

CHEM 1410.401– General Chemistry I for Science Majors

Instructor Contact

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Communication Expectations: My preferred method of contact is through email, which you can also access through Canvas. While I want to be available to you to answer all your questions, I ask that you be patient. Consider posting your question to the Q&A forum on the discussion board. Generally, if you have the question, someone else will as well! Plus, if any of your fellow students know the answer, they can post it. I will try to reply to all emails within 48 hours during the regular working week. Emails received after noon on Fridays or over the weekend may not receive an answer until Monday mornings.

I also routinely communicate with the class through announcements in Canvas. Be sure to set up your Canvas page so that you receive push notifications of changes made to the page!

Any assignments that require manual grading will be completed within 1 week of the submission date. If there are any delays to this, an announcement will be posted to Canvas.

Course Description

This is the first of a two-semester sequence of general chemistry for science majors, intended to introduce you to the foundations of chemistry. The material is presented in what's referred to as an atoms-first approach, which means that we begin by talking about the parts of the atom, then how they join 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, hopefully told in a coherent story. We approach problems in both a qualitative and quantitative manner, so math skills (basic arithmetic, algebra, and calculator skills) are a must!

Course Structure

This course is entirely online. Each week, you will have a module in Canvas to work through. There are suggested reading assignments, pages of material (that can include videos, problems to solve, and/or simulations), and several quizzes covering the material in that module. There can be a lot of material to work through, so make sure that you schedule time everyday work through the material!

Most of our interactions will take place through Canvas, though. There is a discussion board for questions, either specific to each chapter or in general.

Course Prerequisites or Other Restrictions

Pre-reqs: C or better in MATH 1100 or equivalent course

Co-Req: While it is not required, it is strongly encouraged to enroll in CHEM 1430 (General Chemistry I lab). If you are not required to take the lab or you otherwise cannot do so this semester, you will be just fine.

Course Objectives

By the end of this course, students will be able to:

1. Explain atomic structure and behavior on both the microscale and macroscale.
2. Use atomic-level behavior to predict and explain macroscopic behavior.
3. Use molecular structure to predict and explain reactions.
4. Apply tools and skills in solving chemical problems.
5. Critically assess chemical problems.

Materials

- *Chemistry, Atoms First, 2nd Ed.* OpenStax. The electronic book is required but is free to access. Links are provided in Canvas, and you are welcome to download a PDF copy to keep on your own computer
- A scientific calculator

Technical Requirements & Skills

Minimum Technology Requirements

- Computer
- Reliable internet access
- Speakers
- Microphone
- Plug-ins
- Microsoft Office Suite
- [Canvas Technical Requirements](https://clear.unt.edu/supported-technologies/canvas/requirements) (<https://clear.unt.edu/supported-technologies/canvas/requirements>)
- [Connect technical requirements](https://createwp.customer.mheducation.com/wordpress-mu/success-academy/connects-system-requirements/) (<https://createwp.customer.mheducation.com/wordpress-mu/success-academy/connects-system-requirements/>)

Computer Skills & Digital Literacy

- Using Canvas
- Using email with attachments
- Downloading and installing software
- Using the homework system required for the course (Connect) – a tutorial will be provided

Rules of Engagement

Rules of engagement refer to the way students are expected to interact with each other and with their instructors online. Here are some general guidelines:

- Treat your instructor and classmates with respect in email or any other communication.
- Always use your professors' proper title: Dr. or Prof., or if in doubt use Mr. or Ms.
- Unless specifically invited, don't refer to your instructor by first name.
- Use clear and concise language.
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you."
- Use standard fonts such as Ariel, Calibri or Times New Roman and use a size 10- or 12-point font

- Avoid using the caps lock feature AS IT CAN BE INTERPRETTED AS YELLING.
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound offensive.
- Be careful with personal information (both yours and others).
- Do not send confidential information via e-mail

See these [Engagement Guidelines](https://clear.unt.edu/online-communication-tips) (https://clear.unt.edu/online-communication-tips) for more information.

Success in an Online Course

While the online classroom shares many similarities with the face-to-face classroom, success in online education requires certain skills and expectations that students may not be aware of. Time management is essential. I have due dates listed for everything already to help you stay on top of things, but you must check in to the Canvas page at least every other day (although every day is preferable). Remember that in a traditional face-to-face course, it is recommended that you spend two hours outside of class for every hour spent in class, reviewing material, reading, homework, rewriting your notes, etc. This requirement does not change just because the mode of delivery has changed.

I suggest you write yourself a weekly schedule for all of your classes, including required face-to-face time, study time, any upcoming assignments, and things of that nature. Do not forget to schedule yourself time to eat, sleep, and do whatever else you need to stay healthy!

If this is your first time completing a course online, consider visiting the following page, [“How to Succeed as an Online Student”](https://clear.unt.edu/teaching-resources/online-teaching/succeed-online) (https://clear.unt.edu/teaching-resources/online-teaching/succeed-online).

Getting Help

Technical Assistance

Part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

UIT Help Desk: <http://www.unt.edu/helpdesk/index.htm>

Email: helpdesk@unt.edu

Phone: 940-565-2324

In Person: Sage Hall, Room 130

Walk-In Availability: 8am-9pm

Telephone Availability:

- Sunday: noon-midnight
- Monday-Thursday: 8am-midnight
- Friday: 8am-8pm
- Saturday: 9am-5pm

Laptop Checkout: 8am-7pm

For additional support, visit [Canvas Technical Help](https://community.canvaslms.com/docs/DOC-10554-4212710328) (https://community.canvaslms.com/docs/DOC-10554-4212710328)

Student Support Services

UNT provides mental health resources to students to help ensure there are numerous outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or

its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- [Student Health and Wellness Center](https://studentaffairs.unt.edu/student-health-and-wellness-center) (https://studentaffairs.unt.edu/student-health-and-wellness-center)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (https://studentaffairs.unt.edu/counseling-and-testing-services)
- [UNT Care Team](https://studentaffairs.unt.edu/care) (https://studentaffairs.unt.edu/care)
- [UNT Psychiatric Services](https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry) (https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry)
- [Individual Counseling](https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling) (https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling)

Other student support services offered by UNT include

- [Registrar](https://registrar.unt.edu/registration) (https://registrar.unt.edu/registration)
- [Financial Aid](https://financialaid.unt.edu/) (https://financialaid.unt.edu/)
- [Student Legal Services](https://studentaffairs.unt.edu/student-legal-services) (https://studentaffairs.unt.edu/student-legal-services)
- [Career Center](https://studentaffairs.unt.edu/career-center) (https://studentaffairs.unt.edu/career-center)
- [Multicultural Center](https://edo.unt.edu/multicultural-center) (https://edo.unt.edu/multicultural-center)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (https://studentaffairs.unt.edu/counseling-and-testing-services)
- [Pride Alliance](https://edo.unt.edu/pridealliance) (https://edo.unt.edu/pridealliance)
- [UNT Food Pantry](https://deanofstudents.unt.edu/resources/food-pantry) (https://deanofstudents.unt.edu/resources/food-pantry)

Academic Support Services

- [Academic Resource Center](https://clear.unt.edu/canvas/student-resources) (https://clear.unt.edu/canvas/student-resources)
- [Academic Success Center](https://success.unt.edu/asc) (https://success.unt.edu/asc)
- [UNT Libraries](https://library.unt.edu/) (https://library.unt.edu/)
- [Writing Lab](http://writingcenter.unt.edu/) (http://writingcenter.unt.edu/)
- [MathLab](https://math.unt.edu/mathlab) (https://math.unt.edu/mathlab)
- [Chemistry Resource Center \(CRC\)](https://chemistry.unt.edu/undergraduate-program/instructional-resources) (https://chemistry.unt.edu/undergraduate-program/instructional-resources)

Course Requirements and Calendar

Date	Module	Topics Covered	Assignment	Due Date
5/18	1	Introduction, States of Matter		
5/19		SI Units, Significant Figures	HW1, Q1	5/20
5/20		Development of Nuclear Model, Atomic Masses, PT and Conversions	HW2, Q2	5/21
5/21		Classical Wave Theory, Quantization of Energy		
5/22		Wave-Particle Duality, QN and orbitals	HW3, Q3	5/23
5/25	2	University closed, Memorial Day		
5/26		Exam 1		5/26
5/27		Electronic Structure, the Modern Periodic Table and Trends	HW4, Q4	5/28
5/28		Ionic Naming, Covalent Naming	HW5, Q5	5/29

Date	Module	Topics Covered	Assignment	Due Date
5/29		Formulas and Ratios, Determining Chemical Formula		
6/1	3	Exam 2		6/1
6/2		Drawing Lewis Structures, Sharing Electrons		
6/3		VSEPR, Polar Molecules and IMF	HW6, Q6	6/4
6/4		VB Theory, Chemical reactions	HW7, Q7	6/5
6/5		Reaction Stoichiometry, LR and TY, % yield	HW8, Q8	6/6
6/8	4	Exam 3		6/8
6/9		Solubility and precipitation reactions, A/B		
6/10		Redox, solution stoichiometry	HW9, Q9	6/11
6/11		Enthalpy, Intro to Thermodynamics	HW10, Q10	6/12
6/12		Calorimetry, Hess's Law, BDE	HW11, Q11	6/13
6/15	5	Exam 4		6/15
6/16		KMT, ABC gas laws	HW12, Q12	6/17
6/17		Ideal gases, mixtures	HW13	6/17
6/18		Final Exam (cumulative)		6/18

Grading

This course will be graded on the following scale:

A = > 89.5% possible points

B = 89.4% - 79.5% possible points

C = 79.4% - 69.5% possible points

D = 69.4% - 59.5% possible points

F = < 59.4% possible points

Activities

- Homework (through Canvas) - homework is completion-based, and you have unlimited tries; 15% of overall grade

Assessments

- 12 weekly quizzes - 120 points total, all quiz grades will be averaged together, lowest 2 will be dropped; 15% of overall grade
- 4 mid-term exams - 100 points each (the lowest one will be dropped), 300 points total, 50% of overall grade
- 1 cumulative final exam - 200 points, 20% of overall grade

Course Evaluation

Student Perceptions of Teaching (SPOT) is the student evaluation system for UNT and allows students the ability to confidentially provide constructive feedback to their instructor and department to improve the quality of student experiences in the course.

Course Policies

Assignment Policy

The due dates can be seen through the Syllabus Tab in Canvas. If due dates are changed, the class will be notified through an announcement in Canvas.

The University is committed to providing a reliable online course system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will extend the time windows and provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and contact the UNT Student Help Desk: helpdesk@unt.edu or 940.565.2324 and obtain a ticket number. The instructor and the UNT Student Help Desk will work with the student to resolve any issues at the earliest possible time.

Examination Policy

All assessments (quizzes and exams) in this course are closed notes. This means that no additional resources may be used, whether provided by the instructor or TA through Canvas, or found by the student on the internet. No assessment may be discussed with any person, regardless of if they are registered for this course or not.

The dates of all of the quizzes and tests are already posted in Canvas. Please make note of them and plan accordingly. Make-ups will only be made in the event of 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.

All quizzes and exams in this course require the use of Respondus Lockdown Browser. You must have access to a stable internet connection in order to complete any of these. The UNT Library does have devices to loan out, as well as dedicated spaces and internet connection, if needed.

Instructor Responsibilities and Feedback

I will do my best to present the material in this class to you in a way that helps you understanding the common threads linking it all together. I promise that I will do my best to help you be successful in this course. I will be available to you for questions, I will provide timely feedback on your work, and I will make sure that this course is an open, safe, and inviting place to learn chemistry – even though we are doing it from a distance.

Feedback on performance can be provided at any time through office hours, or a scheduled appointment outside of posted office hours. In the event that assignments are hand graded, the grades will be uploaded to Canvas within a week of the due date.

Late Work

Late work will not be accepted in this course, with the exception of 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.

Attendance Policy

This course is asynchronous. As such, there is no attendance policy. In the event that you will be unavailable to take an assessment during the available time, please contact your instructor.

Syllabus Change Policy

In the event that any aspect of this course changes, the updated syllabus will be posted in Canvas. In addition, an announcement will be posted on Canvas.

UNT Policies

Academic Integrity Policy

Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University. [Insert specific sanction or academic penalty for specific academic integrity violation.]

ADA Policy

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable 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 reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable 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, refer to the [Office of Disability Access](https://studentaffairs.unt.edu/office-disability-access) website (<https://studentaffairs.unt.edu/office-disability-access>). You may also contact ODA by phone at (940) 565-4323.

Emergency Notification & Procedures

UNT uses a system called Eagle Alert to quickly notify students 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). In the event of a university closure, please refer to Blackboard 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 Blackboard online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their individual record; however, information about student's records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the University's policy. See UNT Policy 10.10, Records Management and Retention for additional information.

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. Visit UNT's [Code of Student Conduct](https://deanofstudents.unt.edu/conduct) (https://deanofstudents.unt.edu/conduct) to learn more.

Access to Information - Eagle Connect

Students' access point for business and academic services at UNT is located at: my.unt.edu. All official communication from the University will be delivered to a student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail [Eagle Connect](https://it.unt.edu/eagleconnect) (https://it.unt.edu/eagleconnect).

Student Evaluation Administration Dates

Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks 13, 14 and 15 of the long semesters to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey they will receive a confirmation email that the survey has been submitted. For additional information, please visit the [SPOT website](http://spot.unt.edu/) (http://spot.unt.edu/) or email spot@unt.edu.

Sexual Assault Prevention

UNT is committed to providing a safe learning environment free of all forms of sexual misconduct, including sexual harassment sexual assault, domestic violence, dating violence, and stalking. Federal laws (Title IX and the Violence Against Women Act) and UNT policies prohibit discrimination on the basis of sex, and therefore prohibit sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking, and/or sexual assault, there are campus resources available to provide support and assistance. UNT's Survivor Advocates can assist a student who has been impacted by violence by filing protective orders, completing crime victim's compensation applications, contacting professors for absences related to an assault, working with housing to facilitate a room change where appropriate, and connecting students to other resources available both on and off campus. The Survivor Advocates can be reached at SurvivorAdvocate@unt.edu or by calling the Dean of Students Office at 940-565- 2648. Additionally, alleged sexual misconduct can be non-confidentially reported to the Title IX Coordinator at oeo@unt.edu or at (940) 565 2759.

Important Notice for F-1 Students taking Distance Education Courses

Federal regulations state that students may apply only 3 fully-online semester credit hours (SCH) to the hours required for full-time status for [F-1 Visa \(DOC\)](#) holders. Full-time status for F-1 Visa students is 12 hours for undergraduates and 9 hours for graduate students.

Because the decision may have serious immigration consequences, if an F-1 student is unsure about his or her need to participate in an on-campus experiential component for this course, s/he should contact the UNT International Student and Scholar Services Office (telephone 940-565-2195 or email internationaladvising@unt.edu) to get clarification before the one-week deadline.

Student Verification

UNT takes measures to protect the integrity of educational credentials awarded to students enrolled in distance education courses by verifying student identity, protecting student privacy, and notifying students of any special meeting times/locations or additional charges associated with student identity verification in distance education courses.

See [UNT Policy 07-002 Student Identity Verification, Privacy, and Notification and Distance Education Courses](https://policy.unt.edu/policy/07-002) (<https://policy.unt.edu/policy/07-002>).

Use of Student Work

A student owns the copyright for all work (e.g. software, photographs, reports, presentations, and email postings) he or she creates within a class and the University is not entitled to use any student work without the student's permission unless all of the following criteria are met:

- The work is used only once.
- The work is not used in its entirety.
- Use of the work does not affect any potential profits from the work.
- The student is not identified.
- The work is identified as student work.

If the use of the work does not meet all of the above criteria, then the University office or department using the work must obtain the student's written permission.

Download the UNT System Permission, Waiver and Release Form

Transmission and Recording of Student Images in Electronically-Delivered Courses

1. No permission is needed from a student for his or her image or voice to be transmitted live via videoconference or streaming media, but all students should be informed when courses are to be conducted using either method of delivery.
2. In the event an instructor records student presentations, he or she must obtain permission from the student using a signed release in order to use the recording for future classes in accordance with the Use of Student-Created Work guidelines above.
3. Instructors who video-record their class lectures with the intention of re-using some or all of recordings for future class offerings must notify students on the course syllabus if students' images may appear on video. Instructors are also advised to provide accommodation for students who do not wish to appear in class recordings.

Example: This course employs lecture capture technology to record class sessions. Students may occasionally appear on video. The lecture recordings will be available to you for study purposes and may also be reused in future course offerings.

No notification is needed if only audio and slide capture is used or if the video only records the instructor's image. However, the instructor is encouraged to let students know the recordings will be available to them for study purposes.

