CHM 1045 Exam 3 Review Sheet

Study the following:

- Balanced Thermochemical Reaction Equations
  Find enthalpy with the correct molar basis (moles of product or reactant).
  Review Examples 6.02 and 6.03.

- Thermochemical Stoichiometry
  Convert masses to moles, then use moles and enthalpy to determine total heat.
  Review Example 6.04.

- Heat Capacity
  Total heat equals heat capacity times mass/moles times change in temperature.
  $q = (C)\Delta T$, $q = (C_m)n\Delta T$, and $q = sm\Delta T$
  Review Examples 6.05 and 6.06.

- Enthalpies of Formation
  Understand each case: elements, compounds, ions, and different phases.
  Review the Standard Enthalpies of Formation Table.

- Enthalpies of Reactions
  Derive with enthalpies of formations, using product sum minus reactant sum.
  Review Examples 6.07, 6.08, and 6.09.

- Photon, Particle, and Wave Equations
  Use these equations: $c = \nu\lambda$ $E = h\nu = hc/\lambda$ $\lambda = h/mv$ $E_k = (1/2)mv^2$.
  Review Examples 7.01, 7.02, and 7.03.

- Quantum Numbers (possible values for each)
  Understand each: principal (n), angular momentum (L), magnetic (m_L), and spin (m_s).
  Review Quantum Numbers in the chapter 7 notes,
  as well as Table 6.1, and Figure 6.22.

- Orbitals
  Relate shells and subshells to quantum numbers and orbital shapes.
  Review Example 7.06, and Figure 6.21.