

**CHE 112-003
Chemistry and Society**

Spring 2009

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Office Hours: TR 10:50-11:50A
W 9:30-11:30A
Other hours by appointment

Text *Chemistry for Changing Times*; 11th edition; 2007; Hill and Kolb; Prentice Hall.

Course This course is for students who have little or no background in chemistry. This gen ed course presents basic chemical principles and their applications in a relevant manner to non-science majors. The main goal is to give the students a better understanding of the role of chemistry in their daily lives, and a greater appreciation of the prevalence of chemical issues in the society. The key goals of the course are listed on the last page of the syllabus.

Student Learning Outcomes:

- 1) Students will be able to summarize the interrelationship of chemistry and society in general
- 2) Students will demonstrate understanding in the creation and use of the periodic table of elements.
- 3) Students will appreciate unit analysis in the solving of chemical based story problems
- 4) Students will be able to describe basic types of chemical reactions and their products
- 5) Students will be able to illustrate the basic use of mathematics and the concepts such as moles to comprehend chemical interactions

In fulfilling these student learning outcomes the student will also fulfill the following

departmental learning outcomes:

1. Explain the major concepts and experimental findings in the chemical sciences.
2. Evaluate the relationships between chemistry and mathematics, physics, biology, and other disciplines and between chemistry and society.
3. Apply computer technology and other technologies in the comprehension, interpretation, and presentation of the chemical sciences.

Course Presentation The following chapters will be covered in the order shown below. Due to time constraints some chapters may have to be covered partially. Pages to be skipped in a given chapter will be announced in the class.

<u>Chapter No</u>	<u>Title</u>
1	Chemistry: A Science for All Seasons
2	Atoms: Are They for Real?
3	Atomic Structure
4	Nuclear Chemistry

5	Chemical Bonds
6	Chemical Accounting: Mass and Volume Relationships
7	Acids and Bases
8	Oxidation and Reduction
9	Organic Chemistry
10	Polymers: Giants Among Molecules
12	Air: The Breath of Life

<u>Test Dates (Tentative)*:</u>	Test 1 (Ch 1,2,3)	Tue	Feb 10*
	Test 2 (Ch 4,5,6)	Thurs	Mar 19*
	Test 3 (Ch 7,8,9,)	Thurs	April 16*
	Final (Ch to be announced)	Tue	May 5 (10:10 am)

<u>Quiz Dates (Tentative)*:</u>	Quiz 1: Tue Jan. 27*
	Quiz 2: unannounced
	Quiz 3: Thur April 2*
	Quiz 4: unannounced

* Test and Quiz dates are tentative and will be confirmed about a week or so before the actual date.

Important dates:	Last day to withdraw with 'W' grade:	Mon	Mar 30
	Last day of class for this course:	Thur	April 30

Grade: The semester grade for the course will be based as follows:

Quizzes	15%
Tests (20% each)	60%
Final	25%

Make-up Test Policy:

Generally no make-up tests will be allowed. Soon after missing a test, the student must make an appointment to see the instructor. Depending on the circumstances, and on the discretion of the instructor, either a make-up test will be considered or the final exam may count as an additional 20%. This policy will be applicable for not more than one missed test.

Make-up Quiz Policy: There will be absolutely no make-up quiz given.

Homework: Exercises, questions, and problems from the text will be suggested for each chapter. These will not be collected though; working through them is to your great advantage.

Policies of the Department of Chemistry at Northern Kentucky University:

All items on the syllabus are subject to change at the discretion of the instructor

- Students are responsible for reading and understanding the syllabus. Any items that are not understood need to be brought to the attention of the instructor within the first two weeks of the semester
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The work that you do in this course is subject to the Student Honor Code. The Honor Code is a commitment to the highest degree of ethical integrity in academic conduct, a commitment that, individually and collectively, the students of Northern Kentucky University will not lie, cheat, or plagiarize to gain an academic advantage over fellow students or avoid academic requirements.

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Cheating will not be tolerated. Faculty members have the right to determine actions to be taken when a student is caught cheating.

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Faculty members have the right to dismiss or have removed disruptive students from their classroom.

Students with disabilities who require accommodations (academic adjustments, auxiliary aids or services) for this course must register with the Disability Services Office. Please contact the Disability Service Office immediately in the University Center, Suite 320 or call 859-572-6373 for more information. Verification of your disability is required in the Disability Services Office for you to receive reasonable academic accommodations. Visit the Disability Services website at www.nku.edu/~disability/.

Broad educational goals of this course

Some of us may not realize this, but we use and deal with chemistry all the time in our daily lives. For example, the use of fertilizers, insecticides or herbicides, food additives, food colors or flavors, detergents, plastics, synthetic fibers, drugs, vitamins, metals, and even energy involves chemistry. In order to talk intelligently, or to answer any questions about the above mentioned products/topics, a knowledge of chemistry is essential.

1. To help the student realize and appreciate the contributions of chemistry to society.
2. Although one can appreciate chemistry by knowing about its applications, for any real learning, some knowledge of basic chemistry is absolutely necessary. Therefore, one of the goals of this course is to provide that basic knowledge of chemistry.
3. To point out the impact of chemistry in our daily life and to enable the student to see the relationship of chemistry to our environment.
4. To arouse in the student curiosity and a lasting interest in chemistry.
5. To instill in students an appreciation for chemistry as an open-ended learning experience that will continue throughout their lives (chemistry should not be a subject that is learned and memorized before the test and then quickly forgotten).
6. To give the students experience with scientific procedures and the scientific method.
7. To develop in the student an attitude of critical evaluation and open-mindedness.

