

CHEM 1410-006: General Chemistry 1

Dr. Alena Moon



Book online: *Chemistry, Atoms First*.
Link: <https://openstax.org/details/books/chemistry-atoms-first-2e>

Everything else in Canvas!



What's the point of this course? To learn fundamentals about matter!

Four big ideas:

1. All matter is made of atoms
2. Properties of matter can be explained by atomic and molecular structure and behavior
3. Changes in matter involve moving around particles
4. Changes in matter are driven by electrostatic forces and involve energy change

Two big practices:

1. Chemists use models to understand atoms, molecules, and their behavior
2. Chemists gather data and use theory to make arguments about atoms, molecules, and their behavior



Who am I?

Office: HH 152

Email: Alena.moon@unt.edu

Teams: Alena Moon

Drop-in hours: Friday, 12-2pm, but also

[Schedule a meeting with me!](#)

Research: I investigate how y'all (chemistry students) engage in the practices of chemistry and how you think about light and matter interacting.

Values/beliefs: 1. You all can succeed in chemistry learning

2. The background, experiences, and personalities that you bring to this class are important and valuable for learning



Who is your TA?

Office: CHEM 115

Email: Sophie.ntipouna@my.unt.edu

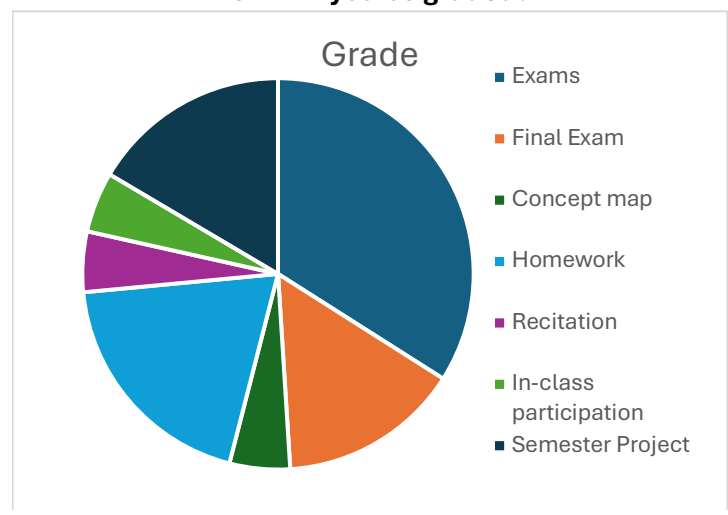
Teams: Sophie Ntipouna

Drop-in hours: Tuesday & Friday, 3-4pm, HH 154D

2nd year PhD student in Moon group, studies how you navigate uncertainty and feelings related to uncertainty!



How will you be graded?



How to succeed in this course?

1. Use resources. Come see me during drop-in hours or schedule other times with me.
2. Reach out to me/TA with questions, feedback, needs. Teams is the easiest way to contact us, email works too. If we do not respond, ping us again!
3. There is a chemistry resource room (CHEM 231) with more helpful humans!
4. Be honest with yourself, your peers, and us. Think about what you know, don't know, and need. This honesty makes the help actually useful.
5. Give this class an honest go. Show up and engage.

Details

Grades

Assignment	Point allotment	Points earned	Percent	Letter grade
4 Unit exams (85 pts each)	340	900-1000	90.0+	A
Final Exam	150	800-899	80.0+	B
Concept Map	50	700-799	70.0+	C
HW (15 pts each)	195	600-699	60.0+	D
Recitation	50	<600	<60.0	F
In-class participation	50			
Semester project	165			
Total	1000			

Unit exams: February 10, March 17, April 7, April 28

Each exam will be 85 points and have a combo of question format types. We will not have class on exam days.

You will take the exam in the digital testing center on exam day, which is open 8am-9:30pm. You must schedule a time to go in and take this exam. Here is how this will go: You will have 75 minutes. On the exam I will provide all necessary information (e.g., periodic table, equations, constants, etc.). This exam will be open physical notes, which means you can write out whatever information you think may be useful or helpful. This must be written out as physical notes (no phones, ipads, computers). After you complete the exam, you will turn these notes in. After the exam has closes, you can go pick up your notes. Please do not talk with your class buddies until after the exam has closed at 9:30pm. This exam provides important evidence to me about how you are thinking and learning in this course, which I aim to tailor my instruction to. Essentially, garbage in (the evidence you give me), garbage out (my instruction in response). Please just show me how you individually are thinking on this.

Final Exam: Thursday, May 7, 10 -12pm

This will be cumulative. Everything will operate the same typical unit exams, but you will have 120 minutes. I think it would probably be a good idea to build your physical notes for each unit exam, so you have something cumulative for the final. I use the final exam to offer me summative evidence of how this semester went. Again, please show me how you are individually thinking.

At the end of the semester, your lowest unit exam grade will be replaced with your final exam percentage if your final exam percentage is higher.

Concept Map: March 22, 11:59pm & May 3, 11:59pm

Making concept maps is *awesome* for your learning. You will have a page in the class notebook (on canvas, you may still need to log in with your unt creds). This page is a completely blank canvas that you are to fill with how you are thinking about what we are learning in class. Nodes (e.g., circles, squares, text boxes) represent ideas and lines (e.g., one-sided arrows, double-sided arrows, colored lines) represent relationships between ideas. Each week, you will add to your concept map the new content we are learning. Your TA and I will go in and leave feedback on Oct. 21. I promise this is the most helpful if you just add every week. There is no way that a concept map “should” look. It is completely unique to you.

Homework: Due *almost* every week on Sunday at 11:59pm.

Assignments will be posted on Canvas on Monday mornings and due the following Sunday. These will be posted as word documents. You will fill them out and upload them to Canvas. You can take pictures of your hand-written work and embed it in the word doc. But we will not work very hard to interpret your handwriting, so if you choose this method, be very legible. You definitely should work with your class buddies on this but just submit your own thing.

Recitation: Tuesdays, ENV 130, 2-2:50pm

These are going to be very active problem-solving sessions with lot of help. The TA and I will be there helping. Each week there will be a problem set. We will assign you to groups of 3. You will submit one problem set per group with the names of all group members at the top. The goal here is simply for you to get to practice and seek help while you do it.

Course Project: Components will be due at periodic time points by Wednesday at 11:59pm

The objective of this project is to explore chemistry that is relevant to your community (which you get to define!). I want this to be an opportunity to a) be creative, b) share with you peers about your community, and c) understand the relevance of chemistry to things that you care about. This will be scaffolded throughout the semester to prevent procrastination and make the workload more manageable. For this project, you will pick a topic that is relevant to your community (this relevance is determined by you), do some research on the chemistry of that topic (we will talk about how to do good research!), and you will generate a presentation on this topic. The nature of this presentation is completely up to you! It could be a poem, a tiktok-style video, or a powerpoint presentation, to name just a few. This will be broken down into 4 separate assignments. First, there will be a discussion board post in which you as a class will explore topics. Second, you will submit to me a justification for the topic that you select and its relevance to your community. Third, you will present a boring synthesis of your research—this will involve justifying the credibility of your sources and a brief description of the findings from them. After this step, you will review peers so that you all can collectively decide on the quality of sources and make recommendations for further research. Finally, you will upload the fun presentation of your research. After this, you will also review and ask questions about your peers' work.

In-class participation: Every class period, T/Th, 11-12:20, ENV 110

We will use iclickers. Download the app and respond to questions in class. These questions are just for me to get insight into how you are thinking during class. Responding to them, or checking in on iclicker, signals to me that you were in class.

Regarding attendance, You will earn all 50 points with no more than 4 absences, 40 points with no more than 7 absences, 30 points with no more than 10 absences, 20 points with no more than 13 absences, 10 points with no more than 15 absences, and 0 points for more than 15 absences.

Other policies

Accommodation

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.

My take: It is literally my job to teach you. Please, please, please communicate your needs to ODA and myself so I can do this effectively.

Success

UNT strives to offer you a high-quality education and a supportive environment, so you learn and grow. As a faculty member, I am committed to helping you be successful as a student. To learn more about campus resources and information on how you can be successful at UNT, go to unt.edu/success and explore unt.edu/wellness. To get all your enrollment and student financial-related questions answered, go to scrappysays.unt.edu.

Attendance

Research has shown that students who attend class are more likely to be successful. You should attend every class unless you have a university excused absence such as active military service, a religious holy day, or an official university function as stated in the [Student Attendance and Authorized Absences Policy \(PDF\)](https://policy.unt.edu/policy/06-039) (<https://policy.unt.edu/policy/06-039>). If you cannot attend a class due to an emergency, please let me know. Your safety and well-being are important to me. You will be provided a make-up option for excused absences. My plan is to tailor these make-up options to your specific needs. So all I need from you is to give me a heads up so we can coordinate about it.

In the case of emergency, I will post an announcement on Canvas indicating whether we do a remote lecture or cancel class. UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather)

Academic Integrity

According to [UNT Policy 06.003](#), Student Academic Integrity, academic dishonest 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. Any assignment on which you cheat, fabricate, facilitate academic dishonesty, forge, plagiarize, or sabotage, will earn a score of 0, no wiggle room.

My take: There are so many great resources out there (including Gen AI, your peers, the internet) to *support* your learning. When they replace your learning by erasing or eliminating your contribution, processing, and thinking, they become tools that impede your learning. Given the availability of information and knowledge, the key ability of yours that I aim to support in this class is your critical evaluation. *For me to do that, you must show me your critical evaluation.*

Class Values

- Base claims on evidence

- Be kind and respectful
- Keep bags out of the walkways
- When you arrive, scootch to the middle as much as you are able
- Eat/drink quietly
- Honor 10-minute break between lecture and recitation on Tuesdays
- Encourage participation/be inclusive

Schedule (so tentative!)

	Tuesday	Wednesday	Thursday	Weekend
1/12-1/16	Welcome!		Nature of matter (ch.1)	
1/19-1/23	Scientific measurement (ch.1)		The atom (ch.2)	HW #1, concept map
1/26-1/30	The periodic table (ch. 2/3)	Topic discussion	Intro to quantum (ch.3)	HW #2, concept map
2/2-2/6	Quantum model of atom (ch.3)		Putting it all together	HW #3, concept map
2/9-2/13	Exam 1		Periodic trends (ch.3)	HW #4, concept map
2/16-2/20	More periodic trends (ch.3)	Topic selection	Types of compounds (ch.3)	HW #5, concept map
2/23-2/27	Molecules (ch.4)	Do research on your topic during this time!	Molecules (ch.4)	HW #6, concept map
3/2-3/6	Molecules (ch.4)		Molecules (ch.4)	HW #7, concept map
3/9-3/13 Spring break				
3/16-3/20	Exam 2		Bonding theory (ch.5)	HW #8, concept map DUE
3/23-3/27	Bonding theory (ch. 5)	Boring research	Chemical reactions (ch. 7)	HW #9, concept map
3/30-4/3	Stoichiometry (ch. 7)	Peer Review	Stoichiometry (ch. 7)	HW #10, concept map
4/6-4/10	Exam 3		Reactions in water	HW #11, concept map
4/13-4/17	Reactions in water		Energy (ch. 9)	HW #12, concept map
4/20-4/24	Energy (ch. 9)	Full presentation	Gases (ch. 8)	HW #13, concept map
4/27-5/1	Exam 4	Peer review	Review	Final concept map due
5/4-5/8			FINAL EXAM 10:00-12:00p	