



Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: <https://catalog.uvu.edu/>

Semester: Spring

Year: 2025

Course Prefix: CHEM

Course and Section #: 3605-201

Course Title: Biological Chemistry

Credits: 1

Course Description

Introduces laboratory techniques in biochemistry. Studies methods and theory behind purification of proteins and nucleic acids including chromatography and electrophoresis. Uses methods in assessing enzyme activity and kinetics and protein structure analysis. Includes analysis and manipulation of DNA and RNA.

Course Attributes

This course has the following attributes:

- General Education Requirements
- Global/Intercultural Graduation Requirements
- Writing Enriched Graduation Requirements
- Discipline Core Requirements in Program
- Elective Core Requirements in Program
- Open Elective

Other: *Click here to enter text.*

Instructor Information

Instructor Name: Professor Nathan E. Goldfarb, B.S., M.S., Ph.D.

Student Learning Outcomes

This course was designed to give the student a reality-based research experience in the Biochemistry discipline like what is experienced in the work place or a graduate program. The student will:

1. Develop basic protocols and lab techniques
 2. Conduct a variety of assays used in Biochemical research
 3. Analyze and Present Biochemical Data using Different Formats
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Course Materials and Texts

Internet access (for CANVAS Material and Scientific Journals) A
Scientific Notebook
A Scientific Calculator
Safety Glasses

Course Requirements

Course Assignments, Assessments, and Grading Policy

<u>Performance Criterion</u>	<u>Grade Component</u>	<u>Evaluation Technique</u>
Experiment analysis, documentation, Record keeping, and accuracy of work	70%	Lab reports
<u>Final Exam Cumulative (short exam)</u>	<u>30%</u>	<u>multiple choice exam</u>
Total	100 %	

***Attendance is mandatory. One absence is excused with proper documentation. Missing more than one lab will severely affect your grade and/or may result in failure.**

Grading Standards:

A = 90-100, B = 80-89, C = 70-79, D = 60-69, E (failing) = Below 60

Quizzes and safety concerns/instruction will be given at the beginning of each lab period; do not be late. Labs begin and end at the times scheduled; if you are more than 10 minutes late, you will not be allowed to participate. Clean up must be addressed at least ten minutes prior to the end of the lab.

Lab reports should be typed in Microsoft Word (or similar program), with graphs of collected data created in Excel (or similar spreadsheet) and incorporated into the report, then printed.

All lab reports must be submitted in Canvas no later than midnight before the next lab.

Late work will not be accepted. There is no makeup for missed work. Copies of your lab work will be handed as listed below.

The final exam will be a short, multiple choice exam at the end of the semester.

Required or Recommended Reading Assignments

none

General Description of the Subject Matter of Each Lecture or Discussion

Week of	Tuesday
Jan 6	Syllabus and Safety

Jan 13	Intro to Drug Target and Crystallography
Jan 20	Introduction to Pipetting
Jan 27	Dilutions and Spectroscopy (Measuring Protein Concentration by A₂₈₀)
Feb 3	Introduction to the Expression of Hip 1
Feb 10	Expression of Hip1
Feb 17	SDS-PAGE analysis of Hip1 Expression
Feb 24	Destaining SDS-PAGE gels "rapid method"
Mar 03	Measuring Protein Concentration by the Bradford Assay
Mar 10	Spring Break

Required Course Syllabus Statements

Generative AI

This course requires you to complete assignments that assess your understanding, application, and problem-solving ability applied to chemistry. You are expected to do your own work. Problem solving and scientific thinking are tools that are necessary for students to learn in this course. The use of

artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, is strictly prohibited for any part of your assignments. Using these tools will be considered academic dishonesty and will be handled according to the university's academic honesty policy. If you have questions about acceptable use of AI tools, please consult the instructor before submitting your work.

Using Remote Testing Software

This course does not use remote testing software.

This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU [Accessibility Services](#) at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their [rights and responsibilities](#). In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in [UVU Policy 541: Student Code of Conduct](#).

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a [specially dedicated space](#) for meditation, prayer, reflection, or other forms of religious expression.