

AC CHEMISTRY SYLLABUS

Karen Glazier

This is a lab-oriented course. Emphasis will be placed on an in-depth study of chemical topics and will involve a rigorous math based study as well as extensive use of critical thinking.

The majority of the grade will be based on tests, quizzes and labs. Extra credit may be earned by correcting tests.

Additional help: in addition to class time will normally be available during lunch and after school Monday through Thursday.

Course Outline:

Introduction of chemistry

Chemistry Math - metric system, significant figures,
Scientific notation, density, dimensional analysis

Writing formulas

The mole

% composition

Empirical Formula

Molecular Formula

Balancing Equations

Types and kinds

Stoichiometry

Limiting reactions

% yield

Gas Laws

Charles, Boyles, combined

Ideal

Applied stoichiometry

Combines stoichiometry, gas laws,
molar mass and density

Related Labs:

Milk (inquiry)

Measurement & Accuracy

Density

Alchemy (use of Bunsen burner)

Mass, moles & atoms of Zn on
galvanized iron

% water in a hydrate

Empirical formula of magnesium oxide

Chemical Reaction lab I & II

Types of chemical reactions

Decomposition of sodium bicarbonate

Mass – mass

% yield of copper

Ideal gas law

Molar volume

Atomic structure	Spectrum Isotopes of "Pennium"
Quantum mechanics Wave mechanics	
Periodic table	Flame Activities of metals
Bonding Ionic and molecular	Molecular models
Solutions	Rate of reactions Solubility curve
Expressing concentrations	Household chemicals (inquiry)
Acids & bases	Properties of acids and bases Acid – salt
Colligative properties	Ice cream
pH/pOH Chemical equilibrium	
Titration	Acid to base Base to vinegar, % acetic acid in vinegar
Redox	Paddy's pool (inquiry)
Qualitative analysis lab – requires students to practice lab skills, take detailed notes, have confidence in their work, and be able to reason out problems encountered.	

Types of labs:

1. Fill-in students are given a worksheet that they must complete with all of the required information
2. Write – up there is a format to be followed and one paper is turned in per lab group. This encourages students to work together and check each others work.