

Chemistry I Exam

Study Guide Mr. D. Scott

(for use with the ACS-HS05 Exam)

Accuracy vs Precision

Balancing equations

Calculate $[H^+]$, $[OH^-]$, pH and pOH and be able to use K_w in a calculation

Calculate the dilution from one concentration to another ($M_1V_1=M_2V_2$)

Chemical change vs physical change

Chemical formulas & nomenclature rules (salts, acids, molecules, hydrocarbons)

Chemical reactions & mole ratios

Colligative property effects of freezing pt., boiling pt., osmotic press., vapor press.

Concentration calculations (molarity, molality)

Determine the density of an irregular shaped object

Electron configuration & location of electrons

Electronegativity and its trend in the periodic table

Empirical and molecular formula relationships

Enthalpy of reaction and Stoichiometry

Enthalpy, entropy and free energy – calculations and concepts

Equilibrium and shifting factors

Equilibrium expressions (writing, interpreting, and calculating with)

Factors that affect vapor pressure

Gas calculations at STP and also at non-standard conditions $PV=nRT$

Graphical interpretation of lab data

Half-life calculations of radioactive isotopes

Homogeneous vs heterogeneous

Identify Bronsted acids and bases in reactions

Identify numbers of protons, neutrons, and electrons in atoms and ions

Identify oxidizing and reducing agents in reactions

Identify the intermolecular forces within various kinds of substances

Interpretation of reaction coordinate graphs

Interpreting values of K_{eq}

K_a values of weak acids (know the seven strong acids)

Laboratory procedures for any of the labs we did this year

Molar mass, mass \rightarrow moles and moles \rightarrow mass

Molecule shapes and polarity

Names of different types of phase changes

Nuclear decay and balancing nuclear reactions

Nuclear decay particles

Percent composition of elements in a compound

Periodic table relationships and trends

Predicting reactions based on reaction types (outline)

Properly choose an appropriate indicator for a titration

Properties of gas effusion & diffusion

Reaction rate and its factors

Redox, oxidation, reduction, oxidizing agent, reducing agent

Relative abundance and atomic mass

Significant figures in calculations

Stoichiometry

Techniques in separating mixtures

Titration curves - interpretation

Van't Hoff factors as they relate to colligative properties

This is an
ALPHABETICAL
outline of what is
asked about on the
final exam.