

Exam 2: Friday, November 2**Topics: Chapters 6, 12, 7**

- thermochemistry terminology and the 1st law of thermodynamics
- heat transfer
- calorimetry: $q = mC\Delta T$, coffee-cup calorimetry
- determining ΔH for phase changes, types of phase changes
- Hess's Law Part 1: ΔH_{rxn} from multiple reactions
- formation reactions
- Hess's Law Part 2: ΔH_{rxn} from ΔH_f
- bomb calorimetry

- measuring pressure and barometers
- general gas law (and Boyle's and Charles's laws)
- ideal gas law (and Avogadro's law)
- Dalton's law of partial pressures, mole fractions
- gas density
- vapor pressure
- kinetic molecular theory, RMS velocity, Graham's law of effusion
- real gases (qualitative) – read section 12.9

- Planck's law
- the photoelectric effect
- Bohr model, energy levels, energies and wavelengths for electronic transitions
- de Broglie equation for wavelength of particles
- quantum numbers
- shapes of orbitals

- anything from lab
- anything from the previous exam

(Disclaimer: This is intended to be a helpful checklist in preparation for exam #2. While effort has been made to be complete here, this is not guaranteed and it remains the student's responsibility to completely prepare for the exam.)