

Introductory Biochemistry Laboratory

Chemistry 3710 • Dr. Harris
Spring 2016 Course Syllabus
1 credit

Dates		Experiment/Activity
January	19 th – 25 th	Course Policies – Safety Review – Excel Introduction
January/February	26 th – 1 st	Amino Acid Titrations
February	2 nd – 8 th	UV Absorption of Sun Screen Lotions
February	9 th – 16 th	Got Protein (Monday lab sections attend on Tuesday the 16th)
February	22 nd – 26 th	SDS-PAGE of Milk Protein
February/March	29 th – 4 th	Size Exclusion Chromatography
March	14 th – 18 th	Lactase Enzyme Kinetics
March	21 st – 25 th	Kinetics Data Analysis
March/April	28 th – 1 st	PDB/Literature Data Bases Introduction
April	4 th – 8 th	Inhibiting the Flu
April	11 th – 15 th	Inhibiting the Flu Lab Report Submission and Score Check
April	18 th – 22 nd	The Flu Fights Back

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Materials

Safety splash goggles, long-sleeve lab coat, full-length pants, and closed-toe shoes are required in the laboratory. The lab fee of \$75 is used to purchase equipment and supplies for the laboratory as well as a small portion for teaching assistant compensation.

Prerequisites

Concurrent enrollment in Chemistry 3700. Prior general and organic chemistry experience is expected.

Grades

A score of 90% is guaranteed an A- and 95% or better is guaranteed an A. Final scores will be rounded to nearest one's place (94.4% = 94% and 94.5% = 95%).

Signed Safety Documentation.....	20 points
8 Lab reports @ 20 pts.....	160 points
Teaching Assistant Evaluation (safety, cooperation, independence).....	20 points
Total.....	200 points

All lab reports are due by the laboratory section meeting time one week after completion of the experiment. Late reports will be assessed a 10% penalty per week. The lab report for the make-up experiment (The Flu Fights Back) will be due at the conclusion of the lab period that it is performed.

Students must review all lab course scores at the score check meeting time (April 11th – 15th). It is also recommended that students retain all scored course laboratory work. Teaching assistants will not declare a student's final lab course grade at the score check meeting.

Policies and Procedures

1. The administration of Chemistry 3710 will adhere strictly to the policies (including the issuing of incompletes) outlined in the USU 2015 – 2016 General Catalog.
2. Qualified students with disabilities may be eligible for reasonable accommodations. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444 voice, 797-0740 TTY, or toll-free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.
3. Attendance at all the assigned meetings is required. Experiments will not be rescheduled to a different lab section meeting date and time. A missed experiment which has an excused absence will be made up by appointment only with the last experiment (The Flu Fights Back) during the regular scheduled date and time of the respective lab section meeting time during the last week (April 18th – 22nd) of the course. Excused absences include: (1) school excused absences outlined in the general catalog, (2) illness, and (3) a family emergency. Planned family trips, vacations, outings, and weddings are not excused absences. Students should notify the TA in advance, if possible, prior to missing an experiment. Students missing an experiment will have one week to notify the TA that they have a valid excuse. A missed experiment that is not made up will be scored as **zero**. Only one missed experiment can be made up.
4. Individuals not wearing safety goggles, full-length pants, or closed-toed shoes (no sandals or pumps) will not be allowed in the laboratory, no exceptions.

Course Objectives and Assessment

This course is designed to provide hands-on experience with techniques and concepts common to biochemistry research. This will be accomplished through a laboratory experience that will involve directed reading, observations of demonstrations, performance of experiments, data analysis, and completion of laboratory reports. This course is intended to be taken concurrently with chemistry 3700.

Learning objectives include:

1. Appreciation of laboratory safety
2. Use of photometry
3. Understanding of chromatography
4. Use of gel electrophoresis
5. Understanding of enzyme kinetics and protein structure

Exposure to these topics is appropriate for all pre-health and pre-vet professionals, along with majors in many other life science areas.

Assessment of the course will include an end-of-semester evaluation seeking suggestions for course improvement.