and to take good lecture notes in an essential college skill. Taking notes in this class is mandatory and will help you remember what topics are emphasized and what you could be asked to reproduce on quizzes and exams. Studies have shown that 90% of the lecture material is retained if you review the lecture within 24 hours. If you wait a week you will only retain 35%.

Laboratory Work: Lab work will follow as closely as possible the material discussed in the lectures. The student is required to complete all the assigned experiments. Occasionally, the lab instructor might deem it necessary to give a pop quiz which will count the same as a lab report sheet. 50% of the final lab grade will include the average of the graded lab report sheets, the efforts to reach the goal of the experiments, 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.

Homework: Homework will be assigned most lectures. It is essential to your success in this class that you do all the assigned homework and the reading. All homework will be collected and selected problems graded. This is to ensure that you work consistently and can apply what you learn to problems.

Drop Date: Deadline is Friday, September 3rd

Thanksgiving: There will be no lecture or lab on Sat. Nov.27

Attendance: Attendance in lecture and lab is mandatory. The student will be dropped automatically if she/he misses 2 consecutive lab sessions or 2 consecutive lectures without prior consent of the instructor. Always inform the instructor ahead of time if you have to miss a homework assignment, a quiz or an exam. Without prior notification your grade is a 0 (zero) for a no show. Alternative homework, quizzes or exams may be arranged. If you miss a lecture you need to read and summarize the unit in the Flextext **before** meeting with the instructor to discuss any problems.

Quizzes and Exams: In Lectures: There will be three quizzes covering the material of previous lectures AND labs. There will be three exams covering material from the lectures. The two exams and the final exam will all be equally weighted.

Quiz 1: S 9/11

Exam 1: S 9/25

Quiz 2: S 10/16

Exam 2: S 10/30

Quiz 3: S 11/20

Final Exam: S 12/11 6-8 p.m.

In Lab: After every experiment you will have to submit a brief lab report to your lab instructor. A pop quiz in the lab counts as a lab report.

Grading: The lowest grade obtained for a lecture/lab quiz and a lab report will be dropped, if you have fulfilled all your assignments properly and submitted them to the instructor on time and you have attended at least 90% of the lectures and labs. A student needs to pass both the lecture and laboratory sections to successfully pass the course.

The final grade is calculated as follows: Laboratory (25%): **Quizzes 12.5%, Assignments 12.5%**
Lecture Material (75%): **Exams 50%, Quizzes 15%, Homework Assignments 10%**

Please be aware of the following rules:

- Tardiness, leaving early, and sleeping during lecture or lab sessions are considered disruptive behavior and will be punished with an absence being recorded.
- Fraudulent behavior during quizzes and exams is graded with a (0) zero.
- Copying of homework, experimental data, and lab reports is considered fraudulent behavior for both the copier and the originator.
- Turning in lab reports and homework after the due date (and due time) will result in deduction of points at the discretion of the instructor. (Typically we lower the grade by one letter)

Lecture Topics: each topic takes about two weeks

1. Matter and Energy (Unit M). Measurement and Calculations (Unit C)
2. The Gas Laws (Unit G). Atomic Theory: The Nuclear Model of the Atom (Unit A)
3. Chemical Nomenclature (Unit N). Chemical Formula Problems (Unit F)
4. Reactions and Equations (Unit R). Quantity Relationships in Chemical Reactions (Unit H)
Atomic Theory: The Quantum Model of the Atom (Unit Q)
5. Chemical Bonding: The Formation of Ionic Compounds and Molecules (Unit B). The Structure and Shape of Molecules (Unit D)
6. The Ideal Gas Law and Its Applications (Unit I). Gases, Liquids and Solids (Unit W)
7. Solutions (Unit S).
8. Acid-Base Reactions and the pH Concept (Unit P)

Extra Computer Programs and Readings Available in the Chem Labs:

1. *Appling; Math Survival Guide. Tips for Science Students.*
2. *Lewis Structures* computer program available for use in the lab.
3. Gebelein; *Chemistry and Our World*
4. Stoker; *Introduction to Chemical Principles*
5. Falcon software. Smith et. al. *General Chemistry*
6. Wynn; *Inorganic Nomenclature Flashcards*

Laboratory Rules and Lab Schedule CHEM 3A (Sat. Class)

1. It is **mandatory to wear safety glasses at any time that you are in the lab.**
2. Wearing a lab coat is optional, but highly recommended. It is also recommended that you wear closed shoes.
3. An overall F grade for the lab means an F for the course.
4. Prepare for the labs by reading the experiment ahead of time and doing the Advance Study Assignment.

Lab Schedule Fall 1999:

- Aug 21 Check in Desk Inventory. Introduction to Safety in the Laboratory including safety quiz and signing the Lab Safety Agreement.
- Aug 28 Experiment 1. Properties and Changes of Matter
- Sept 4 Experiment 2. Significant Figures
- Sept 11 Experiment 3. Calibration of the Thermometer
- Sept 18 Experiment 4. Separation of Analgesics (Acetaminophen, Ibuprofen, etc.) in some common headache/pain killers using Paper Chromatography
- Sept 25 Experiment 5. Densities of Liquids and Solids
- Oct 2 Experiment 6. Empirical Formulas
- Oct 9 Growing Crystals
- Oct 16 Experiment 7. Hydrates
- Oct 23 Experiment 8. The Percentage O_2 in Potassium Chlorate
- Oct 30 Experiment 9. Calorimetry
- Nov 6 Experiment 12. Molar Ratio of a Chemical Reaction
- Nov 13 Experiment 13. Types of Chemical Reactions
- Nov 20 Experiment 24. Titration of Acids and Bases. Also: pH of Some Household Products
- Nov 27 No Lab – Thanksgiving Holiday
- Dec 4 Experiment 22. The Chemistry of Some Household Products. Turn in Desk Inventory in a clean and proper condition.

If you omit to check out your Desk Inventory with your instructor, we will have to put a hold on your grades.