UNIVERSITY OF NORTH TEXAS

CHEM 1410: General Chemistry 1

Olajumoke Mary Ayeni (She/Her)

Fall 2025 Syllabus

Location: Curry 203
M 11:00 – 11:50 a.m.
W 11:00 – 11:50 a.m.
W 2:00 – 2:50 p.m.
F 11:00 – 11:50 a.m. (Recitation)

TABLE OF CONTENTS

Instructor

Olajumoke Mary Ayeni *(she/her)*
olajumokeayeni@my.unt.edu

Feel free to reach out to me by email; please include 'CHEM1410' in the subject line.

Office: CHEM 383
Drop-In (Office) Hours:
W: 12:00 – 1:00 pm
If this doesn't work for you, feel free to schedule an appointment with me.

I am generally responsive to student emails. However, if you do not receive a response to your email after two business days, please send a follow-up email. Kindly note that I do not reply to emails on Saturdays, Sundays, or after 5 pm. on weekdays.

WELCOME TO GENERAL CHEMISTRY 1

INTRODUCTION

This is the first of a two-semester sequence of general chemistry, intended to introduce you to the foundations of chemistry. The material is presented in an "atoms first" approach, which means that we begin by talking about the parts of the atom, then how they join together to create molecules, then what kind of reactions the molecules can go through. It is a gradual building up of the information that you need to understand the next topic (it builds, so it's important to ask for help early and often). We approach problems in both a qualitative and quantitative manner, so math skills (basic arithmetic, algebra, and calculator skills) are a must!

Learning Objectives

By the end of the semester, you should be able to:

- ✓ Explain atomic structure and behavior on both the microscale and macroscale levels.
- ✓ Use particulate-level behavior to predict and explain macroscopic behavior.
- ✓ Use molecular structure to predict and explain reactions.
- ✓ Apply tools and skills in solving chemical problems.
- ✓ Critically assess chemical problems.

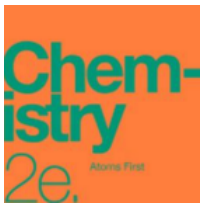
I'm a strong believer that *"chemistry is everywhere—within and around us"*—and I find it endlessly fascinating. My goal is to help you build a strong foundation in chemistry that not only supports your future coursework but also helps you see and appreciate chemistry in everyday phenomena, develop critical thinking skills as a scientist, and apply these skills in problem-solving. As a Chemistry Education Researcher, I value the unique experiences and knowledge base you bring to this course, and I believe every student can succeed in chemistry. If challenges arise, please reach out so that you can get the right support for your learning.

REQUIRED MATERIALS

ELECTRONIC TEXTBOOK:

Chemistry, Atoms First, 2nd Ed.

- Link to textbook: https://openstax.org/details/books/chemistry-atoms-first-2e



- If you bought a textbook, I encourage you to return it for a refund! You only need the e-book above.

CALCULATOR:

Preferred: TI-30 series, or any equivalent Scientific Calculator

- Bring your calculator to every class, quiz, and exam.
- *Practice* using your calculator!
- If you already have a TI-80 series calculator (graphing calculator), you can still use that.

HOMEWORK/QUIZZES/EXAMS:

All can be accessed directly in **CANVAS**. Homework and Exams will be found as assignments. Quizzes will be taken on paper in class.

ICLICKER:

We will use iClicker in all classes, so you must come to class with an internet-capable device (phone, laptop, tablet, etc.)

Information on how to access iClicker can be found in Canvas.

COURSE SCHEDULE

This is a tentative schedule.

Chapter	Title of Chapter	Approximate Starting Date
1	Essential Ideas	8/18
2	Atoms, Molecules, and Ions	8/25
3	Electronic Structure and Periodic Properties of Elements	9/3
4	Chemical Bonding and Molecular Geometry	9/10
5	Advanced Theories of Bonding	9/22
6	Composition of Substances and Solutions	9/29
7	Stoichiometry of Chemical Reactions	10/6
8	Gases	10/13
9	Thermochemistry	10/29
10	Liquids and Solids	11/5
11	Solutions and Colloids	11/12

Exam Dates (Put them in your calendar NOW)

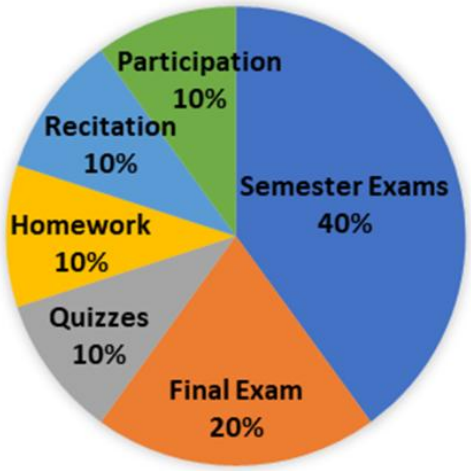
- **Exam 1** – Monday, September 15, drop in 8:00 am–9:00 pm in SAGE 332
- **Exam 2** – Friday, October 17, drop in 8:00 am–9:00 pm in SAGE 332
- **Exam 3** – Monday, November 10, drop in 8:00 am–9:00 pm in SAGE 332
- **Exam 4** – Wednesday, December 3, drop in 8:00 am–9:00 pm in SAGE 332
- **Final Exam** – Monday, December 8, drop in 8:00 am–9:00 pm in SAGE 332

Other Important UNT Dates

- Sept 1 – Labor Day (No Class, No Drop-In Student/Office Hours, No PLTL)
- Nov 24-30 – Thanksgiving Break
  (No Class, No Drop-In Student/Office Hours, No PLTL)
- Dec 4 – Last Day of UNT Classes
- Dec 5 – Reading Day (No Class, No Drop-In Student/Office Hours, No PLTL)
- *Please check the UNT Academic Calendar for other important dates.*

I will try to adhere to this schedule as closely as possible, but dates are subject to change based on the pace of the course. This should give you a rough idea of what to expect. **I reserve the right to change or modify the syllabus at any time.** *If changes are made, students will be notified during scheduled class times, and the revised syllabus will be made available on Canvas.*

GRADING AND ASSESSMENT



A = 100.0% - 90.0% possible points
B = 89.9% - 80.0% possible points
C = 79.9% - 70.0% possible points
D = 69.9% - 60.0% possible points
F = 59.9% - 0.0% possible points

Extra credit may be offered throughout the semester at the instructor's discretion. Extra credit will *NOT* be offered after the last day of class for the semester, so please do NOT ask!

SEMESTER EXAMS (40%)

There will be **FOUR** 80-minute exams**,** each consisting of **20 multiple-choice questions**. Each exam is worth 100 points. At the end of the course, your average will be calculated after dropping the lowest of the four semester exam grades. If a student receives a "0" because of cheating, that grade ***cannot*** be used as the dropped grade. All exams must be taken as scheduled, at the regularly scheduled times (see Page 3). Exams cannot be taken outside the scheduled time. There will *not* be any makeup exams. A missed exam will count as your dropped test (unless there is a *well-documented* serious illness, requiring hospitalization). For our regular semester exams, you will take the exams in the Testing Center, with the location indicated above. You will be able to "drop-in" during the time windows listed for those exams. You are expected to bring the following items to each exam: a writing utensil (preferably a pencil with a good eraser) and a scientific calculator. Scratch paper will be provided. Personal cell phones, tablets, laptop computers, headphones/earbuds/Airpods, or other electronic devices will NOT be allowed (if you are caught using any of these items during the exam, you will receive a zero on that exam).

FINAL EXAM (20%)

The final exam, which will cover all course material and will be cumulative, will be 120 minutes long and will occur at the scheduled time. You will ***NOT*** *be allowed to take this final outside of this time window*. More details about the final will be given throughout the semester. The final exam will take place in the Testing Center, located as indicated above. You will be able to "drop-in" during the time window listed for the final exam, just like your regular-semester exams.

QUIZZES (10%)

There will be a semi-weekly quiz in class on most **Fridays**. All quizzes must be taken as scheduled. Quizzes will check your mastery of concepts and skills and generally reflect attendance, and the effort put forth in homework. If you are doing poorly on quizzes, you will likely do poorly on the

exams unless something changes quickly. Use low quiz grades as a warning. Try working some extra problems – ***and don't hesitate to ask for help.***

HOMEWORK (10%)

Doing problems continually is extremely important for checking your understanding and keeping up to date. Homework points will be assigned via Canvas assignments for each chapter.

RECITATION (10%)

Attendance at the recitation is required. During recitation days (Fridays from 11:00 am – 11:50 am in Curry 203 for our class), we will have a semi-weekly quiz, covering information from the previous class days. There will also be a group assignment that we work on as groups during the recitation session. This is a time for you to work on problems. Recitation is not a social hour, nor is it time for working on homework or material for other classes. The nature of many chemistry problems requires that solutions be written out in detail. It is important to show *complete solutions*, including problem setup, units, and correct use of significant figures, not *just* final answers.

PARTICIPATION (10%)

iClicker will also be used during all class sessions (lecture and recitation) to track participation. If you complete 75% of all of the iClicker questions over the course of the semester, you will get 100% of the available iClicker points.

CLASS RULES

ATTENDANCE

Because class discussion and problem solving is at the heart of this course, you are required to be in class. Attendance is required for both lecture and recitation. Students are expected to attend class meetings regularly and to abide by the attendance policy established for the course. You will check-in either through Canvas or iClicker, so make sure that you bring a phone, laptop, tablet, or other WiFi-enabled device to class. Of course, I understand that sometimes emergencies or other unexpected circumstances arise that make attendance impossible on that day. If this is the case, please talk with other students in the class to see what you missed, get copies of notes, etc. If you will be absent due to a university-sponsored activity, make arrangements with me — ***before the absence*** — regarding any work you might miss.

CLASSROOM BEHAVIOR

Classes will begin/end as noted at the beginning of the syllabus; if you are late to class or anticipate having to leave early, please sit as close to the door as possible to minimize the disruption to the rest of the class. Disruptive behavior (such as talking, giggling, snoring, talking on a cell phone, playing on the Internet, watching YouTube or other social media videos, texting, etc.) will not be tolerated. Cell phones should be silenced during class. A student engaged in disruptive behavior can be asked to leave class immediately and can be suspended from class for a period of up to a week for the first offense, and longer if the behavior persists.

No headphones, earpods, earbuds, Airpods, etc. (bluetooth and/or wired) are allowed while in class (lecture and recitation), unless you have an approved accommodation to have them. If this is the case, please see the Office of Disability Access (ODA) to ensure that the appropriate paperwork has been filed. https://studentaffairs.unt.edu/office-disability-access.
(It is literally my job to teach you. Please, please, please communicate your needs to ODA and myself so I can do this effectively!)

Additionally, you should NOT be on TikTok, BeReal, Snapchat, YouTube, Instagram, Facebook, or any other social media platform while in class. Finally, taking photographs, video recordings, or audio recordings of me and/or materials without my explicit permission is NOT allowed.

LATE WORK

Late work will generally not be accepted in this course, with the exception of well-documented university-excused absences. The instructor must be notified within 48 hours of the missed assignment and provided documentation. Prior notice, if possible, is best.

WITHDRAWAL DEADLINE

The last date to withdraw from a course this term (with a "W" grade) is **November 7, 2025.** In accordance with University policy, no exceptions will be made to the deadline. You must earn a grade of at least C in CHEM 1410 in order to take CHEM 1420, and you must earn a C or better in CHEM 1420 in order to continue taking courses in chemistry. By university regulations, a grade of "I" (Incomplete) cannot be given as a substitute for a failing grade in a course.

OTHER NOTES

CHEM 1430 is the laboratory course and a separate course from CHEM 1410. Students will receive separate grades for the two courses. Dropping either course does NOT automatically drop you from the other course. For lab classes, be aware that you should be registered for both a lab lecture course (CHEM 1430.00x) and a lab (CHEM 1430.3xx).

Regarding dissemination of information, I exclusively use **Canvas to message the entire class** with reminders of deadlines, changes to classroom policies, etc. In addition, I post the lecture notes and grades on Canvas. Please make it a habit to check Canvas (and your UNT email) at least twice a week. I will not respond to email received from non-UNT email addresses, especially concerning grade information. With a personal email address, I cannot be certain it is you on the other end. As such, please only use your official UNT email address to email me.

HOW TO SUCCEED IN GENERAL CHEMISTRY

HOW TO GET HELP

Good study habits will be essential to your success. You have many resources, including Peer-led Team Learning (PLTL), CRC tutors, and drop-in student/office hours with myself and the TA.
Don't wait to get help. Tutoring is most effective when it is started early.

- **Office Hours**
  Come see me during drop-in hours or schedule other times with me. You can also make good use of the TA's office hours. Reach out to me/TA with questions, feedback, or needs. Please see Canvas for details about the teaching assistant (TA) for this course.
- **Peer-Led Team Learning (PLTL)**
  We have a program called PLTL (Peer-Led Team Learning) that is available for this section. You sign up and agree to attend one weekly session, led by a PLTL leader. This session is 90 minutes, once a week. More information about this program will be given in class and can be found on Canvas.
- **Free Tutoring in the Chemistry Resource Center (CRC)**
  We have a FREE tutoring center in the Chemistry building, the Chemistry Resource Center (CRC), Room 231. Chemistry graduate students staff it, and they are available for free, drop-in tutoring. See this link for schedules: https://chemistry.unt.edu/undergraduate-program/instructional-resources

TIPS FOR SUCCESS

We will be using an active and student-centered approach to learning. We will use simulations, iClicker response questions, and group discussions. Your peers will be the first place to ask questions or verify your understanding of the topics we are discussing. I ask questions during class and will wait for responses. Even wrong answers are okay! It helps me know where you are at in the discussion. Please refer to the Study Cycle on Page 8 for specific tips on success.

Before Class

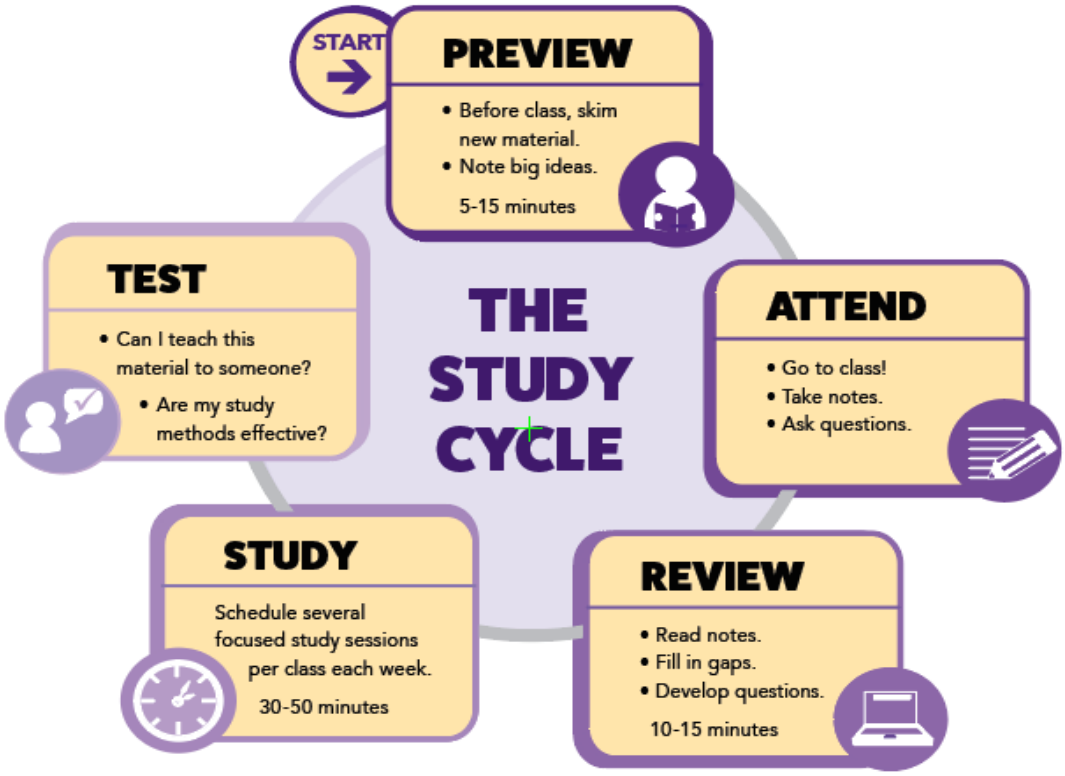
You should be doing the following things before attending class: review material from the last class, read from the textbook about the material in the upcoming class, write down any questions you have, review upcoming topics (5-10 minutes), and download/print the lecture slides for the upcoming class.

During Class

While in class, you should: stay awake, follow along with the notes, ask questions, work through problems, and collaborate with your peers. You should NOT simply rewrite the notes.

After Class

After each class, take time to: review notes, work through homework problems, attend PLTL sessions, and ask questions in the CRC or drop-in student/office hours.



Adapted from Frank Christ's PLRS system.

HEALTH AND WELLNESS SUPPORT

UNT and the Department of Chemistry care about your health and wellness. Below you will find some of our campus-based, local, and national resources for health and mental health support. These services can be used for you or to help you support a friend. As this list is not exhaustive, please visit https://studentaffairs.unt.edu/push/unt-resources for more information and additional resources on health and wellness.

Counseling and Testing Services https://studentaffairs.unt.edu/counseling-and-testing-services	**Health and Wellness Center** https://studentaffairs.unt.edu/student-health-and-wellness-center
UNT Police https://police.unt.edu/	**Substance Abuse Center** https://studentaffairs.unt.edu/rise/programs/sure-program
UNT Food Pantry https://studentaffairs.unt.edu/food-pantry	**Dean of Students Office** 940-565-2648
National Suicide Prevention Lifeline (includes Veteran support services) 1-800-273-TALK	**Trevor Project/LGBTQ Support** 866-488-7386

UNIVERSITY POLICIES

ACADEMIC DISHONESTY Students caught cheating or plagiarizing will receive a "0" for that particular assignment or exam. Additionally, the incident will be reported to the Dean of Students, who may impose further penalty. According to the UNT catalog, the term "cheating" includes, but is not limited to: a. use of any unauthorized assistance in taking quizzes, tests, or examinations; b. dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; c. the acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university; d. dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s); or e. any other act designed to give a student an unfair advantage. The term "plagiarism" includes, but is not limited to: a. the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment; and b. the knowing or negligent unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

ACCEPTABLE STUDENT BEHAVIOR Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at http://deanofstudents.unt.edu.

ADA STATEMENT The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA 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 accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Accommodation website at http://disability.unt.edu. You may also contact them by phone at (940) 565-4323.

EMERGENCY NOTIFICATION & PROCEDURES UNT uses a system called Eagle Alert to quickly notify you with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). The system sends voice messages (and text messages upon permission) to the phones of all active faculty staff, and students. Please make certain to update your phone numbers at http://www.my.unt.edu. Some helpful emergency preparedness actions include: 1) know the evacuation routes and severe weather shelter areas in the buildings where your classes are held, 2) determine how you will contact family and friends if phones are temporarily unavailable, and 3) identify where you will go if you need to evacuate the Denton area suddenly. In the event of a university closure, please refer to Canvas for contingency plans for covering course materials.

RETENTION OF STUDENT RECORDS Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Canvas online system, including grading information and comments, is also stored in a safe electronic environment for one year. You have a right to view your individual record; however, information about your records will not be divulged to other individuals without the proper written consent. You are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the university's policy in accordance with those mandates at the following link: http://essc.unt.edu/registrar/ferpa.html

STUDENT PERCEPTION OF TEACHING (SPOT) Student feedback is important and an essential part of participation in this course. The Student Perception of Teaching (SPOT) is a requirement for all classes at UNT. This short survey will be made available at the end of the semester to provide you with an opportunity to evaluate how this course is taught.

SUCCEED AT UNT UNT endeavors to offer you a high-quality education and to provide a supportive environment to help you learn and grown. And, as a faculty member, I am committed to helping you be successful as a student. Here's how to succeed at UNT: **Show up. Find Support. Get advised. Be prepared. Get involved. Stay focused.** To learn more about campus resources and information on how you can achieve success, go to http://success.unt.edu