

Physical Chemistry I / CHM 358

College/Department	Chemistry
Semester	Spring 2014
Instructor	Dr. Brian Scott Day
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Phone	(304) 696-7054
Office	Science Building, 479
Location	Lecture: Science Building 470 Laboratory: Science Building 470
Days/Times	11:00 – 11:50 AM, MWF Lecture 12:00 – 1:50 PM, M Lab
Office Hours	1:00 – 3:00 PM TR

Information for drop or withdraw is available on the Academic Calendar
<http://www.marshall.edu/calendar/academic/>

COURSE MATERIALS

1. *Physical Chemistry: A Molecular Approach* by McQuarrie and Simon
2. Access to MU Online and a Marshall email account
3. Bound notebook (not spiral) for lab
4. Indirectly vented chemical safety goggles for lab
5. Calculator
6. ACS academic lab safety guide
http://portal.acs.org/portal/PublicWebSite/about/governance/committees/chemicalsafety/publications/WPCP_012294

COURSE DETAILS

Description:

A systematic study of physical chemistry, including the topics of energy transfer, statistical thermodynamics, equilibrium, and kinetics. 4.00 credits. Prerequisites: grade of C or higher in CHM 212, C or higher in 8 hours of physics, C or higher in MTH 230, or consent of instructor.

Objectives:

1. To apply concepts of thermodynamics, kinetics, chemical equilibrium, and properties of gases to problems of chemical significance.
2. To learn how to apply general chemical knowledge to solve basic chemistry problems and to implement these logical strategies to solve complex, multistep problems.
3. To understand and interpret scientific literature.
4. To refine oral communication skills.
5. Students will enhance their writing skills and strategies.

GRADING

	Percent of Grade
Homework/Quizzes	15
Lab Notebook	5
Lab Reports	25
In-Class Exams (2)	30
Final Exam	25

A 90 -100 %, B 80 -89 %, C 70 - 79%, D 60 - 69 %, F 0 - 59 %

COURSE SCHEDULE AND ACTIVITIES

Week of	Topic/Chapter(s)	Lab
1/13	Kinetic Molecular Theory, 27	Intro
1/20	No class 1/20; Gas Properties, 16	No Lab
1/27	Partition Functions, 17 & 18.1	2 nd Virial Coefficient
2/3	1 st Law of Thermodynamics, 19	Adiabatic Expansion
2/10	2 nd Law of Thermodynamics, 19 & 20	Adiabatic Expansion
2/17	2 nd Law of Thermodynamics, 20	Bomb Calorimetry
2/24	Entropy and 3 rd Law, 21; Exam 1	Bomb Calorimetry
3/3	Helmholtz and Gibbs Energies, 21 & 22	
3/10	Phase Equilibria, 23	Computational Chemistry
3/17	<i>Spring Break</i>	
3/31	Chemical Equilibrium, 26	Computational Chemistry
4/1	Chemical Kinetics, 26, 28 & 27.7	Clock Reactions
4/7	Chemical Kinetics: Rate Laws, 28	Clock Reactions
4/14	Chemical Kinetics: Mechanisms, 29	Clock Reactions
4/21	29, Exam 2	
4/28	TBA	No Lab
5/6	10:15 - 12:15 FINAL EXAM	

COURSE POLICIES

Attendance Policy

Attendance for this class is not mandatory, but highly recommended. Absences from quizzes, exams and laboratories can only be made-up if the absence falls within one of the categories outlined in the undergraduate catalog as an excused absence. To make-up a quiz, exam or lab, you will need to follow the process for securing an excused absence. All excused absences must be obtained as soon as possible.

Laboratory Policies

1. Students must complete the lab safety training on MU Online prior to entering the laboratory.
2. Goggles are required at all times during lab.
3. Open-toed shoes, shorts, bare midriffs, etc. are not allowed
4. Blatant disregard for standard safety practices will result in dismissal from lab

Other Course Policies

1. Homework and lab reports will not be accepted after their due dates.
2. Cell phones cannot be used, or out, during exams.
3. Sharing calculators during quizzes/exams is prohibited.
4. During quizzes/exams, all materials necessary will be provided to you except a pencil and calculator. You may NOT use your own paper, etc.
5. Please turn off cell phones during class, failure to do so may result in dismissal from lecture.
6. Class announcements may be made via email to your university email address and it is your responsibility to check that account on a regular basis.

UNIVERSITY POLICIES

Academic Dishonesty

All students should be familiar with the university's policy concerning academic dishonesty. This policy can be found on pp. 66 - 68 of the undergraduate catalog http://www.marshall.edu/catalog/undergraduate/ug_10-11_published.pdf, or on pp. 61 – 63 in the 2009 online graduate catalog http://www.marshall.edu/catalog/graduate/S2009/gr_sp09_published.pdf. (Faculty are encouraged to add any additional information specific to their expectations and/or rules regarding academic dishonesty in their class).

Policy for Students with Disabilities

Marshall University is committed to equal opportunity in education for all students, including those with physical, learning and psychological disabilities. University policy states that it is the responsibility of students with disabilities to contact the Office of Disabled Student Services (DSS) in Prichard Hall 117, phone 304 696-2271 to provide documentation of their disability. Following this, the DSS Coordinator will send a letter to each of the student's instructors outlining the academic accommodation he/she will need to ensure equality in classroom experiences, outside assignment, testing and grading. The instructor and student will meet to discuss how the accommodation(s) requested will be provided. For more information, please visit <http://www.marshall.edu/disabled> or contact Disabled Student Services Office at Prichard Hall 11, phone 304-696-2271.

University Computing Services' Acceptable Use Policy:

All students are responsible for knowing this policy, which can be found on the web at <http://www.marshall.edu/ucs/CS/accptuse.asp>.

Affirmative Action Policy:

This course will follow Marshall University's policy on Affirmative Action, which can be found on p. 63 of the undergraduate catalog http://www.marshall.edu/catalog/undergraduate/ug_10-11_published.pdf, or on pp. 16-17 of the 2008 graduate catalog http://www.marshall.edu/catalog/graduate/S2009/gr_sp09_published.pdf. Specifically, all students will be afforded equal opportunity without regard to race, color, sex, religion, age, disability, national origin, or sexual orientation.