

CHMY 153H SYLLABUS
Honors General Chemistry, 2nd Semester
Spring 2010

Instructor:

Dr. David Hobbs	Section 1 (MWF 11:00-11:50 AM)
Office:	Room 211, Chemistry Biology Building (CBB)
Phone:	496-4194
Office hours:	MW 2-3:30 p.m. or by appointment.
E-mail:	dhobbs@mtech.edu (Email is the best way to contact)
Website:	www.mtech.edu/clsp/chemistry/dhobbs/dhobbs.htm

Introduction

Welcome to the second semester of Honors General Chemistry (CHMY 153H) at Montana Tech. This course is designed to introduce you to more of the fundamental principles of chemistry such as thermodynamics, chemical kinetics, and chemical equilibria for acid/base, precipitation and redox reactions. The conceptual and problem solving skills you learn in this course are similar to the ones you will need in many other science and engineering areas. Perhaps the words, “fundamental principles of chemistry” are new to you and may cause you to question whether you belong in this class. However, remember that any science seeks to explain the world in as simple terms and concepts as possible. So when we say “fundamental principles of chemistry”, we mean the simplest model (or picture) that explains the physical changes we observe. To these simple models we do other stuff like add mathematics or additional details that allow us to use the model quantitatively; that is we can then make measurements based upon predictions that come out of our “model”. So one of the most important skills you can develop for studying science or engineering is to be able to develop a simple picture of the phenomenon you wish to understand. To this end, the instructors and text authors have provided a number of ways to develop problem-solving skills for this course. The oldest and most important learning tool is class attendance and participation, which is required. The text and related websites also contain good illustrations that can help in using physical models. The online homework is designed to encourage practice in solving chapter problems. Successful practice will make you feel more comfortable and confident as a Problem Solver, and will ensure you are prepared for the exams. Good luck gaining a better understanding of basic chemistry. Remember if you get stuck trying to solve a problem, or in trying to understand a “fundamental principle”, locate help immediately either from your instructor, the campus Learning Center (TLC), or go On-Line using the **MasteringChemistry** tutorials. Since this is a Montana Tech (Go ‘Diggers) Honors course...we will include weekly research/writing/discussion assignments...which we hope you will Get Into...

CHMY 153H Prerequisites

First Semester of Honors General Chemistry (CHMY 151H) or permission of the instructor.

Text

Chemistry: The Central Science; 11e, Brown, LeMay, Bursten, Murphy. Pearson/Prentice Hall Publishers, 2009. If you don't have one, you can find a "hard copy" of the text in the Montana Tech Bookstore that is bundled with the **MasteringChemistry** (MC) registration as well as access to the eText...an electronic version of the text. Also if you should be able to use your registration key from last semester to register for MC; your instructor will provide you with particular course registration number.

Blackboard, Blogs and other course information sites

To find the course site on Blackboard go to: <http://www.mtech.edu/>
Select MYMTECH and this will take you to the Blackboard login page. **NOTE: Blackboard will only be used for post raw scores from homework, quizzes and tests. Most of the class material will be posted on my class Blog (see below).**

Class Blog

<http://mttechchem.blogspot.com/>

Online Homework

There will be no formal homework assignments to be turned in as "hard copy" for grading. However, learning chemistry is all about learning to solve chemical and physical type problems, so in this syllabus, and often in class, we will assign problems of a type that you are certain to encounter on an up-coming exam. Therefore, the best way to study and prepare for an exam is by learning to solve these types of problem. The homework assignment all together will count the same (100 points) as one exam. Access to each chapter's online homework will be allowed for a fixed amount of time; however you will usually have multiple attempts to answer each question.

Chapter problems will be assigned using an online homework/tutorial system called, **MasteringChemistry** (<http://www.masteringchemistry.com/>). The registration information and registration codes for this should have come packaged with the copy of the text you purchased from the bookstore last semester. Please see the instructor if this is not the case, or contact the support group at MC.

Quizzes

Unannounced quizzes will be given periodically in class. The points earned from these quizzes will be included as a part of your regular total points. There will be no makeup for these quizzes (remember that class attendance is mandatory). We will drop one quiz at the end of the semester.

Regular Exams

There are four regular exams worth 100-points each. I will determine your grade based on your four regular exams, your homework, your on-line quizzes, and the final exam.

All exams are currently scheduled for Tuesdays, *outside of regular class meeting times*. Generally, the exam will be offered at two different times (5-7 PM & 7-9 PM) along with the Gen. Chem. II sections. The reasons for this are so that we may permit up to two hours for the students to work the exam. This should help to remove some stress as a factor in taking the exams. **Exam dates and/or material covered are subject to change.**

Proposed Exam Dates are:

Exam I Chs. 11 & 13 Tuesday, February 9th, 2010

Exam II Chs. 12 (remainder), 14 & 15 Tuesday, March 9st, 2010

Exam III Chs. 15 & 16 Tuesday, April 6th, 2010

Exam IV Chs. 17, 18 & 19 Tuesday, May 4th, 2010

If you are aware of any potential conflicts with these exam times, you must notify the instructor *in writing email*) within the week prior to the exam. Make-up exam times can then be arranged ONLY with prior approval of the instructor.

Each of the four regular exams will consist of a collection of multiply-choice and/or short-answer questions. Some of the exam questions will be taken from the end of chapter problems (via MasteringChemistry) for those chapters covered by the exam. In some cases the numbers, the types of substances, and/or the phrasing in the question may be changed slightly from the way the question appeared in your text. In many cases there will be no changes. This should encourage you to work the end-of-the chapter problems and hence learn the material.

“Graphing” calculators capable of storing and displaying text and formulas will not be allowed during the exams. You should acquire a calculator with the functions $1/x$, 10^x , e^x , $\ln(x)$, $\log(x)$ for use during the exams. Appropriate calculators available in the Tech Bookstore or even Wal-Mart, and generally cost less than \$15-20. Some examples of acceptable calculators are: Sharp EL-509G and EL-506G, Texas Instruments TI-30X, and the CASIO *fx-300MS*.

Because it is impossible for us to get to know all of the ~200 students in this course, **we will check validated Montana Tech IDs at each exam.**

Final Exams

The final exam is worth 100 points and will be a comprehensive national exam covering the entire year of General College Chemistry. The exam used is the American Chemical Society (ACS) standardized General Chemistry Exam. Copies of the ACS national exam guide will be available for purchase in the Chemistry office. This exam will be held in the regular lecture hall (CBB 102) on the following dates:

Final: Friday, May 14, 3 – 5 p.m., CBB 102

NOTE: Prior permission from your instructor is required to take the final in another section than the one for which you are registered.

Grading

Quizzes (approx. 8) @ 5 pts. Ea.	40 points
Nine (9) SmartWork Chapter assignments	100 points
Four 100-point regular exams	400 points
<u>Final Exam.</u>	<u>100 points</u>
Total points	640 points

NOTE: I will not drop a grade for the lowest scoring regular exam and **ALL** students are required to take the final exam as part of the total cumulative points for the semester.

I do not assign letter grades to individual quizzes or exams, but rather we keep track of the percentage of the total available points that you have earned. The total points may vary somewhat from 640, but the following percentages will guarantee the letter grades shown:

90% to 100%	A	Excellent
80% to 89%	B	Very good
69% to 79%	C	Average
60% to 69%	D	Below average

Depending upon the test averages these percentages may be lowered. However, to pass this class you must demonstrate proficiency in a majority of the material.

Approximate Calendar for Spring Semester 2010

January 2010

Monday	Tuesday	Wednesday	Thursday	Friday
				1
4	5	6	7	8
11	12	13 Classes begin Chap. 11	14	15 Chap. 11
18 Martin Luther King Holiday – no classes	19	20 Chap. 11	21	22 Chap. 11
25 Chap. 11	26	27 Chap. 13	28	29 Chap. 13

February 2010

Monday	Tuesday	Wednesday	Thursday	Friday
1 Chap. 13	2	3 Chap. 13	4	5 Chap. 13
8 Chap. 13 & review	9 Exam 1 Chaps. 11, 13	10 Chap. 14	11	12 Chap. 14
15 President's Day Holiday No classes	16	17 Chap. 14	18	19 Chap. 14
22 Chap. 14	23	24 Chap. 14	25	26 Chap. 14

March 2010

Monday	Tuesday	Wednesday	Thursday	Friday
1 Chap. 15	2	3 Chap. 15	4	5 Chap. 15
8 Chap. 15& review	9 Exam 2 Chaps. 12 (remainder), 14 & 15.	10 Chap. 15	11 Midterm Grades	12 Chap. 15
15 Spring Break No classes	16 Spring Break No classes	17 Spring Break No classes	18 Spring Break No classes	19 Spring Break No classes
22 Chap. 16	23	24 Chap. 16	25	26 Chap. 16
29 Chap. 16	30	31 Chap. 16		

April 2010

Monday	Tuesday	Wednesday	Thursday	Friday
			1 Last Day to Drop!	2 Spring Mini-Break Non-instruction
5 Chap. 16 & review	6 Exam 3 Chaps. 15 & 16	7 Chap. 17	8	9 Chap. 17
12 Chap. 17 Pre-registration for Summer/Fall	13	14 Chap. 17	15	16 Chap. 17
19 Chap. 18	20	21 Chap. 18	22	23 Chap. 18
26 Chap. 18 & review	27 Exam 4 Chaps. 17 & 18	28 Chap. 19	29	30 Chap. 19

May 2010

Monday	Tuesday	Wednesday	Thursday	Friday
3 Chap. 19	4	5 Chap. 19	6	7 Chap. 19 Review for final
10 Final exams	11 Final exams	12 Final exams	13 Final exams	14 Final exams
17	18	19	20	21