

Course Syllabus

General Chemistry I Lab

CHE 120-21L

R: 6:15-9:15PM

Fall 2004

Instructor Information

S.A. Oehrle SC341 (office), SC313 (lab), 572-6671

e-mail: Oehrle@nku.edu

Office Hours: R: 5:15-6:15PM, and F: 10:00-11:00AM

Others by appointment

Corequisite

General Chemistry I Lecture

Required Text

Lab Handouts and supplemental material

Other Required Material

1) Lab Record Book, Hayden McNeil Publishing, 2) Safety Goggles, 3) Paper Towels or Sponge or Towel, 4) Moore, JW, et. al., *Chemistry, The Molecular Science*, Thompson Publishing, 2004 5) 3.5" floppy disk (HD)

Calculators

Programmable and graphics calculators are not permitted during tests or quizzes. 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

Email Account

All students are required to provide the instructor with an email address by September 12. If students do not already have an account at the University or elsewhere, they may obtain one at the University by filling out the appropriate form at the Office of Academic Computing. Since it takes a couple of days to process these applications, you must submit your application as soon as possible. Students who do not provide their email address may miss last minute changes to labs, etc. Students who do not provide an e-mail address will still be responsible for the information disseminated. Information such as assignments or changes in the syllabus will often be provided by email. Students are responsible for this information. Students are also encouraged to send questions about course material by email. A website for general chemistry students is also available at http://www.nku.edu/~chemistry/general_chem/

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. Whenever appropriate, the student should also know what data and observations are anticipated. For several of the labs a prelaboratory assignment is included in the lab and should be completed and turned in at the beginning of the class for that particular lab. This requires the student to read the experiment ahead of time; complete the prelab and read all recommended reading materials.

*The title, objectives, and protocol[#] must be written in the Lab Record Book before coming to the lab and the yellow copies submitted to the instructor at the **beginning** of the lab period.*

Students who do not have the title, objectives, and protocol written ahead of time will be penalized 15% for the experiment. The protocol should be in the student's words and include suggestions that the student wants to make to herself/himself regarding techniques she/he may have been acquired previously. The basic procedures, however, cannot vary from those given in the lab manual.

[#] Protocol is the set of experimental steps one expects to follow. Procedure is the set of steps one has actually carried out. Usually there are some differences between protocol and procedure due to changes that have been made just prior to carrying out an experiment.

Lab Record Book

The Lab Record Book (Hayden McNeil Publishing) is required for all experiments. Each experiment is to start on a new page and begin with the title of the experiment, then objectives or purposes, protocol, procedures, and data and observations. Data must be recorded to the proper number of significant figures, have the correct labels, and be clearly identified. Yellow copies of the procedures, data and observations are to be handed in at the end of the period.

Lab Report

For most experiments the Lab Report consists of completing the "Report" section in the lab manual in a neat and orderly fashion. Pages must be stapled together in order. Sloppy reports will be penalized.

For four of the experiments a partial, formal write-up will be required. For these an introduction or discussion and conclusion will be required. These four write-ups, together, will be worth 100 points. A description of the formal lab report is given in the Lab Record Book. Failure to follow the required format will result in a severe penalty. For some experiments students will be required to write a given section using the guidelines for formal reports.

A sample lab report is available in the laboratory.

Due Dates

Unless otherwise informed, reports are due by 7:00 PM the following Wednesday. Reports that are handed in after this time will be considered late and will be penalized 15 points per day. Reports will not be accepted if they are submitted more than 1 week late and students will receive a grade of 30 for those experiments.

Safety

All safety rules must be obeyed. Repeated violation of these rules will result in dismissal from the lab and a grade of zero for that experiment. Habitual violation of Safety Rules during the semester will result in dismissal from the course and a grade of F for the course.

Tests

There will be one test given on October 14 and another on December 9. These tests will consist of both a practical portion and a written portion. The practical portion will be worth between 20 and 35% of the overall test score.

Grading

Each experiment will be graded on a 100 point basis with the exception of the “dry” labs which will count as 50 points. The score for doing each of the four formal, partial, write-ups will be 25 points each.

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| Experiments | 70% of overall score |
| Tests | 30% of overall score |

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

Attendance

The department policy with regard to makeup labs is as follows:

Each student in a General Chemistry Lab will be allowed to make up the experiment for two excused absence during the semester. An excused absence is one for which the student has a good reason (something beyond the student’s control) for not being able to attend the regularly scheduled lab period. The student must contact their laboratory instructor either in person, by phone, e-mail or letter within 2 weekdays (M,T,W,R,F) of the missed lab. A student who waits longer than 2 weekdays after a missed lab to request a make up will normally not be allowed to make up the lab experiment and will be assigned a grade of zero for that experiment. The student will be expected to verify their reason for requesting an excused absence. The lab must be made up no later than the last lab period of the week following the scheduled experiment. The student must also obtain permission from the make up lab instructor. Absences beyond two will each be assigned a grade of zero no matter the reason.

Miscellaneous

All items on this syllabus are subject to change by the instructor. Further, students are responsible for reading and understanding all items on this syllabus. Any items not understood must be brought to the attention of the instructor within the first two weeks of class.

Student Honor Code

The work you will 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. A copy of the student Honor Code can be found at <http://www.nku.edu/~deanstudents> or in the student handbook

Tentative Schedule, Thursday PM, Fall 2004

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| Aug. 26 | Pref. & Intro | Check-in, Safety Program, Diagnostic Test |
| Sept. 2 | | Laboratory Measurements |
| Sept. 9 | | Nomenclature |
| Sept. 16 | | An Introduction to Chromatography |
| Sept. 23 | | Empirical Formula of Zinc Iodide |
| Sept. 30 | | Chemical Reactions |
| Oct. 7 | | A Cycle of Copper Reactions |
| Oct. 14 | Test 1 | Experiments through Chemical Reactions |
| Oct. 21 | | Synthesis of Alum |
| Oct. 28 | | Titration |
| Nov. 4 | | Calorimetry and Hess's Law |
| Nov. 11 | | Absorption Spectroscopy |
| Nov. 18 | | Lewis Formulas, Formal Charge, and VSPER |
| Dec. 2 | | Ideality of H ₂ |
| Dec. 9 | Test 2 Check out | Experiments: Cu Cycle through Ideality |

Some Important Dates:

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| Sept. 6 | Labor Day-No Classes |
| Sept. 10 | Last day to drop a class without a grade appearing |
| Oct. 18-19 | Fall Break-no classes |
| Oct. 29 | Last day to drop a course with a W |
| Nov. 24-25 | Thanksgiving holiday-no classes |