

Syllabus - General Chemistry II CHE 121-N03

Spring 2007
TR 8:00 - 9:15 A.M.
SC308

Instructor: J. H. Niewahner, SC448
Telephone: 572-6363
E-mail: niewahnerj@nku.edu
Office Hours: MT 2:00 – 3:00, WR 10:00 – 11:00 A.M.
Others by appointment
Prerequisite: A grade of C or better in General Chemistry I, CHE 120
Co requisite: CHE 121L any section
General Website: http://www.nku.edu/~chemistry/general_chem/
Faculty Website: <http://www.nku.edu/~niewahnerj/>
Required Text: Moore, J.W.; Stanitski, C.L.; Jurs, P.C. *Chemistry: The Molecular Science*; Second edition; Brooks/Cole: Belmont, CA; 2005

Major learning Objectives:

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

1. Describe properties of liquids and solids. Understand phase changes and the energy terms associated with them.
2. Discuss the factors that affect the rates of chemical reactions, determine rate laws and carry out calculations involving concentration, time data.
3. Write equations, equilibrium expressions and carry out calculations for various equilibria. Describe how changes in concentration and temperature affect equilibrium reactions.
4. Describe the process of solution formation and the properties of solutions. Calculate the concentration of solutions in a variety of units. Carry out calculations involving the colligative properties of solution.
5. Characterize acids, bases and salts by Arrhenius or Bronsted-Lowry definitions. Carry out pH calculations. Relate the properties of acids to their structure.
6. Identify and describe the properties of buffer solutions. Carry out calculations involving buffer solutions. Carry out calculations with solutions of slightly soluble salts and describe the factors that affect their solubility.
7. Discuss the relationship between enthalpy, entropy and free energy and their relationship to spontaneity. Carry out calculations of enthalpy, entropy and free energy.
8. Describe voltaic and electrolytic cells. Write equations for oxidation-reduction reactions and calculate cell potentials for these reactions.
9. Describe nuclear reactions, the uses of radioisotopes and the properties of alpha, beta and gamma radiation.

Cell Phones: Cell phones are to be turned off while attending class or taking a test. No incoming or outgoing calls can be made while attending class or taking a test. Cell phones with calculators may not be used during a test.

- Web Access:** This course requires students to access and use various internet resources such as email, Blackboard and **OWL (On-line Web-based Learning)**. You are required to know how to access and use these resources. Incorrect use of these resources, internet service provider problems, home computer problems, etc. will not excuse a student from submitting Assignments or Quizzes on time.
- Blackboard:** Step 1: Open your browser and go to <http://learnonline.nku.edu> or click on the Blackboard link on the NKU Home Page under the "Quick Links" pulldown.
Step 2: Click on the Login button
Step 3: Enter your Username and Password.
* **username** : NKU email name (do not include @nku.edu)
* **Password**: first 4 letters of last name and last 4 digits of social security number
- Study Time:** Approximately 6 - 8 hours of study time per week. Test preparation will be in addition to the normal study time.
- Attendance:** Students are responsible for all information, material, and assignments presented in class or distributed through Blackboard or email.
- Assignments:** Required assignments through OWL (Online Web-Based Learning) will be given for each chapter. Attached are directions for registering with OWL. Nine assignments will be given during the semester. There will be no make-up assignments. The assignment with the lowest grade will be dropped.
- Quizzes:** Most quizzes will be given through Blackboard during the semester. An occasional unannounced in-class quiz may be given. There will be no make-up quizzes. The quiz with the lowest grade will be dropped.
- Tests:** There will be three tests during the semester. The dates for these tests are listed on the attached schedule. There are no make-up tests. A missed test will result in the final exam counting for additional percentage points equivalent to that of one test. If you miss more than one test, you will be assigned a grade of zero for each additional missed test beyond the first missed test.
- Calculators:** Programmable and graphics calculators and cell phone calculators are not permitted during tests. Calculators will be necessary for taking tests and quizzes. In no case may calculators be passed from one student to another during a quiz or a test. The lack of an operable calculator will not excuse a student from having to solve a problem

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| Grading: | Quizzes and Assignments | = | 20 % of overall score |
| | Tests | = | 60 % of overall score |
| | Final Exam | = | 20 % of overall score |

| <u>Overall Score</u> | <u>Final Grade</u> |
|----------------------|--------------------|
| 90 – 100 | A |
| 80 – 89 | B |
| 70 – 79 | C |
| 60 – 69 | D |
| 0 – 59 | F |

Important Dates Relative to General Chemistry II, CHE 121-N03

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|-----|-------|--|
| Jan | 9 | First day of class |
| Jan | 29 | Last day to “X” out of course |
| Feb | 1 | Test 1. Chapters 11,13, 14 |
| Mar | 1 | Test 2. Chapters 15, 16 |
| Mar | 5 – 9 | Spring Break. No classes |
| Mar | 26 | Last day to “W” |
| Apr | 10 | Test 3. Chapters 17,18,19 |
| Apr | 26 | Last day of class |
| May | 3 | 8:00 – 10:00 A.M. Final Exam. Comprehensive. ACS Standardized Test |

Changes in Syllabus

This syllabus is subject to change. If there is any part of this syllabus that you do not understand, you must bring it to the attention of the instructor within one week of receiving this syllabus.

Policies of the Department of Chemistry at Northern Kentucky University

- All items on syllabi are subject to change by the instructor.
- Students are responsible for reading and understanding all items on the syllabi. 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.
- 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.
- 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 to enter CHE 121.
- This is a web enhanced course. Students meet at regularly scheduled class time and will need access to the internet to fulfill course requirements.

Withdraw Policy

Any student withdrawing from General Chemistry II must also withdraw from General Chemistry II lab. Failure to do so will result in the department withdrawing the student from both lecture and lab.

Other

The Honor Code can be accessed at http://www.nku.edu/~deanstudents/student_rights/honor_code.htm. Students caught cheating or plagiarizing will receive a grade of zero for that test or assignment and may be given an F for the semester.

Students are asked to turn off their cell phones during class. If you expect an emergency call please notify your instructor. Under no circumstance will students be allowed to use their cell phones during a test. Using a cell phone during a test will be considered cheating. If baseball caps or other similar hats are worn during tests the brims must be turned to the back.

Students with disabilities who require accommodations (academic adjustments, auxiliary aids or services) for this course must register with the Office of Disability Services. Please contact the disability service office in University Center Suite 320 or by calling (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.

Spring 2007
General Chemistry II, CHE 121, TR

| | MON | TUES | WED | THUR | FRI |
|-----|--------------------------|-------------------------------|-----------------------------------|--------------------------------------|----------------------------------|
| JAN | 8 Classes Begin | 9 11 | 10 | 11 11 | 12 |
| | 15 MLK Day No Classes | 16 13 <i>OWL-11</i> | 17 <i>Bb Q11</i> | 18 13 | 19 |
| | 22 | 23 13 | 24 <i>OWL-13</i> | 25 14 <i>Bb Q13</i> | 26 |
| | 29 Last Day to "X" | 30 14 | 31 <i>OWL-14</i> <i>Bb Q14</i> | 1 T1(11,13,14) | 2 |
| FEB | 5 | 6 15 | 7 | 8 15 | 9 |
| | 12 | 13 15 | 14 | 15 15/16 | 16 <i>OWL-15</i> |
| | 19 <i>Bb Q15</i> | 20 16 | 21 | 22 16 | 23 |
| | 26 | 27 16 | 28 <i>OWL-16</i> <i>Bb Q16</i> | 1 T2(15,16) | 3 |
| MAR | 5 SPG BRK | 6 SPG BRK | 7 SPG BRK | 8 SPG BRK | 9 SPG BRK |
| | 12 | 13 17 | 14 | 15 17 | 16 |
| | 19 | 20 17/18 | 21 <i>OWL-17</i> | 22 18 <i>Bb Q17</i> | 23 |
| | 26 Last Day to "W" | 27 18/19 | 28 <i>OWL-18</i> | 29 19 <i>Bb Q18</i> | 30 |
| APR | 2 | 3 19 | 4 | 5 19/Review | 6 <i>OWL-19</i> <i>Bb Q19</i> |
| | 9 | 10 T3(17-19) | 11 | 12 20 | 13 |
| | 16 | 17 20 | 18 | 19 20 | 20 |
| | 23 <i>OWL-20</i> | 24 21 <i>Bb Q20</i> | 25 | 26 21 | 27 Last Day Of Classes |
| MAY | 30 | 1 | 2 | 3 EXAM 8:00 – 10:00 | 4 |
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