



Master Course Syllabus

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

Semester: Spring 2025

Year: 2025

Course Prefix: Chem

Course and Section #: 3600-x01

Course Title: Biochemistry

Credits: 3

Course Description

Introduces principles of the chemical processes that define living organisms. Covers structure and function of proteins, carbohydrates, lipids and nucleic acids. Explores metabolic pathways, biosynthesis, enzymatics, thermodynamics, membrane dynamics and related processes within a living cell. Emphasizes molecular mechanisms of reactions and their outcome.

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: Dr. Sebastien Tauzin

Student Learning Outcomes

Analyze the fundamentals of biochemistry in the world around them.
Identify biomolecules, including carbohydrates, lipids, and proteins, and their roles in the fundamental biochemical pathways, including metabolic pathways.
Evaluate the relevance of biochemistry to human concerns, including the health sciences and other fields of chemistry.
Explain the relationship of Biochemistry to both Biology and Chemistry.

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Course Materials and Texts

A laptop equipped with internet access, camera and microphone.

Book required: *Biochemistry*, Berg, Tymoczko and Stryer, 7th Ed or higher.

Course Requirements

Course Assignments, Assessments, and Grading Policy

Activity	Points	Percentage
8 lines assignments (10 x 5pts)	50	18
Interactive Video Questions (30x1pt)	30	11
POGIL (3 x 10pts)*	30	11
Debates (2 x 5pts)	10	4
Beta-Oxidation Activity	5	2
Metabolism Integration Activity	10	4
Midterm Exams (30, 30 and 35pts)	95	33
NO PROJECT THIS SEMESTER Project PowerPoint (10pts), Oral Presentation (10pts), Peer and self-evaluation will still count toward your final grade: Peer evaluation (10pts), Self-evaluation (10pts)*	20	7
Final Exam	40	14

Activity	Points	Percentage
Total	285	100

***Group assignments - represent 18% of your grade!**

Final %	Grade
93-100	A
90-92.9	A-
87-89.9	B+
83-86.9	B
80-82.9	B-
77-79.9	C+
73-76.9	C
70-72.9	C-
67-69.9	D+
63-66.9	D
60-62.9	D-
Below 60	E

Required or Recommended Reading Assignments

Book chapters: 2,3,8,9,10,11,12,13,15,16,17,18,22,23,27

General Description of the Subject Matter of Each Lecture or Discussion

Protein composition and structure

Proteome

Enzymes

Catalytic strategies

Regulatory strategies

Carbohydrates

Lipids and cell membranes

&

Membrane channels and pumps

Energy storage

Amino acid metabolism

Metabolism overview

Oxidative Phosphorylation

Glycolysis

Citric acid cycle

Metabolism integration

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Required Course Syllabus Statements

Generative AI

adapted from [Temple University Links to an external site.](#) statement on AI in classes.

AI programs are not a replacement for your human creativity, originality, and critical thinking. Writing, thinking, and researching are crafts that you must develop over time to develop your own individual voice. At the same time, you should learn how to use AI and in what instances AI can be helpful to you.

The use of generative AI tools (e.g. ChatGPT, Google Bard, etc.) is permitted in this course for the following activities:

- Brainstorming and refining your ideas;
- Fine tuning your research questions;
- Finding information on your topic;
- Drafting an outline to organize your thoughts; and
- Checking grammar and style.

The use of generative AI tools is not permitted in this course for the following activities:

- Impersonating you in classroom contexts, such as by using the tool to compose discussion board prompts/responses assigned to you or content that you put into a Teams/Canvas chat.
- Completing group work that your group has assigned to you, unless it is mutually agreed upon that you may utilize the tool.
- Writing a draft of a writing assignment.
- Writing entire sentences, paragraphs or papers to complete class assignments.

You are responsible for the information you submit based on an AI query (for instance, that it does not violate intellectual property laws, or contain misinformation or unethical content). Your use of AI tools must be properly documented and cited in order to stay within university policies on academic honesty.

Any student work submitted using AI tools should clearly indicate what work is the student's work and what part is generated by the AI. In such cases, no more than 25% of the student work should be generated by AI. If any part of this is confusing or uncertain, please reach out to me for a conversation 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.