Introductory Biochemistry Laboratory
Chemistry 3710 • Dr. Harris
Summer 2020 Course Syllabus
1 credit

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<thead>
<tr>
<th>Week of:</th>
<th>Experiments/Activity</th>
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<tr>
<td>4th of May</td>
<td>Course Policies – Safety Review – Excel Introduction – Amino Acid Titrations</td>
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<td>11th of May</td>
<td>UV Absorption of Sun Screen Lotions and Got Protein</td>
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<td>18th of May</td>
<td>SDS-PAGE of Milk Protein and Size Exclusion Chromatography</td>
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<td>25th of May</td>
<td>Lactase Enzyme Kinetics and Kinetics Data Analysis</td>
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<td>1st of June</td>
<td>PDB/ Pub Med Literature Data Base Introduction and Inhibiting the Flu</td>
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<td>8th of June</td>
<td>Score Check – Course Review – The Flu Fights Back (make up experiment)</td>
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Dr. Doug Harris
E-mail: doug.harris@usu.edu

Materials

Due to the pandemic that caused this teaching course to be moved online, all lab handouts and video presentations will be provided in Canvas.

The following list represents the materials and lab fee information that have been removed for the current online lab course: Safety splash goggles, long-sleeve lab coat, full-length jeans with no holes, and closed-toe shoes are required in the laboratory. A flash drive and scientific calculator are also required. 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
Instructor Evaluation (safety, cooperation, independence)................. 20 points
Total.................................................................................................... 200 points

All lab reports for the weeks outlined above are to be e-mailed directly to Dr. Harris 5 pm MDT Friday afternoon of the same week. Late reports will be assessed a 10% penalty per complete week that has passed since the report was due. The lab report for the make-up experiment (The Flu Fights Back) will be due at 5 pm MDT Friday the 12th of June, 2020. Students must review all lab course scores at the score check meeting week of the 8th of June. It is also recommended that students retain all returned e-mail replies from Dr. Harris containing the graded lab report(s). As the Inhibiting the Flu experiment lab report will still need to be graded the subsequent week, Dr. Harris will not declare a student’s final lab course grade during the score check meeting week.
Policies and Procedures
1. The administration of Chemistry 3710 will adhere strictly to the policies (including the issuing of incompletes) outlined in the USU 2020 – 2021 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. Completion of all assigned weekly experiments is required. Experiments will not be rescheduled to a different week of the course. 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 week of the 8th of June, 2020. 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 Dr. Harris in advance, if possible, prior to missing an experiment. Students missing an experiment will have one week to notify Dr. Harris 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. The Banner/Access system will automatically drop a student from the CHEM 3710 lab course if the student drops the concurrently enrolled CHEM 3700 lecture course. Students that have completed all of the experiments up to the Size Exclusion Chromatography experiment may make a special request to Dr. Harris to remain registered for the CHEM 3710 lab course.

Course Objectives and Assessment
Due to the pandemic, the university has directed that this teaching lab course be made available online for this summer only. The information below pertains to the course that was previously offered face-to-face. Although students will not have the opportunity of performing the hands-on activities, the online course has still been established to instruct students on the techniques and concepts of biochemistry research.

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.