

## Syllabus

CHEM 107L, Organic & Biochemistry Survey Lab , 1 credit hour  
Black Hills State University  
Spring 2012

**Meeting Times:** Monday sec 1, 10am-11:50am; sec 2, 12noon-1:50pm; sec 3, 2pm-3:50pm

**Location:** Life Science Lab room 102

**Last Day to Drop Course without transcript entry, January 20, 2012**

**Last Day to Drop Course with a "W" April 2, 2012**

**April 9- April 30 IDEA Surveys open online**

**Instructors:** Amy Asunskis Office: LSL 110 605-642-6516 office  
Office hours: Posted on office door email: amy.asunskis@bhsu.edu

Mrs. Betty Zehfus Office: LSL 102 605-642-6028 office 605-722-7869 home  
Office hours: Posted on office door email address: betty.zehfus@bhsu.edu

**Course Description:** Laboratory designed to accompany CHEM 107. An additional "Mandatory Fee" applies to this course

**Prerequisites:** CHEM 106 and concurrent registration in CHEM 107 is required.

**Description of Instructional Methods:** For each experiment, new laboratory techniques, calculations used and data to be collected, will be explained or demonstrated in a pre-lab talk. Then the students will perform the experiment with a lab partner, collecting experimental data and recording it in a lab notebook. Once the experimental data is collected they will perform any needed calculations and record their findings and conclusions in the lab notebook.

### Course Requirements:

**Text:** Organic & Biochemistry Lab CHEM 107L Lab - Manual available at the bookstore or online

### Supplies Needed:

scientific calculator that includes log functions, exponents, and scientific or exponential notation as well as a hardbound or spiral notebook to use as a lab notebook

**Attendance/Lab Make-Up Policy:** Lab is a hands on class and in general missing a lab will lower your grade by about one letter grade. Please plan to attend if at all possible!! If you know you will be unable to attend, prior notification makes the instructor's life much easier!! If you cannot make it to your section try to make it to one of the other sections that same week. All you need to do is ask the instructor if you can work in that section. Students who cannot attend a scheduled lab **must notify the instructor within 5 workdays of having missed the lab**. Lab make-ups can be arranged with Mrs. Zehfus, (*contact her ASAP to get on her list and to set a make-up time!*) but if you do not contact the instructor within the week allowed, the chemicals may be disposed of, making it impossible for you to make-up the lab!!

**Cheating and plagiarism policy:** 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 the instructor's discretion, have his or her enrollment canceled and/or be given a reduced or failing grade. For more information on specific acts, see your student handbook.

**Course Goals:**

**System General Education Goals:**

**Goal 6:** Students will understand the fundamental principles of the natural sciences and apply scientific methods of inquiry to investigate the natural world. Students will:

**Student Learning Outcome 1:** Apply the scientific method in a laboratory experience through hands on participation and development of a laboratory notebook.

**Student Learning Outcome 2:** Gather and critically evaluate data using the scientific method by completing the laboratory experiment, keeping real-time records and analyzing the results of each experiment.

**Student Learning Outcome 3:** Identify and explain the basic concepts, terminology and theories of the selected natural sciences through class discussion, laboratory notebook and exams.

**Evaluation Methods:**

**Lab Report Sheets:** each week a report sheet will be turned in at the end of lab

**Laboratory Notebook:** Each student will be required to keep a lab-notebook in either a spiral or a hard-bound book (*something that the pages will not fall out of!! Not a 3 ring binder!*)

**Laboratory Quizzes:** quizzes will be very short and deal directly with information that should be in your lab notebook before you walk into class. Quizzes are open lab notebook.

**Final Exam:** A comprehensive final exam will be given at the end of the semester. This will include questions dealing with the types of calculations that were done in the labs, observations of the experiments, chemical reactions, etc. The exam will be open lab notebook so the more complete your notebook is the easier this exam will be.

**Grades:** Your final grade will be based as follows:

**Grade Distribution:**

|  |     |          |   |
|--|-----|----------|---|
| Lab report sheets                        | 25% | 90 -100% | A |
| Laboratory Notebook                      | 40% | 80 - 89% | B |
| Final Exam                               | 25% | 70 - 79% | C |
| Laboratory Quizzes and special write-ups | 10% | 60 - 69% | D |
|  |     | < 60%    | F |

**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](mailto: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."

### Calendar of Events:

| Week/date            | Experiment   |
|----------------------|--|
| 1 - <b>Jan. 16</b>   | <b>National Holiday - Martin Luther King Day- No Lab</b>   |
| 2 - Jan. 23          | Check in/ Safety/ <b>Nomenclature Lab</b>  |
| 3 - Jan. 30          | Building Models of Organic Molecules   |
| 4 - Feb. 6           | Aspirin Synthesis  |
| 5 - Feb. 13          | TLC Characterization of Aspirin  |
| 6 - <b>Feb. 20</b>   | <b>National Holiday - Presidents's Day - No Lab</b>  |
| 7 - Feb. 27          | Use of IR and NMR to Characterize Aspirin ( <i>midterm week</i> )  |
| 8 - <b>Mar. 5</b>    | <b>Spring Break</b> ( <i>midterm DEF due in March 7</i> )  |
| 9 - Mar. 12          | Saponification   |
| 10 - Mar. 19         | Experimental Identification of Carbohydrates   |
| 11 - Mar. 26         | Titration of Vitamin C   |
| 12 - April 2         | Proteins, Identifying and Denaturing ( <i>April 2<sup>nd</sup> is the last day to drop and receive a W</i> ) |
| 13 - <b>April 9</b>  | <b>National Holiday - Easter - No Lab</b> ( <i>IDEA Surveys open online</i> )                                |
| 14 - April 16        | Use of Excel to Graph Data   |
| 15 - <b>April 23</b> | <b>Final Exam - held in lab during regular lab time</b>  |
|                      |  |

**Note 1:** Please, make the extra effort to clean up after yourself, as we have several sections all using the same equipment.

**Note 2:** This is a tentative schedule and is subject to change at the discretion of the instructors.

**Note 3:** you might want to paste this syllabus on the inside cover of your lab notebook so you have this information when you need it!!

**Note 4:** Please read through the following in the Lab manual.

- ◆ Lab Safety Guidelines
- ◆ Glassware & Lab Equipment Appendix
- ◆ Significant Figures Appendix