Course Syllabus **General Chemistry II** **CHE 121L – 011** **Spring 2009**

Course Days, Times and Room: Monday, 2:00 - 5:00, SC 426

Instructor: Dr. Laura Padolik

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Office Hours: M, W, F 9:00 – 10:50

Prerequisite: General Chemistry 120 Lecture and Laboratory
Corequisite: General Chemistry 121 Lecture
Required Text: Laboratory Manual General Chemistry II, NKU, Sixth Edition
Required Materials: Laboratory Record Book and Safety Goggles

Preparation: Students are expected to come to lab with a thorough understanding of the principles involved in the experiment, the goals of the experiment and the procedures to be followed. This requires you to read the experiment ahead of time, complete your protocol and carry out any pre-lab exercises, as noted in the schedule. You should also check Blackboard before class to check for any announcements concerning the lab.

Blackboard: Students will be expected to use Blackboard to receive announcements and any additional information about class. On Blackboard you can find links to Disability Services, The Learning Assistance Program and the NKU Honor Code.

Lab Record Book: The laboratory record book will be used to write a protocol for each experiment and to record changes and data collected in each experiment. The protocol **must** be complete before you will be allowed to carry out the lab. You will be required to carry out the experiment using only your protocol. Copies of the protocol and data are to be handed in after the lab is complete. Each record book entry should contain the title, date, purpose and special safety precautions of the experiment along with protocol and data. See pages iii-vi in the lab manual for more information about the lab record book and sample record book pages.

Lab Report: For most experiments the lab report consists of data sheets from the lab manual, calculations and answers to questions at the end of the experiment. All data and calculations must be recorded to the proper number of significant figures. All pages are to be written neatly and turned in stapled and in proper order. Points will be deducted for sloppy lab reports. Lab report pages may also be found on the General Chemistry Website: http://www.nku.edu/~chemistry/general_chem/. These pages may be filled in using the keyboard and/or printed out and filled in by hand.

Formal Lab Reports: A minimum of two full formal lab reports will be required instead of pages from the lab manual. Information about the formal lab report can be found in your lab manual on pages xviii-xix. See the schedule for the experiments which will require a formal lab report.

Due Dates: Protocols, including the answers to the prelab will be checked before lab for completeness and effort. Each lab report is due at the beginning of the lab period following completion of the experiment. Late work will be penalized 10% for each day late. If a student misses a lab, it is his or her responsibility to turn in the lab report on or before the due date to avoid losing points. **Lab reports later than one week late will not be accepted.** Due dates are subject to change.

Exams: There will be two exams. See the schedule on the next page.

Safety: All safety rules must be obeyed. Violation of these rules will result in dismissal from the lab and a grade of zero for that experiment. Safety rules are found in the lab manual on page vii. **No shorts or sandals are allowed in the laboratory.**

Attendance: If a student misses a laboratory experiment with an emergency excuse, a makeup lab may be scheduled by contacting the instructor within 2 weekdays of the missed lab. The lab must be made up within one week of the missed lab. The student must obtain permission from the makeup lab instructor. Two makeup labs will be permitted. Failure to follow this policy will generally result in a grade of zero for a missed lab.

Grading: Points will be divided as follows:

Lab record book	25 points each
Prelab exercises	5 points each
Regular Lab Reports	55 points each
Formal and Aspirin reports	75 points each
Exams	260 points total

Grading Scale:

A	≥ 90% of the total points
B	80–89% of the total points
C	70-79% of the total points
D	60-69% of the total points
F	less than 60% of the total points

TENTATIVE Schedule

Date	Title of Experiment	Report Pages	Total Points
January 12	Gravimetric Determination of Phosphorus (page 67)	71-72	80
January 19	No Class		
January 26	Aspirin Synthesis (page 19) (pl p. 27)		
February 2	Aspirin Synthesis, continued	29-32	105
February 9	Freezing Point Depression (page 59) (pl p. 63)	Formal	105
February 16	Kinetics (page 75) (pl p. 81-82)	83-86	85
February 23	Chemical Equilibrium (page 33)	38-42	80
March 2	Lab Exam 1		120
March 9	Spring Break		
March 16	Synthesis of SnI_4 (page 93)	Formal	100
March 23	Acids, Bases and Buffer (page 1) (pl p.7)	9-12	85
March 30	Titration Curve (page 101) (pl p.105)	107-110	85
April 6	Analysis of Household Chemicals (page 13) (pl p. 15)	17-18	85
April 13	The Qualitative Analysis of Anions (page 87)	91 – 92	80
April 20	Electrochemistry (page 49)	55-58	80
April 27	Lab Exam 2		140

Every lab requires a protocol that is due before lab starts.
Labs noted with * also require answers to the prelab questions in addition to the protocol.

Other Important Dates:

February 2	Last day to drop the course with an "X"
March 30	Last day to drop the course with a "W"

Department of Chemistry
Student Learning Outcome

1. Explain the major concepts and experimental findings in the chemical sciences.
2. Demonstrate the ability to carry out experimental protocols using modern instrumentation and methods.
3. Utilize critical thinking skills to apply concept knowledge and adapt experimental techniques to: a) form and test hypotheses and b) solve scientific problems
4. Compile, critically evaluate, and interpret scientific information and data.
5. Effectively communicate scientific information through written and oral means.
6. Apply effective group strategies to solve scientific problems.
7. Apply computer technology and other technologies in the comprehension, interpretation, and presentation of the chemical sciences.

Course Objectives:

1. Explain the colligative properties of solutions and how they can affect chemical reactions.
2. Apply acid/base theory to interpret the chemical properties of various substances.
3. Determine rate laws of chemical reactions through interpretation of empirical data.
4. Explain observations on chemical reactions based on chemical equilibrium.
5. Calculate and measure cell potentials using electrochemistry standards.
6. Determine anions present in an unknown sample through qualitative experimentation.
7. Know how to use a laboratory notebook, record data, analyze data and write lab reports including introductions and discussions.
8. Know how to use computer programs to analyze data.
9. Demonstrate an understanding of chemical principles and the ability to interpret data though written formal lab reports

Links to disability services and the learning assistance program can be found on Blackboard.

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.

The Instructor reserves the right to modify the syllabus at any time during the semester.

Students are required to read and understand the contents of this syllabus. Any questions must be brought to the instructor's attention by January 26, 2009.

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