Chemistry (CHEM) 113 Spring Quarter 2012
General Chemistry II Lectures (MTR) 1st and 2nd hour in G315 Lab meets in in E-104

COURSE INTRODUCTION, SCHEDULE, AND GENERAL INFORMATION

Instructor

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Required Material

- ❑ **Lecture Text:** S. Zuhmdahl, *Chemical Principles*, 6th ed., 2009, Houghton Mifflin Publishers
- ❑ **Laboratory Manual:** Mottel, Erwin and Sakano, *An Introduction to Experimental Chemistry*, 2011, Rose-Hulman Institute of Technology is recommended. However, all lab protocols will be available on ANGEL.
- ❑ **Safety goggles:** Safety goggles can be purchased with your textbook in the school bookstore. Bring your safety goggle voucher to the first lab session to receive your goggles. You must have safety goggles to participate in laboratory.
- ❑ **Laboratory Notebook:** Chemistry Laboratory Composition Notebook, 8x10. This notebook must be bound. Previous lab notebooks from other courses are OK to use provided that there is sufficient space.

Grading:

Point Breakdown	
Problem Sets/Quizzes	250 points
Class Exams (3)	300 points
Laboratory	250 points
Comprehensive Final	200 points
Total points	1000 points

Grade Breakdown			
A	900-1000	C	700-749
B+	850-899	D+	650-699
B	800-849	D	600-649
C+	750-799	F	<599

Course Information

- A weekly course outline with important tasks, dates and deliverables will be handed out at the beginning of each course week.
- This course will actively use the ANGEL course software. All course materials will be posted on it. Any pre-made lecture material will be posted on ANGEL the night before lecture and my lecture notes will be uploaded onto ANGEL following lecture.
- A list of daily reading assignments will be posted online for each exam. You will be responsible for material assigned in the book but not covered in lecture.
- Short problem-solving podcasts will be posted on ANGEL for each major lecture topic. The optional videos will not feature any new material, but will feature me working through a few end-of-chapter problems.
- A set of learning objectives for each exam will be posted online. All of the questions from the exams will cover topics listed in the objectives.
- There is a nomenclature competency component to the course that must be completed by spring break. The online assessment may be taken on ANGEL at anytime. You must also schedule an in-office assessment with me before spring break.
- Attendance in all lecture sessions, laboratory sessions and pre-laboratory sessions is required, but I will not take formal attendance at lecture. Please try to sit in the same seat every day.
- Missing more than **THREE** lecture sessions, and missing more than **TWO** lab sessions may result in a failing grade subject to instructor discretion. Laboratory sessions **MUST BE** made up during the schedule. That is, if you miss a lab during Week 3, then you **MUST** reschedule a make-up lab with an instructor in another section during Week 3

Use of Technology in the Classroom

You will be notified in advance when the use of laptops in the laboratory is needed.

Laboratory

You must score >60% of the points in <u>both</u> the lecture and laboratory section to pass the class.

<u>Pre-lab preparation</u>: Every lab section this quarter will have significant pre-lab preparation. Pre-lab preparation will include online videos for you to watch and online quizzes that must be passed before the lab can be started. These short videos will introduce you to various aspects of the week's lab and will vary depending on the instructor.

<u>Laboratory Reports</u>: Laboratory reports/assignments/write-ups will be discussed on the day of lab and a due date will follow the assignment. The information regarding lab reports, grading rubrics, and additional assignments will be posted on the lab section ANGEL page. Late lab reports will be penalized 10% of the point total per day.

<u>Participation/Attitude in Laboratory:</u> Cleanliness and safe practices are required in the lab. Ask the instructor if you are unsure about how to do something or if you do not understand the reason for a procedure. Think about the chemistry that is happening in each step of an experiment. Anticipate outcomes with special attention to safety issues. Thorough and efficient operation in the lab is expected.

***<u>Safety</u>*: All safety rules must be followed at all times. Failure to comply will result in immediate expulsion from the lab. In some cases, a grade penalty will be accrued for failure to follow safety rules. Specific safety issues will be addressed in detail the day of lab. All accidents and injuries, no matter how minor, must be immediately reported to the instructor.**

Academic and Professional Integrity

The methods used in this course presuppose that students will uphold the highest standards of professional and academic integrity. Definitions and punishments for academic misconduct are described in the Student handbook

Disability Accommodation

If you require disability accommodations, contact The Learning Center (contact by phone: (812) 877-8876, Campus mail: box # 82, and Email: learningcenter@rose-hulman.edu) to make initial arrangements and then contact the instructor. Exams taken in the Learning Center must be taken the same day as the exam or earlier.

Prof. Weatherman

CHEM 113 SCHEDULE
SPRING 2012

Lecture	Date	Topic	Chapters	*Lab*
1	Mar 5	*Thermochemistry*	Ch 9	*Qualitative Experiments with*
2	Mar 6			*Chemical Energy*
3	Mar 8			*(Experiment Q)*
4	Mar 12			*Calorimetry/Enthalpy of*
5	Mar 13	*Phase Changes*	Ch 16	*Reaction*
6	Mar 15	*Free Energy*	Ch 10	*(Experiment O)*
7	Mar 19			*No lab*
8	**Mar 20**	**Exam 1**	**Ch 9, 10, 16**	
9	Mar 22	*Equilibrium*	Ch 6, 10	
10	Mar 26			*A Study of the Lead(II) Iodide-*
11	Mar 27			*Water System*
12	Mar 29			*(Experiment T)*
SPRING BREAK				
13	Apr 9			*Equilibrium*
14	Apr 10	*Acid/Base Equilibrium*	Ch 7	*(Experiment C)*
15	Apr 12			
16	Apr 16			*Spectroscopy of Equilibrium*
17	Apr 17			*and Non-Equilibrium Systems*
18	Apr 19			*(Experiment CCC)*
19	Apr 23			*Qualitative Analysis*
20	**Apr 24**	**Exam 2**	**Ch 6, 7, 10**	*(Experiment P)*
21	Apr 26	*Kinetics*	Ch 15	
22	Apr 30			*Household Chemical Kinetics*
23	May 1			*(Experiment MM)*
24	May 3			
25	May 7			*Determination of the Rate Constant*
26	May 8			*and the Order of Reaction*
27	**May 10**	**Exam 3**	**Chapter 15**	*(Experiment M)*
28	May 14	*Nuclear Chemistry*	Ch 20	*No lab*
29	May 15			
30	May 17	*Final Review*		