

CHEMISTRY 100 (Spring 2011)

Chemistry in Everyday Life

Time & Place: Tue, (Thu) 9:30 A.M. - 10:45 A.M., Davis Hall (DH) 116.
Textbook: Chemistry in Context, 6th Edition, 2009, Eubanks, Middlecamp, Heltzel and Keller, McGraw-Hill.
Instructor: Dr. Victor Ryzhov, Office: Faraday West (now LaTourette Hall) 425, Phone: 753-6955,
e-mail: ryzhov@niu.edu
Office hours: Wed, Thu 9:30 A.M. - 10:30 A.M., or by appointment.
Course website: <http://webcourses.niu.edu> (Blackboard)

Attendance and lecture quizzes:

Lectures will be on Tue only. Lecture attendance is not required but highly encouraged. There may be some in-class quizzes. There are two in-class exams scheduled during normal lecture periods. No make-up exams will be given. Both exams will be multiple-choice and graded by Scantron.

| Lecture | Date | Tentative Topics | Reading |
|---------|------|---|-----------------|
| 1 | 1/18 | Look at All the Pretty Colors!!! | Chapter 0 |
| 2 | 1/25 | The Air We Breathe | Chapter 1 |
| 3 | 2/1 | Protecting the Ozone Layer | Chapter 2 |
| 4 | 2/8 | The Chemistry of Global Warming | Chapter 3 |
| 5 | 2/15 | Energy, Chemistry, and Society | Chapter 4 |
| 6 | 2/22 | The Water We Drink | Chapter 5 |
| 7 | 3/1 | Neutralizing the Threat of Acid Rain | Chapter 6 |
| | 3/8 | EXAM 2 (Ch. 1-6, 100 pts) | Ch. 1-6 |
| | | March 13-20: Spring Break | |
| 8 | 3/22 | The Fires of Nuclear Fission | Chapter 7 |
| 9 | 3/29 | Energy from Electron Transfer | Chapter 8 |
| 10 | 4/5 | The World of Plastics and Polymers | Chapter 9 |
| 11 | 4/12 | Manipulating Molecules and Designing Drugs | Chapter 10 |
| 12 | 4/19 | Nutrition: Food for Thought | Chapter 11 |
| 13 | 4/26 | Genetic Engineering and the Molecules of Life | Chapter 12 |
| | 5/3 | EXAM 2 (Ch. 7-12, 100 pts) | Ch. 7-12 |

Grades:

There will be two hourly exams worth 100 points each. There will be several on-line quizzes worth total of 100 pts. They will be administered via Blackboard. There will be up to 100 pts assigned for the on-line discussion board (initiating discussion topics and posting comments/replies to the existing threads). The overall course grading will be as follows:

Out of 400 pts: > 90% = A; 81-90% = B; 71-80% = C; 61-70% = D; < 60% = F

This scale may be revised downward (not upward), but this is not guaranteed. **Under no circumstances will a student pass the course with an average of less than 50%.**

Online quizzes:

There will be online quizzes administered via Blackboard (one or two per chapter). They are multiple-choice. There will be a time limit for each assignment and a time window during which you can attempt it. Good internet connection is essential for success.

Online discussion forum:

Twenty five percent of your grade (up to 100 pts total) will be based upon your postings to the discussion groups. For each chapter you will be expected to initiate a post and then respond to at least two of your classmates' posts. First, make your post to the appropriate chapter (half of the credit for each chapter). Your post will serve as evidence that you have read the book, studied the web resources, and worked on it. After that, examine other students' submissions and respond to a couple of them (the other half of the credit for each chapter).

I'll be monitoring the discussions, reading all the submissions and responses, evaluating them, informing you from time to time of those evaluations, and occasionally making helpful suggestions for improving submissions and, if necessary, correcting errors. More detailed instructions will be posted on the Blackboard.

Office Hours:

Thurs. 9:30 A.M. - 10:45 A.M. During these times you can find me in my office (FW425). You are welcome to come by for help during office hours without an appointment. If you are unable to come during these times, you can make an appointment with me for another time that is convenient for both of us. You are also encouraged to contact me by e-mail.

Other resources:

The course website (<http://webcourses.niu.edu>) will feature important announcements, suggested reading, practice exams, current exams and keys, and lecture powerpoint slides for downloading. The discussion board is also hosted on the Blackboard. Check the site periodically, especially if you miss a class period. You will need your student Z-ID to log in.

For further help, the Chemistry help room (Faraday Hall 247) is open from 8:30-3:30 p.m. (with a lunch break), Monday through Thursday. It is strongly recommended that you visit the help room at times other than right before an exam. Names of personal tutors are available from Linda Davis in FR 319 (the department office).

Your success as a student is of utmost importance to me. If you have a disability or any other special circumstance that may have some impact on your work in this class, and for which you may require exam and/or other types of accommodations, please contact me as soon as possible so that appropriate accommodations can be made. Please feel free to contact me by phone or to schedule an appointment.

The NIU Center for Access-Ability Resources (CAAR, 753-1303), located on the fourth floor of the University Health Service, is the designated office on campus to provide services and accommodations to all students with diagnosed disabilities. You will need to provide documentation of your disability to this office.

General Education Course Objectives

- Improve ability to think critically and logically;
- Improve ability to reason quantitatively and to perform basic chemical computations;
- Learn how to use the scientific method and theories to understand chemical phenomena;
- Develop an appreciation for the importance of the role of chemistry in everyday life;
- Develop an understanding of the historical development of the field of chemistry.

Content Objectives of This Course

- Distinguish between chemical, physical, and nuclear processes and properties of matter;
- Understand the acid/base properties of chemical compounds and the role of acids/bases in industrial, environmental, and health/nutritional applications;
- Identify the advantages and disadvantages of alternative energy sources vs. fossil fuels;
- Understand the role of chemistry in health care, pharmaceuticals, and nutrition;
- Become knowledgeable about the application of modern materials.