

Syllabus
General Chemistry I Lab
CHE 120L-017

Fall 2004
W 2:00 - 5:00
SC-422

Instructor Information

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Others by appointment
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Course Information

Prerequisite: High school chemistry or CHE 110 or equivalent
Co requisite: General Chemistry I Lecture
Required Text: General Chemistry I Laboratory Manual, Padolik, L; and Hicks, Jr., W.V
Other Required Material:
1) Lab Record Book, Hayden McNeil Publishing 2) Safety Goggles
3) Paper Towels or Sponge or Towel
Web Access: This course requires students to access and use various internet resources such as email and Blackboard.
Calculators: Programmable and graphics calculators are not permitted during tests. In no case may calculators be passed from one student to another during a test. The lack of an operable calculator will not excuse a student from having to solve a problem
Blackboard: Students will be expected to use Blackboard to keep track of their grades and receive information from their instructor.
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. This requires the student to read the experiment ahead of time and read all recommended reading materials.

Lab Record Book

The Lab Record Book (Hayden McNeil Publishing) is required for all experiments. The record for each experiment will be divided into the following seven sections: **Title; Objectives; Protocol; Materials; Procedure, Data and Observations; Results and Calculations, and Equipment.** These headings are to be used in separating the sections in the lab record book.

Each experiment is to start on a new page and begin with the **Title** of the experiment, then **Objectives** or purposes, followed by the **Protocol**, and then a **Materials** section. *The Title, Objectives, Protocol, and Materials must be written in the Lab Record Book before coming to the lab.* Protocol is the set of experimental steps one expects to follow. Steps in the Protocol should be numbered and should be written across both columns of the record book. The copy pages of the Title, Objectives, Protocol, and Materials are to be handed in to your instructor **at the beginning** of the lab period, namely, 2:00 P.M. Students who either do not have the Title, Objectives, Protocol, and Materials written ahead of time or who submit them after the class has begun will be penalized up to 10% for the experiment. The **Procedure, Data and Observations** section is started on the next new page. Procedure is the set of steps one has actually carried out. Procedural steps are to be numbered sequentially. Usually there are some differences between Protocol and Procedure due to changes that are made just prior to carrying out an experiment or changes required during the course of the experiment. Sometimes a step in the Procedure will include data such as the mass of some material. In such cases it is convenient to write the procedure in the left column of the record book and the data in the right column. (Note: this is different from writing the Protocol). One must be careful when writing the Procedure not to simply copy the Protocol, as there is the risk of not writing what you actually did. The key to writing a proper and complete record is to make sure that someone else could carry out the experiment based on what you have written in your Procedure, Data, and Observations section. Data must be recorded to the proper number of significant figures, have the correct labels, and be clearly identified. Include information that would help you repeat the experiment and let you know if you are getting similar or different results. The next section is **Results and Calculations** section which is where you give a description of your findings, including IR and NMR data, as well as calculations of theoretical and percent yields. The last section is the **Equipment** section which includes the make and model of major pieces of equipment that were used. This would include equipment such as IR, UV-VIS, NMR, MeasureNet[®] etc. but not small pieces of equipment, such as hot plate -stirrers, melting point apparatus, balances, etc. Copy pages of Procedures, Data and Observations, Results and Calculations, and Equipment are to be handed in at the end of the period.

Samples

All samples that are prepared are to be placed in a vial, labeled with your name and the name of the compound and handed in to the instructor at the end of the lab period

Lab Report

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

For the experiments titled *The Empirical Formula of Zinc Iodide* and *A Cycle of Copper Reactions*, "Introductions" are to be written in addition to the standard Lab Report. For experiments titled *Titration* and *Absorption Spectroscopy* formal "Discussions" are to be written

in addition to the usual report. The formal "Introductions" and "Discussions" are to be written in your own words.

Due Dates

Unless otherwise informed, reports are due at the **beginning** (2:00 P.M.) of the lab period following the completion of the experiment. Reports that are handed in after this time will be considered late and will be penalized 10 points per day. Reports will not be accepted if they are submitted more than 1 week late and students will receive a maximum of 30 points 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 13 and another on December 8. These tests will consist of both a practical portion and a written portion. The practical portion will be worth between 15 and 25% of the overall test score.

Grading

Most experiments will be graded on a 100 point basis except the experiments *Nomenclature* and *Lewis Formulas, Formal Charge, and VSEPR* will be assigned 50 points each.

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 absences 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.

Tentative Schedule, Wednesday PM, Section 017, Fall 2004

Aug. 25	Introduction, Check-in, Safety Program, Diagnostic Test
Sept. 1	Laboratory Measurements
Sept. 8	Nomenclature
Sept. 15	An Introduction to Chromatography
Sept. 22	The Empirical Formula of Zinc Iodide
Sept. 29	Chemical Reactions
Oct. 6	A Cycle of Copper Reactions
Oct. 13	Test 1: Experiments through "Chemical Reactions"
Oct. 20	Synthesis of Alum
Oct. 27	Titration
Nov. 3	Calorimetry and Hess's Law
Nov. 10	Absorption Spectroscopy
Nov. 17	Lewis Formulas, Formal Charge, and VSEPR
Nov. 24	Thanksgiving Break. No lab
Dec. 1	The Ideality of Hydrogen Gas
Dec. 8	Test 2: Experiments from Oct. 6 through Dec 1.

Other

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 the distribution of this syllabus.

Students are obligated to follow the Student Honor Code. 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.

Students are asked to turn off their cell phones during lab. 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.