

GENERAL CHEMISTRY I

CHE 120-N02

FALL, 2007

All items on this syllabus are subject to change by the Instructor.

INSTRUCTOR: W. Vernon Hicks, Jr.
Office: SC 447
Telephone: 572-5406
e-mail: hicks@nku.edu
Office Hours: 7:30 - 8:00 AM MWF (in SC 402)
9:05 - 9:45 AM MF
11:05 - 11:50 AM MWF
Other times by appointment

PREREQUISITE: High School Chemistry and a minimum score of 20 on ACT math section or equivalent; or a C or better in CHE 102; or placement

COREQUISITE: CHE 120L

Text: "Chemistry & Chemical Reactivity", by Kotz, Treichel and Weaver, 6th Enhanced Review Edition, ISBN 0-495-11299-2 Chapters Covered: 1 – 10 & 12

Also Required: OWL (Online Web-Based Learning System) General Chemistry Access Code (18 months)

HOURS: 1:00-1:50 PM, MWF SC 308

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|----------|--------------|----------|
| GRADING: | Letter Grade | Average |
| | A | 90 - 100 |
| | B | 80 - 90 |
| | C | 70 - 80 |
| | D | 60 - 70 |
| | F | below 60 |

4 regular tests, each worth 100 points

Quizzes, total of 100 points

OWL on-line assignments, 50 points

Final Exam: 200 points (1:00-3:00 P.M., W, Dec 12) Comprehensive

The lowest regular test (or 1/2 the final) will be dropped. If a regular test is missed for any reason, that will be the one dropped. If more than five quizzes are given, the lowest quiz will be dropped; if 10 or more quizzes are given, the lowest two quizzes will be dropped. A grade of zero will be assigned for missed quizzes. No make-ups will be given for missed quizzes.

Unannounced quizzes may be given. Simple hand calculators may be used on tests. No programmable or graphing calculators may be used for tests or quizzes. Regular tests will cover material from the lectures, the text, and assigned homework/OWL problems. The instructor reserves the right to change the scheduled date for a test. If a change is to be made, notice will generally be given the week prior to the scheduled date for the test.

General Chemistry Website: http://www.nku.edu/~chemistry/general_chem/

Hicks Website: <http://www.nku.edu/~hicks>

Blackboard will be used for announcements, course materials, *etc.*

| DATES: Test | Date (tentative) | Chapters Covered (tentative) |
|-----------------------------|---------------------------------------|------------------------------|
| 1 | Sept. 10 | 1, 2, 3 {through 3.5} |
| 2 | Oct. 5 | 3, 4, 5 |
| 3 | Nov. 2 | 6, 7, 8 |
| 4 | Nov. 30 | 9,10 |
| Final Exam | Wednesday, December 12 (1:00-3:00 PM) | Comprehensive |
| | | |
| Last day to drop with a "W" | Oct. 29 | |
| | | |
| No Class (Holidays, etc.) | Sept. 3 (Labor Day) | |
| | Oct. 15 (Fall Break) | |
| | Nov. 21 & 23 (Thanksgiving) | |

NOTE: The final exam for CHE 121 will be a standardized exam covering both semesters of General Chemistry (CHE 120 and CHE 121).

Students are responsible for reading and understanding all items on the syllabus. Any items not understood must be brought to the attention of the instructor within the first two weeks of class.

The work you will do in any 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. The Honor Code can be accessed at <http://www.nku.edu/~deanstudents/policies.htm> .

Cheating will not be tolerated. In accordance with the Code of Student Rights and Responsibilities, faculty members have the right to determine actions to be taken when a student is caught cheating.

Students caught cheating or plagiarizing for the first time will receive a grade of zero for that test or assignment. Students caught cheating or plagiarizing a second time will receive an F for the course and will be reported to the Dean of Students.

Faculty members reserve the right to dismiss or to have removed a disruptive student from their classrooms.

A grade of C or better is required in CHE 120 and CHE 120L to enter CHE 121 and CHE 121L.

This is a web enhanced course. Students meet at regularly scheduled class time and will need access to the internet to fulfill course requirements.

General Chemistry Withdrawal Policy

Any student withdrawing from either General Chemistry I (lecture) or General Chemistry Lab I must also withdraw from the other. Failure to do so will result in the department withdrawing the student from both lecture and lab.

Major Learning Objectives for General Chemistry I

After completing General Chemistry I, students will be expected to:

1. Perform calculations involving chemical and physical processes, use the factor label method, record numerical answers with proper units, and attain proficiency in the proper use of scientific notation and significant figures, including the concept of uncertainty in scientific measurements.
2. Name compounds and ions, write their chemical formulas, calculate their molar masses and percent composition, and determine the empirical and molecular formulas of compounds.
3. Classify substances, reactions, and processes according to various classification schemes.
4. Complete and balance chemical equations, determine whether or not a reaction actually occurs based on chemical and physical properties of the reactants and products, and solve stoichiometry problems.
5. Describe and calculate the energy changes involved in chemical reactions and physical processes.
6. Describe the atomic and electronic structure of the elements.
7. Predict the relative magnitudes of physical properties of elements on their electronic structures.
8. Describe the intramolecular bonding of substances and determine the structures of compounds.
9. Describe properties of real and ideal gases using the Kinetic Molecular Theory and solve gas law problems.

A more detailed list of objectives can be found on the General Chemistry webpage http://www.nku.edu/~chemistry/general_chem/

Topics Used in Organic Chemistry

Most students enrolled in General Chemistry I and II will enroll in Organic Chemistry the following year. Below is a list of topics covered in General Chemistry I and II that you must understand in order to be successful in Organic Chemistry. The page numbers adjacent to each topic represent the first page of sections in the text "Chemistry & Chemical Reactivity", 6th Ed., By Kotz, Treichel, and Weaver where the topic is discussed.

General Chemistry I

| | |
|-----------------------------|----------|
| Isomerism | 455 |
| Atomic & molecular orbitals | 320; 457 |
| Lewis dot structures | 382 |
| Formal charges | 405 |
| Resonance | 390 |
| Shapes of molecules | 397 |
| Hybrid orbitals | 439 |
| Polarity of molecules | 413 |

General Chemistry II

| | |
|-------------------------|-----|
| Nonbonding interactions | 591 |
| Kinetics | 700 |
| Chemical equilibria | 758 |
| Acids and bases | 796 |
| Gibbs free energy | 921 |