University of North Texas at Dallas
Spring 2025
SYLLABUS

BIOL 4930.0002 Quantitative Analysis Laboratory, 1-3 hrs.

Department of	Natural Sciences
Instructor Name	Isabella Priest
Office Location	
Office Phone	
Email Address	Isabella.priest@untdallas.edu
Office Hours	4PM - 5PM **(FH-248)**
Virtual Office Hours	
Course Format/Structure	Face to Face
Classroom Location	FH-247
Class Meeting Days & Times	Wednesdays 10AM - 11AM; 2PM - 3PM
Course Catalog Description	Collection and analysis of experimental data. Statistical investigation of systematic and random error. Basics of data quality assurance.
Prerequisites	CHEM 1430, CHEM1440, CHEM3210, CHEM3220
Corequisites	
Required Reading	Instructor provided materials
Recommended Reading & References	None

Access to Learning Resources	**UNT Dallas Library:**
	    Phone: (972) 338-1616;
	    Website URL: http://www.untdallas.edu/library
	UNT Dallas Bookstore:
	    Phone: (972) 780-3652;
	    Website URL: http://www.untdallas.edu/bookstore
	    Email: untdallas@bkstr.com

Canvas Resources **Supported Browsers:** • Chrome **Supported Devices:**	**Getting Help with Canvas:** **Canvas 24/7 Phone Support for Students: 1-833-668-8634** **Canvas Help Resources:**

• iPhone • Android • Chromebook *Note: Tablet users can use the Canvas app* **Screen Readers:** • VoiceOver (Safari) • JAWS (Internet Explorer) • NVDA (Firefox) *Note: There is no screen reader support for Canvas in Chrome*	**Canvas Student Guide -** **https://community.canvaslms.com/docs/DOC-10701** For additional assistance, contact UNT Dallas Distance Learning: DAL1, Room 157 Email: distancelearning@untdallas.edu **If you are working with Canvas 24/7 Support to resolve a technical issue, please keep me updated on the troubleshooting progress.** **If you have a course-related issue (e.g., course content, assignment trouble, quiz difficulties), please contact me during office hours or by email.**

Course Overview

Course Goals/Overview:

The goal of this course is to familiarize students with the principles and techniques involved in chemical analysis and quality control. These topics include gravimetric, spectrophotometric, and titration methods. Incorporated into each experiment will be exercises in unit conversion, solution preparation, and statistical methods that will challenge students on the accuracy and error related to their results. The course will also enhance students' understanding of plotting software, such as Excel, and employ its use for titration and calibration analysis.

Learning Objectives/Outcomes:

At the end of this course, the student will be able to

1. Determine the most appropriate technique and develop an experimental plan for a given analytical task.
2. Use Excel to efficiently plot collected data, determine the best fit, calculate unknowns, and quantify any error present.
3. Clearly articulate their findings, critically read related literature, and relate broad concepts to specific careers in food science, industrial processes, and environmental chemistry, among others.

Course Outline and Discussion Topics

This schedule is subject to change by the instructor. Any changes will be communicated both in class and on Canvas.

Day	Topic
1/13/25	Classes Begin, NO LABS
1/20/25	MLK Day Holiday, NO LABS

1/29/25	Lab Safety and Emergency Contact Form Lab 1: Preparation of Solutions
2/5/25	NO LAB
2/12/25	Lab 2: Titration
2/19/25	NO LAB
2/26/25	Lab 3: Gravimetric Analysis
3/5/25	NO LAB
3/12/25	Lab 4: UV-VIS Analysis and Calibration Curves
3/19/25	Lab 5: Introduction of Final Project
3/26/25	Individual Project Work
4/2/25	Individual Project Work
4/9/25	Individual Project Work
4/16/25	Individual Project Work
4/23/25	**Final Project Due**
4/30/25	NO LAB
5/7/25	NO LAB

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

- Pre-labs – ***Assignment turned in before the start of each lab experiment.*** Allows students to develop individual understanding of procedure and chemicals used while being introduced to the overarching themes.
- Post-labs – ***Must be turned in by the following Wednesday.*** Should be written in or typed and turned in alongside the student's laboratory notebook. If writing, care should be taken to ensure handwriting is legible.
- Experiment Project – Students will be responsible for experimental design and collection of results. The project will be turned in as an essay/paper in the style of a research article.

Grading Matrix:

Instrument	Value (points or percentages)	Total
Pre-labs	4 at 10 points each	40
Post-labs	3 at 30 points each	90
Experiment Project	1 at 50 points each	50
Total		180

Grade Determination:

A = 180 – 162 pts; i.e. 90% or better

B = 161 – 144 pts; i.e. 80 – 89 %

C = 143 – 126 pts; i.e. 70 – 79 %

D = 125 – 108 pts; i.e. 60 – 69 %

F = 107 pts or below; i.e. less than 60%

Need tutoring services or just some help with a particular assignment? For tutoring that empowers students to achieve success, schedule an appointment with the Learning Commons today at https://www.untdallas.edu/learning/schedule-appointment/.

Course-Specific Policies

Attendance and Participation Policy:

The University attendance policy is in effect for this course. Please refer to Policy 7.005 Student Attendance at https://untsystem.policytech.com/dotNet/documents/?docid=1347&public=true.

Assignment Policy (+ Late Policy):

No makeup labs are available. However, if a student missed an assignment due to an excused absence **AND** notified the instructor **within 24h of that absence**, the student can coordinate with the instructor to finish the assignment for full credit. If the student has a medical emergency or other university recognized excused absence, that will be accepted even beyond 24 h but should be communicated as soon as possible. Otherwise, **a 25% penalty will be added for every week the assignment is late**. After 1 month, the assignment will be worth 0 points.

Exam Policy:

Exams should be taken as scheduled. No makeup examinations will be allowed except for documented emergencies (See Policy 7.005 Student Attendance at https://www.untdallas.edu/hr/upol).

Other Course Specific Policies:

Use of Canvas – Canvas will be used in this course for Announcements and posting of grades.

Use of AI – Use of AI or LLMs should be previously discussed with the instructor. While it may be ok to quiz yourself or get additional information on a topic, it should not be used to generate answers for homework assignments. Please consult the instructor when and with how you plan to use it.

Use of Electronic Devices in the Classroom (Cell Phones & Laptops) - Electronic devices are not permitted to be used during laboratory. These devices should be stored during the class period. If an exercise requires calculators, they will be provided.

Food & Drink in the Classroom – Food and drink are not permitted in the laboratory.

University Policies and Procedures

Students with Disabilities (ADA Compliance):

The University of North Texas at Dallas makes reasonable academic accommodations for students with disabilities. Students seeking accommodation must first register with the Disabilities Services Office (DSO) to verify their eligibility. If a disability is verified, the DSO will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodation at any time, however, DSO notices of accommodation should be provided as early as possible in the semester to avoid any delays in implementation. Note that a student must obtain a new letter of accommodation for every semester and must meet/communicate with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Disability Services Office website at http://www.untdallas.edu/disability. You may also contact them by phone at 972-338-1777; by email at UNTDdisability@untdallas.edu on the first floor of the Student Center.

Canvas Instructure Accessibility Statement: University of North Texas at Dallas is committed to ensuring that online and hybrid courses are usable by all students and faculty including those with disabilities. If you encounter any difficulties with technologies, please contact our ITSS Department. To better assist them, you would want to have the operating system, web browser and information on any assistive technology being used. The Canvas Instructure Accessibility Statement is provided at https://www.canvaslms.com/accessibility.

NOTE: Additional instructional technology tools, such as Turnitin, Respondus, Panopto, and publisher cartridge content (i.e. MyLab, Pearson, etc.) may NOT be fully ADA compliant. Please contact our Disability Office should you require additional assistance utilizing any of these tools.

Academic Integrity:

Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or

plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the UNT Dallas Academic Integrity Policy in the appropriate Catalog at http://dallascatalog.unt.edu.

Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabrication of information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students.

Web-based Plagiarism Detection: Please be aware in some courses, students may be required to submit written assignments to Turnitin, a web-based plagiarism detection service, or another method. If submitting to Turnitin, please remove your title page and other personal information.

Artificial Intelligence Policy

UNT Dallas acknowledges the evolving capabilities of Artificial Intelligence (AI) technologies and their various effects on student writing and content creation. The Department of Natural Sciences takes a use-with-permission approach to AI. Students are only permitted to use AI technology in the creation of any course content if permitted by the course instructor. If the use of AI technology is detected, without specific instructor permission, the student will be deemed in violation of the plagiarism policy.

Classroom etiquette:

Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive & inappropriate language (swearing) and remarks offensive to others of nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student's Rights, Responsibilities, and Conduct will be referred to the Dean of Students as the instructor deems appropriate (UNTD Policy 7.001 found at
https://untsystem.policytech.com/dotNet/documents/?docid=1278&public=true**).**

Classroom Disruption:

Students are expected to always engage with the instructor and other students in this class in a respectful and civil manner to promote a classroom environment that is conducive to teaching and learning. Students who engage in disruptive behavior will be directed to leave the classroom. A student who is directed to leave class due to disruptive behavior is not permitted to return to class until the student meets with a representative from the Dean of Students Office. It is the student's responsibility to meet with the Dean of Students before class meets again and to provide the instructor confirmation of the meeting. A student who is directed to leave class will be assigned an unexcused absence for that class period and any other classes the student misses because of not meeting with the Dean of Students. The student is responsible for material missed during all absences, and the instructor is not responsible for providing missed material. In addition, the student will be assigned a failing grade for assignments, quizzes or examinations missed and will not be allowed to make up the work.

The Code of Student's Rights, Responsibilities, and Conduct **(UNTD Policy 7.001 found at** https://untsystem.policytech.com/dotNet/documents/?docid=1278&public=true**)** describes disruption as the obstructing or interfering with university functions or activity, including any behavior that interferes with students, faculty, or staff access to an appropriate educational environment. Examples of disruptive behavior that may result in a student being directed to leave the classroom include but are not limited to: failure to comply with reasonable directive of University officials, action or combination of actions that unreasonably interfere with, hinder, obstruct, or prevents the right of others to freely participate, threatening, assaulting, or causing harm to oneself or to another, uttering any words or performing any acts that cause physical injury, or threaten any individual, or interfere with any individual's rightful actions, and harassment. You are encouraged to read the Code of Student's Rights, Responsibilities, and Conduct for more information related to behaviors that could be considered disruptive.

Course Evaluations:

Student evaluations of teaching effectiveness are a requirement for all organized classes at UNT Dallas. This short survey will be made available to you at the end of the semester via your campus email, providing you a chance to comment on how this class is taught. I (as the instructor) will not have access to the results of the evaluations until after final grades have been posted. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider students' evaluations to be an important part of your participation in this class.

Sexual Harassment, Sexual Misconduct, Intimate Partner Violence and Stalking
UNT Dallas is committed to creating a safe learning environment for all members of our community, free from gender and sex-based discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking, in accordance with Title IX, Texas laws and University Policies. Please note that all employees are mandated reporters and must report all instances of sexual misconduct, dating violence, sexual assault, domestic violence and stalking to the Title IX Coordinator. If you or someone you know has experienced any form of sex or gender-based discrimination or violence and wish to speak to the Title IX Coordinator, you can email them at titleix@untdallas.edu or file a report here.

Pregnancy, Pregnancy Related Conditions and Parenting Modifications Under Title IX
UNT Dallas is committed to compliance with Title IX, and to supporting the academic success of pregnant and parenting students and students with pregnancy related conditions. If you are a pregnant, have pregnant related conditions or a parenting student (child under one-year needs documented medical care) who wishes to request reasonable related modifications from the University under Title IX, please email the Title IX Coordinator at titleix@untdallas.edu The Title IX Coordinator will work with your professors and academic unit to provide reasonable modifications needed to be supportive of your education while pregnant or as a parent under Title IX.

Bad Weather Policy:

Campus facilities will close, and operations will be suspended when adverse weather and/or safety hazards exist on the UNTD campus or if travel to the campus is deemed dangerous as the result of ice, sleet or snow. In the event of a campus closure, the Marketing and Communication Department will report closure information to all appropriate major media by 7 a.m. That department will also update the UNTD website, Facebook and Twitter with closing information as

soon as it is possible. For more information, please refer to
http://www.untdallas.edu/police/resources/notifications.

Inclement Weather and Online Classes:

Online classes may or may not be affected by campus closures due to inclement weather. Unless otherwise notified by your instructor via e-mail, online messaging, or online announcement, students should assume that assignments are due as scheduled.

Technology Assistance: To successfully access the materials in Canvas, UNT Dallas advises that your computer be equipped with the minimum system requirements listed on the first page of the syllabus.

If you have trouble accessing or using components of the course, try using Google Chrome browser. If you still experience technical difficulties, first, notify your instructor.

If the problem is still not resolved, call Distance Learning at the phone number listed on the first page of the syllabus. Also, no matter what browser you use, always enable pop-ups.

For more information see:

- UNT Dallas Canvas Technical Requirements:
  https://community.canvaslms.com/docs/DOC-10721
- Canvas Instructure Support & Unsupported Operating Systems:
  https://community.canvaslms.com/docs/DOC-10720