

CHM6430, Chemical Thermodynamics, Fall 2013

Prof. Russ Bowers, NPB 2360, email: bowers@chem.ufl.edu

Office Hours: MW, 1:30-3:30pm; F: 1:30-2:30

Meeting Place and Time:

MW 8:30-9:45am, 2228 New Physics Building (QTP Library)

Required Text:

Howard Devoe, THERMODYNAMICS AND CHEMISTRY, 2nd Edition.

<http://www2.chem.umd.edu/thermobook/>

Supplemental Text:

Molecular Thermodynamics, by D.A. McQuarrie and J.D. Simon, University Science Books, Sausalito, CA; ISBN 1-891389-05-X.

Required Software: [Wolfram's Mathematica](#), Matlab or Macsyma.

"Hands-on Start to Mathematica" is a free, two-part online screencast that introduces Mathematica basics to get you started with your first calculations, visualizations, and interactive examples. If you haven't already, be sure to check out Part 1 here: <http://url.wolfram.com/a8e0R10/>

Exams: There will be two exams, a midterm and a final.

	weight
Midterm	40%
Final	40%
in-class quizzes	15%
Demonstration of proficiency to solve homework problems using either Mathematica, Matlab or Macsyma (Mathematica preferred)	5%

Homework:

Homework is assigned but not collected or graded.

Schedule

week	topic	homework	reading MQ=McQuarrie DV=Devoe
8/26	Basic Definitions Properties of gases	no assignment	MQ Ch. 2 DV Ch. 1 DV Ch. 2.1-2.3
9/2	ch3: Stat Thermo	HW#1: MQ 2-11, 2-36, 2-40, 2-58, 2-59, 2-39, 2-55 (deleted 2-13,2-22,2-51)	MQ Ch.3
9/9	ch3: Stat Thermo	HW#2: 2-13,2-22,2-51,3-11, 3-12, 3-19, 3-24, 3-25, 3-30, 3-32, 3-36, 3-37	MQ Ch.3
9/16	ch4: Stat Thermo	HW#3	MQ Ch.4.5-4.9
9/23	ch4: Stat Thermo	HW#4 MQ 4-7,4-9,4-18,4-28	review chapters 2-4
9/30	ch5: First Law	HW#5	DeVoe Ch. 3 MQ Ch. 5
10/7	ch6: Entropy and 2nd Law	HW#6 MQ 5-43, 5-45,5-48, 5-52, 6-15,6-25	DeVoe Ch. 4,5 MQ Ch. 6

Midterm, October 4th, In-Class			
10/14	ch7: Entropy and 3rd Law	HW #7	DeVoe Ch. 6,7 MQ Ch. 7
10/21	ch8: Helmhotz and Gibbs Energies	HW #8: MQ 8-10,8-14,8-41, 8-42,8-56	MQ Ch. 8.1-8.5
10/28		HW #9: MQ 8-12,8-57,8-58,8-59,8-60	REVIEW
11/13	ch8: Helmhotz and Gibbs Energies	no homework assigned	MQ Ch. 8.6-8.8
11/8	NO CLASS MEETING: HOMECOMING		
11/11	NO CLASS MEETING: VETERANS DAY		
11/13	ch9: Phase Equilibria	HW #10	MQ Ch. 9
11/18	ch10: Solutions	HW#11: MQ 10-17, 10-18, 10-24,10-26, 10-32	MQ Ch. 10
11/27,29	THANKSGIVING, NO CLASSES		
12/2	ch10: Solutions	HW#12: MQ 10-36, 10-37,10-38, 10-48, 10-50,10-53, 10-55, 10-57,10-61	MQ Ch. 10
Final Exam, December 12			