

## Chemistry 302 - January Semester 2010

### Some things to know from first year chemistry

The mole concept

How to balance equations

How to find concentration

Stoichiometry

Concentration units

Common anions and cations

Redox numbers

Redox equations

Electronic configurations

Lewis dot structures

Electromagnetic spectrum

Energy of photons

Ideal gas law

Partial pressures, mole fractions

Enthalpy of reaction

Bond energy

Hess's Law

Equilibrium coefficients

Relationship between  $K$  and  $\Delta G$

Temperature dependence of equilibrium coefficients

Henry's Law

Acids, Bases, and pH

Kinetics

Rate expressions (First, Second, and Third order reactions)

Half-life

Temperature dependence of rate coefficients