Syllabus: CHEM 5010

Introduction to Graduate Teaching and Research
Fall Semester 2025 (2 credit hours)

Instructor: Dr. LeGrande M. Slaughter
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Lecture: Monday, Wednesday 10:00 – 10:50 am, CHEM 253

Recommended Reference: *The ACS Guide to Scientific Communication*
G. M. Banik, Grace Baysinger, Prashant V. Kamat, Norbert J. Pienta, Eds. American Chemical Society, 2025
https://pubs.acs.org/doi/book/10.1021/acsguide
To gain access from a personal device, click "Find my institution" on upper right, type "North Texas" in the search box, and select "University of North Texas System." Then log in using your UNT EUID and password. If the above link doesn't work, try this one.

Office Hours: Monday and Wednesday, 2:00 – 3:00 pm (other times upon request); by appointment only. Please email ahead of time and I will set up a Zoom or in-person meeting.

Objective: The objective of this course is to prepare you, as new graduate students in Chemistry, for success in your Doctoral and Masters studies and in your subsequent career.

Learning Outcomes: Students will learn strategies for time management and success in research, effective use of departmental and UNT resources, and scientific communication skills. Students will also gain knowledge that will help them become proficient in data analysis, scientific writing, scientific ethics, and undergraduate laboratory teaching.

Grades:

Attendance:	150 points (15%)
Participation:	60 points (6%)
Assignments/Quizzes:	490 points (49%)
Final Presentation:	300 points (30%)
	1000 points

Letter grade scale:

A	900-1000 points
B	800-899
C	650-799
D	550-649
F	0-549

CHEM 5010 **Fall 2025**

Tentative Class Schedule (subject to revision)

Week	Dates	Class Topic
1	8/18	Syllabus Review; Overview of Graduate Studies
	8/20	Success in Research and Choosing an Advisor
2	8/25	Academic Integrity and Ethical Use of AI
	8/27	Preparing for Careers
3	(9/1)	(Labor Day: No Class)
	9/3	Library Resources (meet in CCIL)
4	9/8	Library Resources (meet in CCIL)
	9/10	Library Resources (meet in CCIL)
5	9/15	Faculty Research Presentations†
	9/17	Faculty Research Presentations†
6	9/22	Faculty Research Presentations†
	9/24	Faculty Research Presentations†
7	9/29	Faculty Research Presentations†
	10/1	Faculty Research Presentations†
8	10/6	Faculty Research Presentations†
	10/8	Faculty Research Presentations†
9	10/13	Introduction to Ethics in Science*
	10/15	Emergency Readiness & Fire Safety*
10	10/20	Scientific Meetings and Networking*
	10/22	Making Scientific Presentations*
11	10/27	Making Scientific Presentations (Pt 2)*
	10/29	Ethics Presentations by Students*
12	11/3	Career Seminar #1*
	11/5	Intellectual Property and Technology Transfer*
13	11/10	Scientific Writing - Introduction*
	11/12	Scientific Writing – Part II*
14	11/17	Working with Scientific Data (lecture)*
	11/19	Working with Scientific Data (hands-on in CCIL)*
	11/24–11/28	(Thanksgiving Break – No Class Meetings)
15	12/1	Writing Scientific Proposals*
	12/3	Career Seminar #2*
Final Presentations:		Saturday 12/6, 8:00 – 10:00 a.m.

*Date not yet confirmed †Speaker schedule to be announced

CHEM 5010: Class Policies **Fall 2025**

Class Topics:

Class topics have been chosen to give you the greatest possible exposure to information that will help you to succeed as a graduate student and as a professional chemist. Many classes will involve guest speakers from both inside and outside the UNT Chemistry Department. Some will involve hands-on instruction, for example in searching UNT's online library resources. Please note that the schedule on p. 2 is tentative and may need revision during the semester.

Course Delivery Mode:

This course is listed as a face-to-face lecture course, with required in-person attendance. The majority of the class meetings will be taught in room 253 of the Chemistry Building. A few classes will be taught in the Computational Chemistry Instructional Lab (CCIL, room 232). Please monitor announcements on the Canvas page for the course so you are aware of any changes in class location.

Technology Requirements:

Access to a computer is required for completion of most assignments. Computers are available in CCIL (room 232) for your use. Materials posted on Canvas are viewable on most mobile devices (smartphones, iPads, and other tablets). A mobile device with the iClicker app installed will be required for attendance tracking (see below).

Class Attendance:

It is important that you attend class to get the most out of this course. 15% of your grade will be based on attendance. You will receive 5 points (out of 1000 for the course) for each class that you attend ***arriving on time*** and 5 points for attending the Final Presentations. If you are late to class without a valid excuse, you will not receive attendance points for that day. The iClicker mobile app will be used for tracking attendance. More information will be provided on Canvas.

Excused Absences:

You will not be penalized if you miss class or come to class late due to an excused absence. An excused absence must have a *valid reason that can be documented*, including: 1) the need to self-isolate due to a positive COVID-19 test; 2) other illness or injury requiring medical attention; 3) participation in scheduled University activities requiring you to be absent from campus on the class date; 4) religious holidays; 5) other serious reasons beyond your control for which you can provide documentation. Illness not requiring medical treatment, vacation plans, oversleeping, and social activities are not valid reasons, and any absences for these reasons will be unexcused. For each documented excused absence, you will receive 5 attendance points, provided that you arrange with the instructor to pick up any needed materials and complete any required assignments related to the missed class.

Class Participation:
Participation in class discussions is an important part of this course. Therefore, 6% of your grade (60 points) will be based on class participation. I will be looking for a reasonable amount of participation throughout the semester. This does not mean that you have to speak or ask questions in every class period.

Assignments:
There will be a number of assignments and quizzes throughout the semester. These will include short summaries of faculty research presentations, demonstrations of the use of online library resources, etc. These will add up to 49% of your grade (490 points). A tentative breakdown of these assignments is provided on p. 7 of this Syllabus. You are expected to turn in assignments on time. A penalty of 20% per day will apply for late assignments. Please carefully follow the instructions given with each assignment for how to turn it in. Assignments will generally be submitted through Canvas (see below). *Emailed assignments will not be accepted.*

Final Presentations:
The Final Examination for this class is a PowerPoint presentation on a scientific topic of your choosing. The topics will be due at the beginning of class on ***November 5***. More specific guidelines will be provided later in the semester. Because this represents your Final Exam for this course, the presentations will take place during the university-designated Final Exam slot for this class on Saturday, December 6. Final Presentations will be delivered in person as PowerPoint presentations. The Final Presentation will count for 30% of your grade (300 points).

Missed Final Presentations:
Students who miss the Final Presentation must notify the instructor of the reasons for their absence by noon of the day following the scheduled time for the Presentation. The instructor will make reasonable efforts to reschedule the Final Presentation if you have a valid, documented excuse for the absence. If the Final Presentation cannot be rescheduled during Finals Week, the student will receive a grade of incomplete ("I") for the course and must arrange a time for a make-up examination with the instructor, no later than the end of the first week of classes of the Spring 2026 semester. If there is no valid excuse for the absence, the instructor may decide to allow a rescheduled Final Presentation, but there will be a minimum penalty of twenty percent on your grade. Students who miss the Final Presentation and do not notify the professor of the reason by noon of the following day will receive a grade of zero on the Final Presentation.

Academic Integrity:
Students are responsible for honoring UNT's Academic Integrity Policies (https://vpaa.unt.edu/ss/integrity) and the *Code of Student Conduct* (https://policy.unt.edu/policy/07-012). There will be zero tolerance for any form of academic misconduct, including plagiarism, in this course. The UNT Academic Integrity Policies define plagiarism as:

Use of another's thoughts or words without proper attribution in any academic exercise, regardless of the student's intent, including but not limited to:

1. *The knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgement or citation.*
2. *The knowing or negligent unacknowledged use of materials prepared by another person or by an agency engaged in selling term papers or other academic materials.*

The minimum penalty for plagiarism will be a grade of zero on the assignment. Serious acts of plagiarism may result in a failing grade for the course and/or further sanctions from the University. ***Your submitted assignments will be checked for plagiarism using a plagiarism detection app***.

ChatGPT and Generative AI
Generative artificial intelligence (AI) algorithms, such as ChatGPT, are now capable of creating written content based on simple text prompts. Although there are legitimate educational uses for generative AI, **the use of ChatGPT and similar algorithms to complete assignments in CHEM 5010 is prohibited**. All assignments will be checked with a plagiarism and AI detection tool. Any submission that is found to have been created using AI will prompt an Academic Integrity review and receive a grade of "0."

COVID-19
COVID-19 is no longer a public health emergency and should be treated the same as any other illness would under university policy. Each individual is responsible for assessing risks to themselves and others, and taking the appropriate precautions.

Infection with or Exposure to COVID:
The university recommends following the latest guidelines from the U.S. Centers for Disease Control & Prevention (CDC) to minimize the continued spread of COVID-19. If you test positive for COVID-19 or have respiratory symptoms, CDC currently recommends that you stay home until you have been free of fever for at least 24 hours without the use of medication. As a caution against viral spread, CDC recommends that you wear a mask in public for five days after you are no longer staying home. You must contact instructors of any classes you will miss due to COVID and provide documentation, such as the results of a positive test or a note from a doctor, to get an excused absence.

Mask Wearing:
Mask wearing is not mandated, but there is some scientific evidence that masks are effective in reducing transmission and infection rates. I encourage you to wear a mask in crowded locations, such as classrooms, if you believe you are especially vulnerable to COVID-19, or if you wish to protect vulnerable individuals around you.

CHEM 5010: Additional Course Resources **Fall 2025**

Special Accommodations for Students: UNT is committed to providing reasonable academic accommodations for students with disabilities. If you feel that you have a disability or other circumstances requiring special accommodation, please contact the Office of Disability Access (Chestnut Hall Suites 102 & 115, Phone 940-565-4323, email disability@unt.edu) as early as possible in the semester. Once I receive a notice of accommodation from ODA, I will discuss it with you outside of class before implementing the accommodation.

Canvas:
The instructor will be using Canvas, an online digital learning platform, for this course. Enter your EUID and password at the following Web address to log in:

https://unt.instructure.com/

The instructor will post PowerPoint presentations, handouts, assignments, and supplementary materials on Canvas. Hard copies of most of these will also be provided in class. Most assignments will be turned in through Canvas as well, in either PDF or MS Word (*.docx, *doc) format, unless otherwise stated on the assignment. Please follow the instructions given with each assignment to make sure they are turned in properly.

I recommend that you download all presentations, handouts, and assignments for this course and save them on a secure memory device for your future use. Note that you will not have access to the Canvas page once the semester is over. You may **not** share these class materials with others who are not enrolled in the class.

ACS Guide to Scholarly Communication:
This is a valuable resource for any chemist involved in scientific writing, including journal articles as well as theses and dissertations. It is available as a free electronic resource through UNT Libraries (see p. 1 of this Syllabus). The *ACS Style Guide* is a mostly equivalent, if somewhat dated, hardcopy resource that is an acceptable substitute, provided you have a copy of the 3rd edition (published in 2006). There may be copies of the *ACS Style Guide* available for purchase at the UNT Campus Bookstore.

Note on Using the Internet for Information:
You should be aware that some sources of chemical information on the Internet are unreliable. Simply "Googling" certain terms, using popular Web sites such as Wikipedia, or generating AI summaries of a topic will sometimes lead to false or incomplete information. While you may sometimes get useful leads this way, you should not use these as your primary methods of retrieving information. Online databases and search tools specifically designed for scientists and scholars, such as SciFinder and Web of Science, are the tools that you should be using in your research. You will learn more about these during the classes on Library Resources.

Also, please be aware that ***copying, or even closely paraphrasing, material found on the Internet and including it in an assignment is considered plagiarism.***

CHEM 5010: Tentative Assignment/Quiz Plan **Fall 2025**

Note: The following scheme is subject to adjustment. Any changes to the grading scheme will be announced via Canvas.

Quizzes (pop quizzes over material covered in a previous class; may be unannounced)

Quiz #1	34 points
Quiz #2	32 points
Quiz #3	32 points

Assignments

Assignment #1 (Writing a Career Plan)	60 points
Assignment #2 (Library resource activities)	60 points (3 x 20 points)
Assignment #3 (Faculty research summaries)	112 points (16 x 7 points)
Assignment #4 (Presentations on scientific ethics)	100 points
Assignment #5 (Data Analysis)	60 points

Maximum Points for Quizzes & Assignments **490 points**

Important Dates

August 18 – 22	Add/drop period (Last dates to change/add a class)
August 29	Last day to drop a course without a grade
September 1	Labor Day holiday; no class
November 5	Final Presentation topics due
November 7	Last day to drop course with a grade of “W”
November 7	Last day to withdraw (drop all classes)
November 24-28	Thanksgiving Break (no classes; University closed 11/27-28)
December 1-5	Pre-Finals Week
December 6-12	Final Exams
December 15	Fall 2025 Grades Due
December 17	Fall 2025 Grades Posted on MyUNT