

Spring 2012
Chem 114L - General Chemistry Laboratory
Black Hills State University
Th 8-10:50, 11:00-1:50, 2:00-4:50 Science 102

Instructors: Dr. Micheal Zehfus and Betty R. Zehfus
Office: Science 108 (Dr.Z.) Science 102 (Mrs. Z.)
Phone 642-6028
Campus P.O. Box 9088
Office Hours: Posted on office
Email: Michael.Zehfus@bhsu.edu or bzehfus@hotmail.com

Text and material:

Lab Manual, Lab notebook, scientific calculator

Description:

Laboratory designed to accompany Chem 114 *Corequisite:* Chem 114

Objectives:

To supplement the understanding of chemistry in a hands-on environment. Some labs will support specific ideas presented in the lecture, while others will help the student to understand and use the scientific method as applied in the field of chemistry.

Lab Safety:

The lab manual includes an extensive list of laboratory safety rules and guidelines. The student is expected to read these sections of the manual, and to follow these rules at all times (even outside the regular lab period). Failure to do so can result in immediate dismissal from the lab and class, and subsequent awarding of a failing grade for the class.

Attendance:

Attendance at lab is required. If you have a conflict with a lab, please notify me before the lab so we can resolve the problem. If you have to miss a lab due to illness or other emergency, please let me know within 24 hours so we can reschedule. **I only keep lab materials on hand for one week. If you miss a lab and wish to make it up, you have 1 week to do so or to make special arrangements to keep materials for a longer period.**

Academic Dishonesty:

A student who, in connection with his or her studies, disrupts a class, plagiarizes, cheats, or otherwise violates reasonable standards of academic behavior may, at my discretion, have his or her enrollment canceled and/or be given a reduced or failing grade. For more information on specific acts that can constitute academic dishonesty, see your student handbook.

Instructor's Assumptions:

Students must have completed Chem 114, or have concurrent registration in that course.

General Education Requirements:

This course can be used to fulfill the State of South Dakota General Education Goal 6: Students will understand the fundamentals principles of the natural sciences and apply scientific methods of inquiry to investigate the natural world. Specifically this course fulfills objective 1: Apply the scientific method in a laboratory experience; and objective 2: Gather and critically evaluate data using the scientific method. Both of these objectives are assessed primarily through tests, exams and reports.

Teaching Endorsement:

This course supports the College of Education's conceptual framework, Preparing Professionals for the 21st Century by presenting to students the knowledge base for the content they will eventually be teaching. Mastery of the content in this course supports INTASC Standard One: Knowledge of Content and Pedagogy. This course also partially fulfills content requirements for the 7-12 Chemistry Standards 2000 as per ARSD 24:16:08:16. Specifically this course contains elements that partially fulfill the common science standards, science education standards 2a, 2b, 2d, and 2e (Chemistry). Students demonstrate this competency through hour exams, final exams, and lab exercises and exams.

This course also meets the standards of The American Chemical Society as identified in the course objectives.

ADA Statement:

Reasonable accommodations, as arranged through the Disabilities Services Coordinator, will be provided students with documented disabilities. Contact the BHSU Disabilities Services Coordinator, Mike McNeil, at 605-642-6099, (WA 145) or via email at mike.mcneil@bhsu.edu for more information. Additional information can also be found at <http://www.bhsu.edu/StudentLife/Learning/DisabilityServices/tabid/162/Default.aspx>

Academic Freedom and Responsibility:

Under Board of Regents and University policy student academic performance may be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. Students who believe that an academic evaluation reflects prejudiced or capricious consideration of student opinions or conduct unrelated to academic standards should contact the chair of the department in which the course is being taught to initiate a review of the evaluation.

Course Outline:

Week	Date	Experiment
Week	Date	Lab
0	1/12	Check-in, Orientation for new students to the lab including WebAssign
1	1/19	Experiment 10 Spectrophotometry
2	1/26	Experiment 13 Structure of Organic Molecules
3	2/2	Review
4	2/9	Experiment 14 Physical Properties of Chemicals Do Appendix II - Assignment 1 and hand in 2/16 (Beginning of next lab)
5	2/16	Experiment 15 Enthalpy of Vaporization Do Appendix II - Assignment 2 and hand in 2/23 (Beginning of Review)
6	2/23	Review
7	3/1	Experiment 16 Freezing Point Depression
	3/8	Spring Break
8	3/15	Experiment 17 Rate Law of the Iodine Clock Reaction
9	3/22	Review
10	3/29	Experiment 18 Reaction Rates Review
11	4/5	Experiment 19 Solubility of Calcium Iodate
12	4/12	Experiment 20 Acid/Base Strengths of Salts
13	4/19	Experiment 21 Buffers and Potentiometric Titrations
14	4/26	Lab final /checkout

Evaluation:

Individual lab reports	11x10	110 points
Lab notebook (checked at random)		10 point
Lab Final		20 points
Pop quizzes	4-5 points each	?

Each lab will be evaluated using a lab report sheet found in the lab manual. Each lab is worth 10 points for a total of 90 points You will be required to keep a bound lab notebook. You will turn in lab notebook periodically for evaluation by the instructor. During the next to last week of the semester there will be a lab final worth 20 points. There may also be some pop quizzes, usually given at the beginning of the lab period to see how prepared you are for the lab.

I will use the following grading scheme for the lab:

A	90-100%
B	80-89.99%
C	70-79.99%
D	60-69.99%
F	<60%