

## Chemistry 644: Chemical Thermodynamics (Spring 2010)

Time and Place: MW 1:00-2:15 pm, FR238  
Text: *Molecular Thermodynamics*, by Donald A. McQuarrie and John Simon  
Instructor: Tao Xu, Office FW 412, Phone: 753-6357, e-mail: txu@niu.edu  
Office Hour: MW 2:30-4pm

Date	Tentative Topics	Reading
Jan. 11, 13, 15	Energy Levels of Atoms and Molecules	Ch. 1
Jan 18	no class (MLK day)	
Jan., 20, 22	Energy Levels of Atoms and Molecules	Ch. 1
Jan. 25, 27, 29	Energy Levels of Atoms and Molecules	Ch. 1
Feb. 1, 3, 5	Properties of Gases	Ch. 2
Feb. 8, 10, 12	Properties of Gases	Ch. 2
Feb. 15, 17, 19	Boltzmann Factor and Partition Functions	Ch. 3
Feb. 22, 24, 26	Partition Functions and Ideal Gases	Ch. 4
Mar. 1, 3, 5	First Law of Thermodynamics	Ch. 5
<b>Spring break: March 7-14</b>		
March 15, 17, 19	Entropy and Second Law of Thermodynamics	Ch. 6, Ch 7
<b>March 22 Monday</b>	<b>Mid Term Exam (scope: Chapter 1-6)</b>	
March, 29, 31, April 2	Entropy and Third Law of Thermodynamics	Ch. 7, 8
April 5, 7, 9	Helmholtz and Gibbs Energies	Ch. 8, 9
April 12, 14, 16	Phase Equilibria	Ch. 9, 10
April 19, 21, 23	Liquid-Liquid Solutions	Ch. 10,11
April 26, 28, 30	Solid-Liquid Solutions	Ch. 11, 12

### Final Exam (Scope Chapters 1-12), noon-1:50 pm, Monday, May 3 at FW201

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Grading:	Weekly homework problems:	30%
	One Mid term exam	30%
	Final exam:	40%
A:	100-90 average points based on the homework problems and exams	
B:	89-80	
C:	79-70	
D:	69-60	
F:	< 60	