THE UNIVERSITY OF TENNESSEE KNOXVILLE

BIG ORANGE. BIG IDEAS.

Chemistry 122, General Chemistry I, Spring 2024
Dr. Douglas A. Stuart

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Office Hours: 11:00 AM – noon (T, Th), **and** by appointment

Review Day: Weds 1:00-2:00 PM

Course TA : Evan Holt (evajholt)

Supplemental Instruction:

Lecture: MWF 10:20–11:10 AM Buehler Hall 555

Exams: Tuesday evenings 7:00 – 9:00 Locations TBA
Exam 1 Tuesday 13 February, Exam 2 Tuesday 5 March, Exam 3 Tuesday 16 April

Final Exam: Monday 9th May at 10:30-12:30 AM, Location TBA

Course Description: First course in a two-semester sequence covering fundamental principles of chemistry. Topics covered include atomic structure, the periodic table, Molecular bonding and structure, Chemical Stoichiometry, basic of thermochemistry, and properties of gases.

COVID-19 PROCEDURES – "We will follow the university policy for COVID-19 at all times."

Textbook: Zumdahl and Zumdahl, Chemistry: An Atom First Approach 3rd Edition, (ISBN 978-1-305-07924-3). Publisher: Cengage. A package of the digital format of the textbook and online homework materials is provided through the ***Inclusive Access program***. OWLv2 and the e-text are included with your Inclusive Access purchase. There will be an optional loose-leaf textbook available in the VolShop for $25.00. You do *not* need to purchase a hard copy unless you wish to.

Canvas: Class announcements, lecture notes, course documents, and grades will be posted on Canvas (utk.instructure.com). Students are responsible for monitoring their UTK e-mail account and the course site.

Learning Environment. This is an in person course, which means you must travel to campus to successfully complete the course. You will participate both in-person and online. Your central online resource for this course is Canvas (utk.instructure.com), the University of Tennessee's Learning

Management System. Canvas and Zoom resources are available for students unfamiliar with these environments. Class announcements, lecture notes, and other course documents will be posted here.

Instructor Expectations:

- Be prepared for all classes
  - Watch your videos, read your book, do your homework.
- Be respectful of others
- Actively contribute to the learning activities
- Abide by the UT Honor Code
- Cheating of any kind will NOT be tolerated in this class!
  - (Current department regulations are an F in course for cheating on the final, and an F on any other single assignment/ exam)

Lectures: Attendance in the lectures is mandatory if you want points for Attendance. This will be checked utilizing the turning point mobile app. The zoom room for lectures is found here: https://tennessee.zoom.us/j/93630630092. If you cannot make it to lecture, you may watch it asynchronously. However, you may not be able to earn attendance points to the day. I will be teaching this as a **flipped class**. What that means is that the *information* delivery will be done asynchronously by video. This gives you the chance to stop, rewind, take notes, etc. In "**class**" we will go over worksheets, work problems, interact, ask questions, AND take clicker quizzes (see below). This means that you MUST watch the required video and do the accompanying reading **before** class to keep up. You may be locked out of certain assignments if you do not complete the pre-requisite material. If you miss class, a test, or have clicker issues, please fill out the "Absence and Missing Work" form in Module 1. There is also a Grade Calculator in Module 1 that will give a better metric of your performance than Canvas.

Attendance and Clickers (5% of the grade): Attendance of lectures is counted as part of your grade. I will check attendance with clickers during lectures. Attendance will be monitored by the use of the PointSolution (aka TurningPoint) Mobile App from the OIT website (https://oit.utk.edu/teachingtools/clickers/). Clickers will scored for correctness, not just completeion, and the average will be used in the overall grade. You do **not** need to purchase a physical clicker since you can use a laptop or your mobile device as a clicker. Please register your clicker online (https://oit.utk.edu/teachingtools/clickers/). There are no make-up points for clickers. Check point quizzes (via Canvas) will count in this category. Any other activities or assignments that are not regular HW or quizzes will be counted in this category.

Quizzes (15% of the grade): We will be having announced quizzes online via OWLv2. These quizzes will cover material from lecture notes, homework, workshops, and reviews. These will count for 15% of your final grade. No makeup quizzes are given. You will be given one no-questions-asked lowest grade drops to account for technical issues, etc. I strongly suggest using a wired university owned computer such as those in the library. Standard rules for excused absences apply, and your Quiz can be moved to another date.

Exams (45% of the grade): There will be three (3) 90 minute exams that count for 45% of your grade. If you miss one of the three exams for an extenuating circumstance (please see '*Hilltopics*' for what qualifies as an extenuating circumstance), then the final exam will count as the excused exam grade. An excused or missed exam or absence will only be considered with the support of written documentation. The re-grading of an exam must be requested within 5 school days of receiving the graded exam. To request a regrade, e-mail with your name and a brief description of what the issue is to your exam and turn it into me. With regrades, the entire exam will be regraded. The re-grading of an exam must be requested within one week of receiving the graded exam. Students making below a C- on an exam will be *required* to do the Adaptive Study Plan homework in preparation for the next exam.

Cheating of any kind will NOT be tolerated. Cheating on an exam can lead to a 0 on the exam and you forfeit the fact that your lowest exam grade maybe replaced by the final exam grade if that is higher. Cheating on the final exam will result in an F for the course, no matter your standing in the course.

Final (20% of the grade): The final exam will be comprehensive and will count for 20% of the final grade. The exam will be given on ***Monday December 11th at 1:00 PM.*** You must take the final exam in order to receive a grade in the class. If the final exam is a higher grade than the lowest exam grade, then the final exam grade will replace the lowest exam grade *as long as all three regular exams are taken*. There will be a make-up final in the event of an excused absence such as a medical emergency. Students unable to neither the final nor the makeup may arrange to have an "I" incomplete grade registered.

Calculators: You will be only be allowed to use a **scientific non-programmable non-graphing calculator** (for example TI 30 or similar (my personal recommendation is the TI-36x pro)) for your quizzes and exams. You may bring any calculator to lab or discussion. ***NO GRAPHING CALCULATORS for exams!***

Online Homework (15% of the grade): We will be using OWLv2 electronic homework system. Online homework counts for 15% of the final grade, and no credit will be given after the due date. To access your course materials, you must first login to your Canvas account and click the link for Chem 122 course. Please use your vols account to login. If you see a message saying "you already have an account", then click "forgot password" and reset your account. If you are still having problems then email Ms. Jennifer McCown, Jennifer.mccown@cengage.com. Once you get access to the online homework course, you will do the following assignments:

(1) Four short introduction assignments (these are extra credit in HW)
(2) Math review assignment
(3) Quick Prep assignment

These assignments will introduce you to OWLv2 system, and prepare you for the course. Finish these assignments as early as possible so you can focus on the course material we will cover.

You will have four types of homework assignments for each chapter. They are described in the following table. There are four types of assignments for each chapter. Two are graded and the other two are for practice only. Do the Mastery FIRST, *then* the EoC.

Assignment Type	Grade	# of Attempts Given	Description	Best Time To Do the Assignment
Mastery	Graded	10	Single concept questions, comes with group (3 questions per group). Need to answer 2 out of 3 correctly to get credit	After the concept is covered in each lecture. Don't wait until the chapter is finished and too many concepts are covered.
EOC (End of Chapter)	Graded	6	Multi-concept questions, applications	**After Mastery** assignments and after the chapter is finished.
Multimedia Activity	Not Graded		Short videos, simulations	Before lecture, get some ideas what will be covered in lecture
Adaptive Study Plan	Not Graded		Test and Study plan based on your test results	After the chapter is finished, prep for exams

Extra Help!! Don't wait until it's too late!

Chemistry Learning Center Tas will be assigned to both in-person (Buehler 513) and virtual learning center hours. The schedule will be posted on canvas. This is a FREE resource, staffed by Graduate TA's from the chemistry department Monday to Friday.

Supplemental Instruction is offered for this course. It is a service provided free to students and is lead by a student who has already mastered the course material and has been trained to facilitate group sessions. For more information please visit (https://studentsuccess.utk.edu/support/supplemental)

Academic Success Center: A one stop location to get one on one tutoring help, assistance in study techniques and methods, and general "how do I get through college" stuff.
https://studentsuccess.utk.edu/academicsuccess/

Disability Services: If you need course adaptations or accommodations because of a documented disability, or if you have emergency information to share, please contact Student Disability Services at 100 Dunford Hall, phone 974-6087 or use http://sds.utk.edu. This will ensure that you are properly registered for services.

ACADEMIC DISHONESTY: University of Tennessee Honor Code:

> *"An essential feature of The University of Tennessee is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the University, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity."*

This long, wordy, quotation boils down to two simple words…don't cheat. Academic dishonesty takes on several forms including: copying or sharing answers on tests or assignments, using someone else's lab data, changing answers prior to a re-grade, plagiarism, having someone else do your academic work, and letting someone else copy your work. Depending on the act, a student could receive a grade of "0" on the assignment, a grade of "F" for the course, and be suspended or expelled from the University. It is also considered violating the honor code if you upload copyrighted materials (lecture notes, assessment questions) to online platforms such as Chegg, Studyblue, CorseHero etc. Depending on the act, a student could receive a grade of "0" on the assignment, a grade of "F" for the course, and be suspended or expelled from the University. Please do not make me go through this painful process of reporting academic dishonesty. We have a ZERO tolerance policy on cheating!

AI Policy: Not permitted in this course. In this course, it is expected that all submitted work is produced by the students themselves, whether individually or collaboratively. Students must not seek the assistance of Generative AI Tools like ChatGPT. Use of a Generative AI Tool to complete an assignment constitutes academic dishonesty.

Grades:

Weights	
3 Exams (@15% each)	45%
Online HW	15%
Quizzes	15%
Participation (clicker/ attendance)	5%
Final Exam (comprehensive)	20%

Grade Scale	
A	94-100
A-	88.0-93.9
B+	84.0-87.9
B	80.0-83.9
B-	76.0-79.9
C+	72.0-75.9
C	68.0-71.9
C-	64-67.9
D+	60.0-63.9
D	56.0-59.9
D-	52.0-55.9
F	0-51.9

Grading Scale:

These are minimum thresholds. I reserve the right to go lower (e.g. make a 89 an A-), but will not make it harder to reach a grade.

The instructor reserves the right to make changes in the syllabus when necessary to meet learning objectives, to compensate for missed classes or similar reasons. These changes will be announced during class and over canvas.

Central Learning Objectives for Chem 120

1. Learn the terminology (language) of chemistry, including chemical symbols, chemical formulas, nomenclature, and chemical equations.
2. Learn the basics of the properties of matter, measurement and uncertainty.
3. Gain an understanding of atomic structure and the formation of molecules, ions, and compounds.
4. Understand the stoichiometry in chemical equations, and be able to apply it to quantitatively predict and analyze the chemical reactions.
5. Obtain a good understanding of electronic structure of atoms, the organization and information conveyed by the periodic table of the elements
6. Acquire a thorough introduction to basic concepts of chemical bonding and modern bonding theories; be able to predict shapes of molecules and ions.
7. Develop analytic reasoning and mathematical problem-solving skills.

Tentative! Schedule of the Course

Week	Day	Date	Covers	IC WS	Watch	Read	Assignments	HW
1	M	22-Jan	No Class, Snow Day					
	W	24-Jan	Syllabus/ Roll					
	F	26-Jan	Intro Material			Chapter R		
2	M	29-Jan	R	1a	1	1.1-1.3		
	W	31-Jan	1	1b		1.4-7	Syllabus Quiz	
	F	2-Feb	1	1c				
3	M	5-Feb	Review Ch 1				Quiz 1 (Ch 1)	Ch R&1
	W	7-Feb	2	2a	2A	2.1-2.6		
	F	9-Feb	2	2b	2B	2.7-2.6		
4	M	12-Feb	Review Ch R-2					
	Tues	13-Feb					**EXAM 1**	
	W	14-Feb	2	2c	2c	2.10-2.13		
	F	16-Feb	Review Ch2				Quiz 2 (Ch 2)	Ch2
5	M	19-Feb	3	3a	3A	3.1-3.4		
	W	21-Feb	3	3b	3B	3.4-3.8		
	F	23-Feb	3			3.9-3.12	Quiz 3 (Ch 3)	Ch 3
6	M	26-Feb	Review Ch 3					
	W	28-Feb	4	4a	4A	4.1-4.3		
	F	1-Mar	4	4b	4B	4.4-4.7		
7	M	4-Mar	Review for Exam 2				Quiz 4 (VSPR & Polarity)	
	T	5-Mar					**EXAM 2**	
	W	6-Mar	4	4b	4B	4.4-4.7	Quizes 5 (VSPR and MO)	Ch 4
	F	8-Mar	4	4c				
8	M	11-Mar	Practice Ch 4					
	W	13-Mar	Review Ch 4					
	F	15-Mar	5	5a	5A	5.1-5.5		
9	M	18-Mar	5					
	W	20-Mar	5	5b	5B	5.6-5.11		
	F	22-Mar	5					
10	M	25-Mar	Practice Ch 5					
	W	27-Mar	Practice Ch 5					
	F	29-Mar	Review Ch 5					
11	M	1-Apr	6	6a	6A	6.1-6.4	Quiz 6 (Ch 5)	Ch 5

	W	3-Apr						
	F	5-Apr	6	6b	6B	6.5-6.10		
10	M	8-Apr	Practice Ch 6					
	W	10-Apr	Review Ch 6					
	F	12-Apr						
11	M	15-Apr	Exam 3 Review					Ch 6
	Tues	16-Apr					**EXAM 3**	
	W	17-Apr	7	7a	7A	7.1-7.3		
	F	19-Apr						
12	M	22-Apr	7	7b	7B	7.4-7.7		
	W	24-Apr	Review Ch 7					
	F	26-Apr	8	8a	8A	8.1-8.5	Quiz 7	CH 7
13	M	29-Apr						
	W	1-May	8	8b	8B	8.6-8.10		
	F	3-May	Review Ch 8					
14	M	6-May	REVIEW DAY : Bring Questions!				Quiz 8	Ch 8
	W	8-May	No Class, Study Day					
	F	**9-May**	**FINAL EXAM 10:30 am**					