Honors Chemistry - Topic VIII Outline
Chemical Energy

I. Introduction to Thermodynamics pp. 270-275

A. Laws of Thermodynamics - 1st Law

B. Definitions of Terms
1. State functions
2. Heats of reaction

II. Heats of Reaction pp. 283-286 (276-282 review)

A. Molecular motions and heat capacity

B. Review: $q = mc\Delta T$

C. Hess' Law of Heat Summation
1. Definitions
2. Calculations and Applications

D. Bond Energy and ΔH
1. Definitions
2. Calculation of heats of reaction

III. Driving Forces of Chemical Change pp. 293-296

A. Entropy
1. Second Law of Thermodynamics
2. Calculations

B. *Relationship between ΔH and ΔS
1. *Free energy - ΔG
2. *Predicting change
3. *Sample calculations: $\Delta G = \Delta H - T\Delta S$
4. *Free energy and equilibrium

* Concept not in our textbook