Chemistry 112

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Course Details
Section 1: MWF: 12-12:50
Room: Beaupre 100

Text: Raymond Chang, General Chemistry: The Essential Concepts 7th edition: chapters 14-19

Chapter 14: Kinetics
Chapter 15: Equilibrium
Chapter 16: Acids and Bases
Chapter 17: Titrations and Solubility
Chapter 18: Thermodynamics
Chapter 19: Electrochemistry

Course objectives:

The goal in this course is to lay the foundation for future chemistry, biochemistry pharmaceutical and engineering courses. The terminology, fundamental principles and theories presented in Chemistry 112 will be heavily used in these other courses. In addition to factual material, the ability to apply these concepts to real-world problems is essential to passing the course and many subsequent courses.

Studying:

I strongly suggest doing as many problems in the practice sections of the connect site until you are comfortable with the material. The course is based on being able to solve word problems, so you will not pass if you just read the text and follow the problems given either in the text or the lecture. **YOU MUST BE ABLE TO DO THE PROBLEMS AT THE END OF EACH CHAPTER OR IN CONNECT COMPLETELY ON YOUR OWN.** If you need more practice, or are having trouble with the problems, email me immediately before you get too far behind. I can often figure out why you are having problems and suggest ideas that may help you get through the course. The course is not based on how much time you put into it, but rather your ability to solve problems on your own, so there is no extra credit given in the course.

The material in this course is fairly complex, so it is important that you keep up with the workload. The material learned in each chapter will be used in subsequent chapters, so if you fall behind in the first few weeks, it's nearly impossible to catch up again. The final is truly cumulative; a single question may require you to use techniques and concepts learned in several different chapters.

Office Hours:

My walk-in office hours are 9:00-10:00 TuWF. If these times are not convenient, please email me or make an appointment through Starfish. I strongly suggest you use the email given at the top of the page rather than the university assigned email since I monitor it much more frequently than the university assigned email. I do not have access to the university email except when I am in my office at URI.

Disability Accommodations.

Alternate testing accommodations will be provided for students with a documented disability. As part of this process, please contact the Disability Services for Students Office at 330 Memorial Union, 874-2098 (http://www.uri.edu/disability/dss/) as early in the course as possible. You must provide your approved documentation to me at the latest, one full week before the exam.

Sports or Other University Sponsored Events:

Please let me know the first week of classes if you need any accommodations made. Please let me know if you have any lab conflicts as well.

Course Grades

Academic Integrity.
The university policy on academic honesty will be enforced. Any incidence of academic dishonesty, as defined by the policies outlined in the URI's Student Handbook, will result in either one or all of the following: a grade of zero for the exam, failure for the course, formal notification to the Dean of Students. While students are encouraged to study together, exams must represent the work of the individual student. The following are some examples of academic dishonesty:

- Unauthorized possession or access to exams
- Unauthorized communication during exams
- Unauthorized use of another's work or preparing work for another student
- Taking an exam for another student
- Altering or attempting to alter grades
- The use of notes or electronic devices to gain an unauthorized advantage during exams
- Facilitating or aiding another's academic dishonesty

Grading Policies.

A student's course percentage will be calculated as follows:

4 exams and 1 final exam	80%
Connect homework and in class quizzes	20%

Course grades will be assigned according to the scale shown:

>90 = A-/A 76 - 89 = B-/B/B+ 60 - 75 = C-/C/C+ 52 - 59 = D/D+ <52 = F

Note: You need a C- to move on to any other chemistry course in our department!

A student's grade is earned by demonstrating mastery/proficiency of the course material as evinced by the quality of the student's performance in exams, homework and quizzes. It is *not* open to negotiation nor dictated by what's needed to progress in the student's chosen program of study. There is no extra credit given in this course for any reason.

No make-up exams will be given. The final exam score will replace the grade of one of the four lecture exams that is missed OR lower than the final exam score. The purpose of this policy is to eliminate the need for a make-up.

Exams: 80% of Grade

Exams will be a mix of multiple choice and short answer questions. All work must be shown to get credit. Each exam may require you to use techniques and concepts learned in previous chapters, so all exams are cumulative. The final exam will have the same format as the other exams and will be 1.5 to twice the length of the usual exams.

You will be assigned a seat in Beaupre 100 for taking all exams. You will receive a zero for a grade if you are not in your assigned seat for the exam. On exam days, wait outside the classroom until you are instructed to enter. Things to bring to each exam: **calculator, blue or black pen (exams must be written in ink), and your URI ID**. No other form of identification will be accepted. Cell phone calculators or any device with internet access capability are NOT allowed. Once you have started the exam, you are not allowed to leave the room until you are finished.

Exam answers and scores will be posted in Sakai. Any errors in grading must be brought to my attention within 24 hours of the material being handed back in class. No changes in any grades will be made after that point. Note that any request for re-grading means the entire exam will be re-graded.

Homework/quizzes: 20% of Grade

You will be required to register for "Connect" which is an online homework site. The information needed to get your code for the site and the link to "Connect" is given below. In addition, there will be several random open-note quizzes given during class time that are primarily based on attendance. The quizzes are unannounced as you are expected to attend class regularly. They cannot be made up for any reason. Each quiz and homework assignment is worth 10 points. Missed quizzes or homework assignments count as zeros and can significantly lower your grade.

Additional Study Help

TA tutoring

Each TA in the chemistry department holds an office hour in Beaupre 115. They are available to help answer questions involving both lecture and lab. For Chem 112, I would advise trying to work with a CHM114 TA first. Otherwise, most CHM 226 or CHM335 TAs may be able to answer your questions as well.

Class notes and Study Aids:

Class notes, copies of old exams, this syllabus and grades are available through Sakai. Answer keys to all book problems can be found in the Beaupre Learning Center, room 115.

The Academic Enhancement Center (AEC)

The Academic Enhancement Center helps URI students succeed through three services: Academic Coaching, Subject-Based Tutoring, and The Writing Center. To learn more about any of the services below, please visit uri.edu/aec or call 401-874-2367 to speak with reception staff.

• **Academic Coaching** is available to all students who would like to improve their academic success skills. Peer academic coaches meet with students in weekly, one-on-one appointments. The sessions are personalized and focus on a range of academic success topics, such as effective learning strategies, study skills, goal setting, time management and organization. Academic Coaching appointments should be scheduled in advance and are available through the last day of classes.

• **Subject Tutoring**, located on the fourth floor of Roosevelt Hall, helps students navigate course content in select STEM disciplines. Options for peer tutoring include: joining a Weekly Tutoring Group for CHM, stopping by a Walk-In Center or making a One-Time Group Appointment. To view more information about our offerings and schedules, please visit uri.edu/aec/tutoring.

Connect Homework:

Connect Homework Registration

1. To register and/or purchase access to **CONNECT** you will need to go to the specific Connect Course URL for your section, http://connect.mheducation.com/class/F17_geldart_112**.**
2. Click on the Register Now button.
3. Put in your email address. If you have registered with McGraw-Hill previously they will recognize you in their system so you can use your old password that you had previously set up with them. If you are using an access code, you can enter this now. This code can only be redeemed once and must be the code for the required book.

Problems with Connect Registration

When you register for your CHM 112 Connect course, the system should recognize your account from CHM 101. If you purchased Connect for CHM 101 via 1 of the 3 methods below, you should have 2-year access, meaning you would not be asked to submit another payment for CHM 112. **Do not purchase a new code if you have previously purchased a code for chem 101 within the past 2 years.**

Here are the purchase options that grant 2-year access:

1. Via the textbook package (w/Connect code) on the shelf at the URI bookstore.
2. Via the Connect code on sale behind the register at the URI bookstore.
3. Directly from within your Connect course during the registration process.

If you find that your access has expired prematurely, though you did in fact purchase via 1 of the 3 methods above, please select the 'courtesy access' option during the registration process so you can defer payment temporarily, but begin using Connect. Then, continue to follow these important steps:

1. First, you will want to produce a receipt from your CHM 101 purchase and email it to your professor (who will forward it to their Connect rep to investigate).
2. Receipts for bookstore purchases (textbook package OR access code) can be obtained by visiting the URI bookstore and asking for Sue. Receipts from a purchase made directly within Connect should appear on your bank statement.
3. Finally, do not re-purchase Connect if you already purchased Connect via 1 of the 3 methods discussed. Rather, begin 'courtesy access', email your receipt with your instructor's name and course, and wait until we can further investigate the issue.
4. For any technical issues, please reach out to Tech Support at www.mhhe.com/support**.**

Semester Schedule (Tentative)

Week	Dates	Day	112 Topic
1	9/4-9/8	M	**No classes**
		W	Ch. 14: Review of Chem 101
		F	Ch. 14: Rate of Reaction
2	9/11-9/15	M	Ch. 14: Rate Laws
		W	Ch. 14: Rate Equations
		F	Ch. 14: Activation Energy
3	9/18-9/22	M	Ch. 14: Reaction Mechanisms
		W	Ch. 14: Catalysis
		F	Ch. 15: Concept of Equilibrium
4	9/25-9/29	M	**Exam 1 (101 review and Ch. 14)**
	drop date with no W	W	Ch. 15: Ways of Expressing K
		F	Ch. 15: Solving Equilibrium Problems
5	10/2-10/6	M	Ch. 15: Factors that Affect Equilibrium
		W	Ch. 16: Acids and Bases
		F	Ch. 16: pH/pOH and Acid Strength
6	10/9-10/13	M	**No classes**
		W	Ch. 16: Weak Acids and Ka
		F	Ch. 16: Polyprotic Acids
7	10/16-10/20	M	Ch. 16: Weak Bases and Kb
	drop date with W	W	Ch. 16: Molecular Strength of Acids
		F	Ch. 16: Hydrolysis and Lewis Acids and bases
8	10/23-10/27	M	Ch. 17: buffer solutions
		W	**Exam 2 (Ch. 15 and 16)**
		F	Ch. 17: titration
9	10/30-11/3	M	Ch. 17: Solubility: Ksp
		W	Ch. 17: Q and common ion
		F	Ch. 17: Complexation and qualitiative
10	11/6-11/10	M	Ch. 18: Thermo and entropy
		W	Ch. 18: Gibb's Free energy
		F	Ch. 18: Gibbs and Equilibrium
11	11/13-11/17	M	**No classes**
		W	**Exam 3 (Ch. 17 and 18)**
		F	Ch. 19: Balancing Redox reactions
12	11/20-11/24	M	Ch. 19: Types of Cells
		W	Ch. 19: Standard Reduction Potentials
		Th	**Thanksgiving**
		F	**Thanksgiving**
13	11/27-12/1	M	Ch. 19: Thermodynamics and Electrochemistry
		W	Ch. 19: Electrolysis
		F	Ch. 19: Quantitative and Electrometallurgy
14	12/4-12/8	M	Ch. 19: Batteries and corrosion
		W	**Exam 4 (Ch. 19 and Review)**
		F	Review for Final
15	12/11	M	**Last day of classes**
16	12/18	M	**Final 11:30-2:30**