Item	Performance/Task: The student will:	text (Tro)
Thermochemistry	
1	Know the definition of energy and the various forms it might assume.	6.1
2	Know the definitions of the following: open system, closed system, isolated system, surroundings, a universe, exothermic, endothermic, state function, state of a system	6.2-6.3
3	Be able to give the first law of thermodynamics and make calculations base upon it.	6.4
4	Be able to define work, heat, internal energy and enthalpy	6.2-6.4
5	Know the definition of molar heat capacity (at either constant volume or pressure) and be able to do problems involving heat capacity	6.5
6	Be able to calculate the enthalpy of reaction from the standard enthalpies of formation.	6.6
7	Be able to calculate the enthalpy of solution from the standard enthalpies of formation of compounds and ions.	6.7+
Thermodynamics*	
8	Be able to give an explanation of the zeroth law of thermodynanics	6.5
9	Be able to define what a spontaneous process is.	18.2
10	Be able to relate entropy to microscopic randomness and how to calculate it given the number of microstates.	18.3
11	Know what is meant by "standard state" and standard (molar) state functions	18.3
12	Be able to give the second law of thermodynamics and make calculations based upon it	18.4
13	Be able to tell what the third law of thermodynamic is a reach conclusions based upon it.	18.4
14	Be able to calculate the Gibbs' free energy and know the importance of it in relation to equilibrium.	18.5
15	Be able to derive the equation that relates thermodynamics to the equilibrium constant and the van't Hoff plot	18.6
16	Be able to calculate the equilibrium constant from the standard molar Gibbs' free energy	18.6