

Chemistry 132, General Chemistry II, Spring 2024 CRN 35519 Dr. Joshua Mandir jmandir@utk.edu

Lecture: TuTh 2:30 PM – 3:45 AM Buehler Hall 555

Office: 416 Buehler Hall

Office Hours: Tuesdays 10:00 AM – 11:00 AM Thursdays 1:15 PM – 2:15 PM Mondays 1:00 PM – 3:00 PM in Strong Hall 308

or by appointment, please send me an email to schedule an appointment.

Email: <u>imandir@utk.edu</u> Given the amount of email I receive, you must include a subject that <u>is</u> <u>informative and your name with course number</u>. Please don't hesitate to email me with updates, questions, or concerns. I will respond to all emails usually in no more than 24 hours.

Lecture TA: Brandon Sanders, bsande21@vols.utk.edu

Course Description: A general course in theoretical and descriptive chemistry. Intermolecular forces, kinetics, chemical equilibria, acid and base chemistry, thermodynamics, electrochemistry, and introduction to coordination chemistry.

Textbook: Zumdahl and Zumdahl, *Chemistry: An Atom First Approach 3rd Edition*, (ISBN 9798214192451). 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.

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

<u>Clicker:</u> A clicker is required for the course. There will be clicker questions in many lectures. I will count the clickers two different ways: 1) Attendance 2) As participation points. All questions will be worth 2 points for the correct answer and 1 point for the incorrect answer. 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 (<u>https://oit.utk.edu/teachingtools/clickers/</u>). There are no make-up points for clickers. You do not need a physical clicker, there is an app for your phone.

<u>Technical Support</u>: For technical issues, contact the OIT HelpDesk by phone at (865) 974-9900 or at the <u>Walk-in HelpDesk</u>. For IT and Computing issues, use the online <u>Contact Form</u>

I expect from you the following:

- Be prepared for all classes
- Be respectful of others
- Actively contribute to the learning activities in class
- Abide by the UT Honor Code

Grading:

Three exams:	45% (Exam 1: 15%; Exam 2: 15%; Exam 3: 15%)
Online Homework assignments	15%
Quizzes	15%
Participation (Clicker & Attendance)	5%
Final Exam (comprehensive)	20%

Grading Scale:

- 94 and above: A
- 88.0 93.9 A-
- 84.0 87.9 B+
- 80.0 83.9 B
- 76.0 79.9 B-
- 72.0 75.9 C+
- 68.0 71.9 C
- 64.0 67.9 C-
- 60.0 63.9 D+
- 56.0 59.9 D
- 52.0 55.9 D-
- 51.9 and below F

Note: These letter grade assignments are subject to change, but only in the direction beneficial to the students.

Exams: There will be three (3) 90-minute regular exams and one (1) two-hour Final exam. No make-up exams will be given. If one of the three exams is missed due to excused absence, then the final exam will count as the excused exam grade. An excused of 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. All regular exams will be scanned and uploaded to Canvas after being graded. To request a re-grade, e-mail a detailed explanation of what should be re-graded. With regrades, the entire exam will be regraded. The final exam will be comprehensive and will count for 20% of the final grade and will be given during final exam week. Every student is required to take a comprehensive final exam during the scheduled exam period. *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 3 regular exams are taken.*

Always bring your student ID to all lectures, and exams. Keep your cell phone off during lectures, and exams.

Exam Schedule (All dates are tentative, all exams will be during normal class times in Buehler Hall 555)

Exam 1: Tuesday, February 13th, 7:00 PM – 9:00 PM Exam 2: Tuesday, March 5th, 7:00 PM – 9:00 PM Exam 3: Tuesday, April 16th, 7:00 PM – 9:00 PM Final Exam: Friday, May 10th, 10:30 AM – 12:45 PM

<u>Quizzes:</u> We will be having announced OWLv2 quizzes online. These quizzes will cover material from lecture notes, workshops, and reviews. These will count for 15% of your final grade. No makeup quizzes are given. If you miss a quiz due to a university approved excuse you will need to present official documentation to me; the missed quiz will be left out of your grade and the remaining quizzes will be used. The lowest quiz grade will be dropped at the end of the semester.

<u>Online Homework:</u> 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, <u>Jennifer.mccown@cengage.com</u>. We will be using OWLv2 electronic homework system. Once you get access to the online homework course, you will do the following assignments:

- (1) Four short introduction assignments
- (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.

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

Extra Help: In addition to my office hours, two other resources are available for you:

- 1) TAs will have office hours that will be announced during the first week of class.
- 2) There is drop-in help at the Chemistry Tutorial Centers (Buehler Hall 513, Strong Hall 303, and Zoom), with hours to be announced on Canvas. It's free and staffed by Graduate Teaching Assistants.
- Student Success Center. A supplemental Instruction (SI) is also free for all the students who want to improve their understanding of the course content. For more information please see https://studentsuccess.utk.edu
- 4) Use the textbook resources: OWLv2 has the textbook, videos, and extra assignments that are not due that are intended to help you learn the assignments.

<u>Calculator policy</u>: Non-programmable scientific calculators such as TI 30 are allowed. No graphing calculators. Bring a calculator to lecture, and exam.

<u>ACADEMIC DISHONESTY</u>: An act of academic dishonesty may lead to such penalties as reduction of grade, probation, suspension, or expulsion from the University. I reserve the right to assign a grade of zero for actions involving violations of the following 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."

IN summary, this course has a zero tolerance policy on cheating. Individual cases will be prosecuted to the full extent possible.

<u>Generative AI Tools</u>: In this course, it is expected that all submitted work is produced by the students themselves. 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.

Disability Services: please contact the Office of Disability Services (ODS) at 2227 Dunford Hall, phone 974-6087 or use http://ods.utk.edu, if you require course adaptations or accommodations due to a disability, or if you have emergency information to share. The disability must be documented. ODS will work with the students and the faculty to coordinate reasonable accommodations for students with documented disabilities.

Learning Objectives for General Chemistry 132:

- 1. Learn the fundamentals of liquids, and intermolecular forces.
- 2. Become familiar with reactions in aqueous solution, expressions of solution concentration, and properties of solutions.
- 3. Learn the fundamentals of chemical kinetics, including basic reaction mechanisms.
- 4. Acquire a thorough understanding of chemical equilibrium, including acid-base equilibrium and aqueous solubility equilibria, and become competent in the related calculations.
- 5. Obtain knowledge of the basics of chemical thermodynamics, including the concepts of enthalpy, entropy, and free energy.
- 6. Learn the basics of electrochemistry.
- 7. Have a good understanding of transition metals and their basic coordination chemistry.
- 8. Develop analytical reasoning and mathematical problem solving skills in chemistry.

Week	Day	Lecture	Homework	Quizzes/Exams	
1	1/23	Intro/Ch. 9			
	1/25	Chapter 9			
2	1/30	Chapter 10			
	2/1	Chapter 10	Ch. 9 due 2/1	Quiz 1 (Ch. 9) on 2/2	
3	2/6	Chapter 11	EC due 2/7		
	2/8	Chapter 11	Ch. 10 due 2/8	Quiz 2 (Ch. 10) on 2/9	
4	2/13	Chapter 11		Exam 1 (Ch. 9-10) 2/13	
	2/15	Chapter 11			
5	2/20	Chapter 12	Ch. 11a due 2/20		
	2/22	Chapter 12	Ch. 11b due 2/22	Quiz 3 (Ch. 11) on 2/23	
6	2/27	Chapter 12			
	2/29	Chapter 13	Ch. 12 due 2/29	Quiz 4 (Ch. 12) on 3/1	
7	3/5	Chapter 13		Exam 2 (Ch. 11-12) 3/5	
	3/7	Chapter 13			
	3/12	Spring Brook			
	3/14				
8	3/19	Chapter 14	Ch. 13a due 3/19		
0	3/21	Chapter 14			
0	3/26	Chapter 14	Ch. 13b due 3/26		
	3/28		Spring Recess		
10	4/2	Chapter 15	Ch. 14a due 4/2		
	4/4	Chapter 15	Ch. 14b due 4/4	Quiz 5 (Ch. 13) on 4/5	
11	4/9	Chapter 16			
	4/11	Chapter 16	Ch. 15 due 4/11	Quiz 6 (Ch. 14) on 4/12	
12	4/16	Chapter 16		Exam 3 (Ch. 13-15) 4/16	
	4/18	Chapter 17			
13	4/23	Chapter 17	Ch. 16a due 4/23		
	4/25	Chapter 17	Ch. 16b due 4/25	Quiz 7 (Ch. 16) on 4/26	
14	4/30	Chapter 20	Ch. 17a due 4/30		
	5/2	Chapter 20	Ch. 17b due 5/2		
15	5/7	Ch. 20/Review	Ch. 20 due 5/7	Quiz 8 (Ch. 17) on 5/7	
	5/10	F	inal Exam - 10:30 A	М - 12:45 РМ	

Chem 132 Tentative Schedule

The instructor reserves the right to revise, alter, or amend this syllabus as necessary. Students will be notified in writing / email of any such changes.