

Course Syllabus

General Chemistry II Lab

CHE 121-17L

R: 6:15-9:15PM

Spring 2005

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 II 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. The following calculators are recommended: Casio fx-300SA-w, Casio fx-115S-w, Casio fx-250HC-S, Sharp EL-506L, Sharp EL-509LH, Texas Instrument TI-30Xa, Texas Instrument TI-36X, and Texas Instrument TI-34. 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 requested to provide the instructor with an email. 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. 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 also encouraged to send questions about course material by email.

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 two of the experiments a formal write-up will be required. For these labs the point value for the formal lab report will be 200 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.

A sample lab report is available in the laboratory.

Due Dates

Unless otherwise informed, reports are due by Wednesday evening at 7PM. 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 3 days late and students will receive a grade of zero 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 March 3 and another on April 28. 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 two formal labs which will count for 200 points each and the Aspirin Experiment which will count for 200 points.

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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, Spring 2005

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| Jan 13 | Check-in, Safety Program, Gravimetric Determination of Phosphorus in Fertilizer |
| Jan 20 | Distillation and Gas Chromatography (GC) |
| Jan 27 | Kinetics |
| Feb 3 | Aspirin: Synthesis, Purification, Identification—Part 1 |
| Feb 10 | Aspirin: Synthesis, Purification, Identification—Part 2 |
| Feb 17 | Chemical Equilibria |
| Feb 24 | Freezing Point Depression. An Example of a Colligative Property |
| March 3 | Test 1 |
| March 17 | Acids, Bases, and Buffer Solutions |
| March 24 | Titration Curve for a Polyprotic Acid |
| March 31 | Synthesis of Stannic Iodide (SnI_4) |
| April 7 | Qualitative Analysis of Selected Anions |
| April 14 | Electrochemistry |
| April 21 | Nuclear Chemistry |
| April 28 | Test 2 |

Some Important Dates:

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|------------|--|
| January 17 | Martin Luther King Day-No classes |
| January 29 | Last day to drop a class without a grade appearing |
| March 7-11 | Spring Break-No classes |
| March 28 | Last day to drop a course with a W |