THE UNIVERSITY OF TENNESSEE KNOXVILLE

BIG ORANGE. BIG IDEAS.

Chemistry 132 - 003, General Chemistry II, Fall 2024

Dr. Nahla A. Hatab

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Lectures:
8:10 – 9:25 AM (TR) Buehler Hall 555

Office: 305 Strong Hall

Office Hours: 9:30 – 12:00 PM (M), 12:30 – 2:30 PM (W), or by appointment, please send me an email to schedule an appointment.

Email: nabuhata@utk.edu. Given the massive amount of email I receive, you must include a subject that is informative and *your name with course number*. 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: Cynthiya Shrestha, cshresth@vols.utk.edu.

Textbook: Zumdahl/Zumdahl/DeCoste's Chemistry: An Atoms 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 $31.25 for any student in the Inclusive Access Program. 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.

Clicker: 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, 0 point for the incorrect answer, and 2 points for attending lecture. 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.

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

Course Description: Second course in a two-semester sequence covering quantitative treatment of concentrations, acid base chemistry and equilibrium, fundamentals of kinetics, chemical thermodynamics, and electrochemistry.

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 minutes evening exams and one (1) two hours Final exam. The three exams will be given on the selected days (see below) at 7:00 – 8:30 pm. The final exam will be given during the final exam period. No make-up exams will be given. If one of the three exams is missed due to excused absence, then the other two exams plus the final exam average 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 University's Absence Notification Form alone is not sufficient for an exam absence. **The re-grading of an exam** must be requested within 5 school days of receiving the graded exam. To request a regrade, you will need to staple the regrade form (found online) 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 final exam will be comprehensive and will count for 20% of the final grade and will be given during final exam week. The room will be announced later in the semester via Canvas and email. Every student is required to take a comprehensive final exam during the schedule exam period. *If the final exam grade 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.* **A physical copy of an ID (Student ID, Driver's License, etc.) is required for the exam.** *Cell phones are not allowed before, during, and after exams.*

Exam Schedule (All locations are TBA)

Exam 1: Tuesday September 17th from 7:00-8:30 pm

Exam 2: Tuesday October 15th from 7:00-8:30 pm

Exam 3: Tuesday November 12th from 7:00-8:30 pm

Final Exam: Thursday December 5th from 1:00-3:15 pm

Quizzes: 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 two quizzes grade will be dropped at the end of the semester.

Online Homework: 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 132 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. 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) 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 Type	Grade	Given Attempts	Description	Best Time to Do the Assignment

Prerequisite Math Review	Graded	10	Math skills required for the chapter	Before Mastery. Review for math required for the concept. *You can't do the Mastery or EOC until you earn 60% in the Math Review 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 result	After chapter is finished, 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. All TA office hours will be in the Chemistry Learning Centers (Buehler 513 & Strong Hall 303). It's free and staffed by Graduate teaching assistants from Monday to Friday.

2) Student Success Center. A supplemental Instruction (SI) is also free for all the students who who want to improve their understanding of the course content. For more information please see https://studentsuccess.utk.edu

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

ACADEMIC DISHONESTY: 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.

Generative AI Tools: 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 Student Disability Services (SDS) at 1534 White Avenue, phone 974-6087 or use http://sds.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. SDS 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.

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

Week	**Lecture (TR)**	**Workshop/Exams**
August 19 – August 23	CHEM 122 Review and Chapter 9 (9.1,2,3,4)	CHEM 122 Review Workshop
August 26 – August 30	Chapter 9 and 10	Chapter 9 Workshop
September 2 – September 6 No Class 9/2	Chapter 10 and 11	Chapter 10 Workshop
September 9 – September 13	Chapter 11	Chapter 11 Workshop

September 16 – September 20	Chapter 11 and 12	Chapter 11 Workshop **Exam 1 (9/17: 7:00-8:30 pm)**
September 23 – September 27	Chapter 12	Chapter 12 Workshop
September 30 – October 4	Chapter 12 and 13	Chapter 13 Workshop
October 7 – October 11 No Class 10/8 Fall Break	Chapter 13	Chapter 13 Workshop
October 14 – October 18	Chapter 13 and 14	**Exam 2 (10/15: 7:00-8:30 pm)** Chapter 14 Workshop
October 21 – October 25	Chapter 14 and 15 (15.1-2)	Chapter 14 Workshop
October 28 – November 1	Chapter 15	Chapter 15 Workshop
November 4 – November 8 No Class 11/5 Election Day	Chapter 16	Chapter 16 Workshop
November 11 – November 15	Chapter 16 and 17	Chapter 17 Workshop **Exam 3 (11/12: 7:00-8:30)**
November 18 – November 22	Chapter 17	Chapter 20 Workshops
November 25 – November 29 No Class 11/27 – 11/29	Chapter 20	Chapter 8 Workshop
December 2 – December 6 Study day (12/4)	Chapter 20 and Review	Chapter 20 Workshop **Final Exam (Friday 12/5: 1:00-3:15 PM)**

Each Chapter Coverage:

Chapter 9 – Sections 1, 2, 3, and 4

Chapter 10 – All sections

Chapter 11 – All sections

Chapter 12 – All sections

Chapter 13 – All sections

Chapter 14 – Sections 1-4 and 5 (just introduction of A/B indicator

Chapter 15 – Sections 1 and 2

Chapter 16 – All sections

Chapter 17 – Sections 1 – 5

Chapter 20 – Sections 1, 3, and 4

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.