BIOCHEMISTRY 3622
LABORATORY SYLLABUS

BIOC 3622 Fall 2025

Instructor: **Dr. Carrie Weaver** **Phone:** **N/A**

Office: **Room 215, Inspire Park, Frisco** **Email:** **carroll.bottoms@unt.edu**

Office Hours:

All Laboratory Information:

You will need to go to the bookstore and get access to the LabFlow software.

Announcements will be on canvas.

Course Description:

BIOC 3622 Biochemistry Laboratory is a practical course designed to introduce the basic techniques, skills, and analytical rationales that drive biochemical research. The activities practiced in the laboratory draw on theoretical principles of Biochemistry, and thus it is required that the lecture component of the series, BIOC 3621 Elementary Biochemistry, be taken prior to or concurrent with enrollment in the lab. The main goal of this course is to introduce the student to current techniques and technologies used to resolve fundamental questions in Biochemistry, while reinforcing key concepts in the discipline.

Objectives:

1. Become familiar with analytical techniques in biochemical research, including Micropipetting, Spectrophotometry, Protein Analysis, Chromatography.
2. Understand how techniques may be applied experimentally to answer questions in biochemistry, and the strengths and limitations of such applications.
3. Improve data collection and recording skills; and
4. Practice interpreting experimental results.

Course Policy and Grading:

Grades in this course are based on the following, using a traditional A (900-1000 pts), B (800 - 899 pts), C (700 - 799 pts), D (600 - 699 pts), F (<600 pts)

Attendance is critical. For you to gain the most knowledge from this course, every class must be attended. You need to show up ahead of time prepared for the lab and be ready to begin on time every time.

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For those students who miss an exam, you will need to provide documentation for the reason missed within a week of the exam to the Dean of Students. Students then will have the opportunity to take the missed exam as an Oral make-up exam, 1hrs 10 min. only. The Oral make-up exam will be administered within a week via appointment with the TA. There are no makeup labs and no makeup in-lab assessments.

a.) Midterm Exam	255 pts
b.) Final Exam	255 pts
c.) 7 Lab Reports	490 pts (70 pts each)
	Total of 1000 Points

There is NO EXTRA CREDIT!

Lab Reports are due before you leave at the end of class.

If you drop the lecture during the semester, you will not be allowed to stay in the lab. Being concurrently enrolled in the lecture or having taken the lecture in a previous semester are departmental requirements and will be strictly adhered to. No Exceptions, unless the department makes official changes.

Evaluation

The final grade will be based on Mid-Term, Final and 9 lab reports. All information gathered during the laboratory will be used to determine your understanding of the concepts and where gaps exist in comprehension of the material. The Mid-Term will include everything covered in lab from the first day of class until the week of the Mid-Term and the Final will be comprehensive covering all material learned during the semester.

It is understood that you will keep a comprehensive lab notebook. The notebook should include but is not limited to the following: protocols, data collected during the experiment, your name, section, Lab Instructor, Title of the Lab, abstract, introduction, materials and methods, results, discussion and conclusion sections. All this information will be useful in studying for both the Mid-Term and Final exams. **Notebooks will be used to guide you through your laboratory exercise. You should have read the laboratory posted and prepared your notebook for use in the laboratory.**

SAFETY

All safety guidelines must be adhered to, and any directives given by the instructor must be followed. In addition to posing a risk of injury, failure to comply with these provisions will negatively affect the student's lab performance score and in most situations will result in removal from the classroom. Any safety concerns should be brought to the attention of the instructor.

Personal Protective Equipment (PPE) is "REQUIRED" once you enter the Laboratory. If you do not have the proper PPE in the lab you will be asked to leave the laboratory area.

PPE: Laboratory coat that is below the knees, safety goggles, laboratory gloves.

Items you will not be allowed to wear to the laboratory: shorts, open toed shoes, and sandals.

No food or drinks are allowed in the lab at any time.

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Students in the Department of Biology are required to use proper safety procedures and guidelines. While working in laboratory sessions, students are expected and required to identify and properly use safety guidelines in all activities requiring lifting, climbing, walking on slippery surfaces, using equipment and tools, handling chemical solutions and hot and cold products. Students should be aware that the University of North Texas is not liable for injuries incurred while students are participating in class activities. All students are encouraged to secure adequate insurance coverage in the event of accidental injury. Students who do not have insurance coverage should consider obtaining Student Health Insurance for this insurance program. Brochures for this insurance are available in the UNT Health and Wellness Center on campus. Students who are injured during class activities may seek medical attention at the UNT Health and Wellness Center at rates that are reduced compared to other medical facilities. If you have an insurance plan other than Student Health Insurance at UNT, please be sure that your plan covers treatment at this facility. If you choose not to go to the UNT Health and Wellness Center, you may be transported to an emergency room at a local hospital. You are responsible for all expenses incurred.

Attendance Special Cases

Students are expected to attend class meetings regularly. It is important that you communicate with the TA and your laboratory group prior to being absent, so you, the TA, and your laboratory group can discuss and mitigate the impact of the absence on your attainment of course learning goals. Please inform the TA and your laboratory group if you are unable to attend class meetings because you are ill, in mindfulness of the health and safety of everyone in the laboratory.

Religious Holy Days: In accordance with state law, a Student absent due to the observance of a religious holiday may take examinations or complete assignments scheduled for the days missed, including those missed for travel, within a reasonable time after the absence. Students should notify the instructor in each course of the date of the anticipated absence as early in the semester as possible. Only holidays or holy days observed by a religion whose place of worship is exempt from property taxation under Section 11.20 of the Tax Code may be included. A student who is excused under this provision may not be penalized for the absence, but the instructor may appropriately respond if the student fails satisfactorily to complete the assignment or examination. A student who misses for the observance of a religious holy day should **inform the instructor by the 12th class day of the semester that they would not be present.** You will not be counted absent for that day but due to the nature of a laboratory situation there is no makeup laboratories.

Participation in University Sponsored Activities: such as athletics, debate, musical organizations, AFROTC, class field trips, etc., must be authorized by the student's academic dean. Within three days after the absence, students must obtain authorized absence cards from the Dean of Students for presentation to their instructors.

Absence for Military Service: In accordance with section 51.9111 of the Texas Education Code, a student is excused from attending classes or engaging in other required activities, including exams, if he or she is called to active military service of a reasonably brief duration. The maximum time for which the student may be excused has been defined by the Texas Higher Education Coordinating Board as “no more than 25 percent of the total number of class meetings or the contact hour equivalent (not including the final examination period) for the specific course or courses in which the student is currently enrolled at the beginning of the period of active military service.” The student will be allowed a reasonable time after the absence to complete assignments and take exams. Policies affecting students who withdraw from the University for Military Service are given in the Withdrawal section.

All absences in these cases will be reviewed once the absence verification note has been received from the Dean of Students.

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ACADEMIC CONDUCT

The Department of Biology takes academic integrity very seriously. Academic dishonesty includes not only cheating on exams, but also plagiarism and collusion. Students are warned to avoid collusion, meaning inappropriate collaboration on assigned homework and lab reports. These assignments are meant to reflect your personal efforts. Copying material from another student's lab is cheating and will be dealt with accordingly. If you are uncertain of what constitutes academic dishonesty, you need to clarify your concerns with the instructor.

Any incidents or suspicions of academic dishonesty, including plagiarism and other forms of cheating, will be dealt with according to university policy. Sanctions may range from receiving a zero on the assignment to expulsion from the university. The official policies of the university, including a description of actions that constitute academic misconduct, can be found at http://www.unt.edu/csrr/student_conduct/index.html and through sidebar links therein.

PAYMENT STATEMENT

To attend class, you must be paid in full. Check your online schedule daily through the 12th day of classes to make sure that you are not dropped from any class for non-payment. You may be unaware of a drop that occurred for an unexpected reason, such as unapplied financial aid or schedule change fees. The Department of Biology does not reinstate anyone after the 12th class day regardless of cause. It is your responsibility to confirm that all your payments are made and that you are eligible to attend as of 12th class day.

DISABILITY ACCOMMODATION

The Department of Biological Sciences, in cooperation with the Office of Disability Accommodations (ODA), complies with Section 504 of the Americans with Disabilities Act in making reasonable accommodations for qualified students. Official written requests for accommodation should be submitted through the ODA as soon as possible so that necessary arrangements can be made. As a matter of equity, no accommodation or grade adjustment can be made retroactively, so it is imperative to communicate any needs to the instructor in a timely manner.

ASSIGNMENT OF THE GRADE OF INCOMPLETE

As per university policy, the assignment of a grade of Incomplete (I) will not be considered unless the following conditions are met: 1) official and verifiable documentation is provided explicitly describing the justification for the incomplete; 2) the justification is deemed to be of sufficient and acceptable cause; 3) it is determined that the cause will reasonably prevent the student from making up the necessary coursework within the normal term; 4) the deadline for dropping the course has passed; and 5) the student is currently passing the course. Requests for a grade of Incomplete must be initiated by the student, and the necessary contractual paperwork must be completed before such grade can be issued. Any deficiencies in coursework incurred prior to the drop deadline cannot be remediated through the incomplete process. Please note that an incomplete grade does not provide the student an opportunity to retake the course, and that the assignment of this grade rarely benefits the student. In fact, this option frequently proves detrimental to the student, and should be considered with caution.

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COMMUNICATION

Misunderstandings can best be avoided through active communication. Whenever a situation arises, it should be addressed promptly. **It is the student's responsibility** to discuss any issues with the instructor or laboratory supervisor before they become a larger problem, so that reasonable solutions can be found. Never hesitate to let your instructor know what's going on.

Lab Supervisors Statement:

Welcome to this course! I wanted to give you a little perspective on the Biochemistry Laboratory course. This is a stand-alone course, it has prerequisites but is not bound by all material covered in the Biochemistry Lecture course. This course helps you understand many of the concepts in lecture but expands into a more complete understanding of the laboratory techniques, equipment, procedures, experimental design and bioinformatics used in the modern biochemistry laboratory. This is an upper-level biology laboratory that can be much more time intensive than a general lecture course making time management a must. Reading background materials, protocols and generally preparing for the lab early will make it much more enjoyable experience.

A very talented pool of Teaching Assistants, Teaching Fellows and Adjuncts teach this laboratory. They are all very knowledgeable and can be helpful if you just ask them. If you have any issues with the course, please consult them. I personally do not involve myself in their classroom unless there is an issue outside the syllabus. In this course we strictly adhere to the syllabus with little to no exceptions.

Keeping up with the course, doing lab experiments, writing lab reports and taking tests, are all part of this course and any laboratory course you take here at UNT. As adults you will need to keep up with all aspects of the course and resolve any personal issues on your own. We are not here to tell you how to run your life, deal with your life issues or even manage your time. We are only here to teach a course. Anything outside the purview of this course will not be viewed as an issue for resolution.

As has been stated previously in the course syllabus, misunderstandings can best be avoided through active communication. Whenever a situation arises, it should be addressed promptly. It is the student's responsibility to discuss any issues with the instructor before it becomes a larger problem, so reasonable solutions can be found. Never hesitate to let your instructor know if there is an issue.

I am looking forward to this semester as I hope you are.

Geoffrey L. Brooks

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LABORATORY SCHEDULE* – BIOC 3622 Fall 2025

Aug. 18th, 2025	Introduction to the Course and Laboratory Safety	
Aug. 25th 2025	Care and use of a Pipette and Practice Exercise	Lab Report 1 Care and use of a Pipette and Practice Exercise
Sept. 1st 2025	Labor Day - No Lab Scheduled this Week	
Sept. 8th 2025	Separation and Purification by gel filtration chromatography (SEC)	Lab Report 2 gel filtration chromatography (SEC)
Sept 15th 2025	ELISA Immunodetection	Lab Report 3 ELISA
Sept 22nd 2025	Spectrophotometric determination of protein fractions	Lab Report 4 Spectrophotometry
Sept. 29th 2025	Lab Midterm	
Oct.6th 2025	Comparative Proteomics Part 1	Turn in initial data
Oct 13th 2025	Comparative Proteomics Part 2	Lab Report 5 Comparative Proteomics
Oct. 20th 2025	Enzyme Kinetics Part 1	Turn in initial data
Oct. 27 2025	Enzyme Kinetics Part 2	Lab Report 6 Enzyme Kinetics
Nov. 3rd 2025	GMO Part 1	Turn in initial data
Nov. 10 2025	GMO Part2	Lab Report 7 GMO
Nov. 17th 20258	Lab Final	
Nov. 24th 2025	Thanksgiving Holidays	
Dec. 1st, 2025	No Lab Scheduled	
Dec 8th 2025	No Lab Scheduled	

*Schedule subject to change. In case of university closure, labs will be shifted to compensate.