

CHEM 102 Section 001

Fall 2025

Dr. Heather M. Boyd

Email: hbass1@vols.utk.edu

Office Hours: 9:00 – 10:00 am on MW and 11:00 am – 1:00 pm on TR in Bu 516
or you may email me to schedule a one-on-one appointment for another time

Lecture: 2:30 – 3:45 pm on TR in SRF 307

Textbook/Online Homework:

- **Textbook/Online Homework:** Bettelheim et al. *Introduction to General, Organic, and Biochemistry, 12th Edition*. OWLv2 online homework systems is **required** for this course. With your purchase of OWLv2 you receive a built-in electronic copy of the textbook. This means that you do not need to purchase a hard copy of the textbook unless you wish to. **OWLv2 and the e-text are included with your Total Access program.**
-

Grading

Exams (3)	45% (15% each)
Quizzes	15%
Online Homework	15%
Participation (Clicker)	5%
Final Exam	20%
Total	100%

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

• 93.0 and above	A	• 68.0 – 71.9	C
• 88.0 – 92.9	A-	• 64.0 – 67.9	C-
• 84.0 – 87.9	B+	• 60.0 – 63.9	D+
• 80.0 – 83.9	B	• 56.0 – 59.9	D
• 76.0 – 79.9	B-	• 52.0 – 55.9	D-
• 72.0 – 75.9	C+	• Below 51.9	F

Participation: We will have clicker questions during lectures for participation points. You may use a clicker device or you may use the Turning Technology clicker app on your phone. ***Clicker questions will start counting towards your participation grade starting Tuesday, August 26th.*** Each clicker question will be worth two points. For each correct answer, you will receive ALL two points. For an incorrect answer, you will receive one point. If you earn half of the day's points, then you will receive full participation for the day.

****If you miss a lecture due to illness or personal emergency then you can receive participation credit by submitting a written, verifiable excuse to me. I must receive this excuse within 36 hrs after your absence or you will not receive credit for the absence.****

Clicker Registration: You will need to register your **license** and **clicker app** with PointSolutions (Echo 360). You will also need to register your app/device on Canvas. Please use the link on Canvas under the module labeled "Clickers" to complete this registration process. If you registered your license and clicker app with PointSolutions AND Canvas before then you do not need to re-register your device this semester.

Homework: We will be using OWLv2 electronic homework systems. Homework can be accessed on Canvas under "Modules" "OWLv2 Homework" "CHEM102_Sec 1_Boyd_Fall 2025." Homework assignments are due at 11:55 pm on Sundays. Due dates for ALL assignments can be found in the exam, quiz, and homework calendar that is posted on Canvas under the "Getting Started" module, as well as on the course calendar on Canvas and on OWLv2 itself. Each homework set is comprised of a set of mastery assignments with three questions apiece. ***You just need to answer 2 of the 3 mastery questions correctly to master a group. For each mastery group, you get 10 attempts.*** Late homework is not accepted unless it is due to an extenuating circumstance and proper documentation is provided within 36 hrs of the missed assignment. The University's Absence Notification Form alone is NOT sufficient for accepting late homework.

Exams: There will be three (3) 90-minute exams and one (1) 2-hour final exam. The first 3 exams will be given ***on the selected days (see below) from 7:00 – 8:30 pm***, while the final exam will be given during the allotted final exam period. No makeup exams will be given. If one of the three exams is missed due to an excused absence, then the other two exams plus the final exam average will count as the excused exam grade. An exam will only be excused if I am emailed as soon as you know you will be missing the exam, and I am provided with proper support documentation within 36 hrs of the exam's finish time. The University's Absence Notification Form alone is NOT sufficient for an excused exam. Every student is required to take the cumulative final exam at the end of the term during the scheduled exam period. If the final exam is missed, then that student will receive an incomplete in the course. ******ALL EXAM LOCATIONS ARE TBD******

Exam Schedule

Exam 1	Tuesday, September 23 rd	7:00 – 8:30 pm
Exam 2	Tuesday, October 21 st	7:00 – 8:30 pm
Exam 3	Tuesday, November 18 th	7:00 – 8:30 pm
Final Exam	Thursday, December 4 th	1:00 – 3:00 pm

*****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. This means that the final exam is at least worth 20% of your course grade, but could be worth as much as 35% of your course grade.*****

Regrades: Requests for regrades must be received by me within one week of the exam return date. For a regrade request, you must email me with the grading issue on your exam (example – addition error or incorrect grading of a question). Requests for regrades will result in a regrade of the **ENTIRE** exam. Regrading will be conducted only by the **INSTRUCTOR**.

Quizzes: There will be five online quizzes that you will access through OWLv2. You will be able to access these quizzes from 9 am to 9 pm on the day that the quiz is available (see “Homework, Quiz, and Exam Calendar_CHEM102_Fall 2025” on Canvas under “Modules” “Getting Started” or the course calendar on Canvas). The quizzes will be timed at 20 minutes and will be comprised of five questions worth 5 pts each. You get one attempt per question. 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 within 36 hrs of the missed quiz; the missed quiz grade will be an average of your other quiz grades. Your lowest quiz grade will be dropped at the end of the semester.

Calculator policy: For exams, you are only allowed to use a non-graphing, non-programmable scientific calculator that does not have internet capabilities. If you use a graphing calculator or one with internet capabilities on an exam, then it will be considered cheating, and you will be dealt with accordingly. **You may use a graphing calculator for homework and for quizzes.**

Student Disabilities: The University of Tennessee, Knoxville, is committed to providing an inclusive learning environment for all students. If you anticipate or experience a barrier in this course due to a chronic health condition, a learning, hearing, neurological, mental health, vision, physical, or other kind of disability, or a temporary injury, you are encouraged to contact Student Disability Services (SDS) at 865-974-6087 or sds@utk.edu. An SDS Coordinator will meet with you to develop a plan to ensure you have equitable access to this course. If you are already registered with SDS, please contact me (the instructor) to discuss implementing accommodations included in your course access letter.

Academic Honesty: The Honor Statement as printed in [Hilltopics](#) encourages each student to make a personal commitment to academic integrity.

*****Cheating will not be tolerated. Cheating on an exam will result in a 0 on that exam and you will forfeit having your final replace your lowest exam grade. Cheating on the final exam will result in an F in the class regardless of your standing. Any instance of cheating will also result in that person being written up to Student Conduct.*****

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.

Extra Help: Two resources that the University of Tennessee offers are the Chemistry Learning Center (Buehler Hall 513 and Strong Hall 303) and the Student Success Center. The Chemistry Learning Center is free to all students and is staffed by TAs from Monday to Friday. A Supplemental Instruction (SI) component is provided free for all students who want to improve their understanding of the material taught in this course. A student who has already mastered the course and who has been trained to facilitate group sessions serves as the SI leader. For information about the program, session schedule/updates, and additional office hour times visit <http://studentsuccess.utk.edu/>

Communication: ALL course material and announcements will be posted on Canvas. This means you should check Canvas daily. If Canvas does not answer a particular question, then you may email me.

Emails: In the subject line of your emails, please write CHEM102. All emails will be answered within 24 hours of being received.

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

Week	Lecture/Exams
August 18 – August 22	(T) Course Intro/Chapter 1: Matter, Energy, and Measurement (R) Chapter 1: Matter, Energy, and Measurement
August 25 – August 29	(T) Chapter 1: Matter, Energy, and Measurement (R) Chapter 2: Atoms
September 1 – September 5	(T) Chapter 2: Atoms (R) Chapter 2: Atoms
September 8 – September 12	(T) Chapter 3: Chemical Bonds (R) Chapter 3: Chemical Bonds
September 15 – September 19	(T) Chapter 3: Chemical Bonds (R) Chapter 4: Chemical Reactions
September 22 – September 26	(T) In-Class Exam 1 Review (T) EXAM 1 (R) Chapter 4: Chemical Reactions
September 29 – October 3	(T) Chapter 4: Chemical Reactions (R) Chapter 5: Gases, Liquids, and Solids
October 6 – October 10	(T) Fall Break – No Classes (R) Chapter 5: Gases, Liquids, and Solids
October 13 – October 17	(T) Chapter 5: Gases, Liquids, and Solids (R) Chapter 6 : Solutions and Colloids
October 20 – October 24	(T) In-Class Exam 2 Review (T) EXAM 2 (R) Chapter 6: Solutions and Colloids

October 27 – October 31	(T) Chapter 6: Solutions and Colloids/Chapter 7 : Reaction Rates and Chemical Equilibrium (R) Chapter 7: Reaction Rates and Chemical Equilibrium
November 3 – November 7	(T) Election Day – No Classes (R) Chapter 7: Reaction Rates and Chemical Equilibrium/Chapter 8: Acids and Bases
November 10 – November 14	(T) Chapter 8: Acids and Bases (R) Chapter 8 : Acids and Bases
November 17 – November 21	(T) In-Class Exam 3 Review (T) EXAM 3 (R) Chapter 9: Nuclear Chemistry
November 24 – November 28	(T) Chapter 9: Nuclear Chemistry (R) Thanksgiving Break – No Classes
December 1 – December 5	(T) Final Exam Review (R) Final Exam

Learning Objectives for Chemistry 102:

1. Become familiar with units of measurement and their inherent uncertainty, as well as learn how to convert from one set of units to another.
2. Gain a basic understanding of the structure of an atom.
3. Learn about the difference between molecular and ionic compounds, including the bonding between the two types. Be able to identify and name both molecular and ionic compounds.
4. Become familiar with chemical reactions, as well as how to balance them and how to determine how much of a particular reactant is needed for a reaction or how much of a particular product is formed from a reaction.
5. Learn about the differences between solids, liquids, and gases.
6. Become familiar with the differences between solutions and colloids. Understand the properties associated with solutions. Learn about solubility and expressing concentrations.
7. Gain an understanding of reaction rates and what affects reaction rates. Learn about equilibrium and how to solve for the equilibrium constant, K.
8. Become introduced to nuclear chemistry, since it plays an intricate role in medicine. See how it is used for medical purposes.
9. Learn how to study and not just memorize material, but instead be able to apply it and gain a sound understanding of the material.