

# CHEM 132: General Chemistry II Lecture

## Section 003

### Fall 2025

#### GENERAL INFORMATION

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**INSTRUCTOR:** Dr. Ryan Casey

**OFFICE:** SC 5301E

**E-MAIL:** racasey@towson.edu

**OFFICE HOURS:**

MW 4:00 – 5:00

Other times by appointment (seriously...just ask!)

**LECTURE:**

MWF 3:00 – 3:50 PM IN SC 1230

**STUDENT RESPONSIBILITIES:**

1. Attend class, take notes, and participate in activities
2. Complete all assignments on time
3. Study 7-9 hours every week in addition to attending class
  - a. Read assigned text chapters
  - b. Work practice problems in addition to homework and class work
  - c. Re-write class notes
4. Take responsibility for effective communication with instructor before deadlines
5. DO NOT CHEAT

**REQUIRED MATERIALS:**

**TEXTBOOK & ONLINE  
RESOURCES:**

*Chemistry: Atoms First 2e*. Free textbook available through OpenStax:  
<https://openstax.org/details/books/chemistry-atoms-first-2e>

**REQUIRED MATERIALS:** Scientific calculator **Graphing calculators are NOT permitted.**

**BLACKBOARD:**

Blackboard will be used to post materials required for the course and announcements. Students are responsible for checking the site regularly during the semester and completing assignments on time. Towson University provides technology and resources support (<https://www.towson.edu/scs>). Here is the email address for student computing services ([scs@towson.edu](mailto:scs@towson.edu)). If you have technical issues, submit a service request at <https://techhelp.towson.edu>.

## **COURSE OVERVIEW**

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### **COURSE DESCRIPTION:**

Physical properties of liquids, solids and solutions, kinetics, equilibrium, acids and bases, chemical thermodynamics and electrochemistry. CHEM 132L must be taken concurrently. Not open to those who successfully completed CHEM 111. Prerequisite: CHEM 131 and 131L. Corequisite: CHEM 132L.

### **COURSE GOALS:**

1. Students will display competency in essential skills required of a college graduate by: Demonstrating knowledge of methods used to collect, interpret, and apply scientific data.
2. Students will explore and integrate knowledge in order to understand how various disciplines interrelate by:
  - a. Articulating relevant basic assumptions, concepts, theoretical constructs and factual information of chemistry.
  - b. Understanding and applying relevant methodologies and strategies of inquiry.
  - c. Applying appropriate critical-thinking/problem-solving skills and communication skills in context.
3. Students will use inquiry and critical judgment to make decisions by:
  - a. Reflecting and evaluating claims and evidence (rather than merely reporting information).
  - b. Thinking in complex terms that move beyond an either/or binary approach.

### **STUDENT LEARNING OUTCOMES:**

Students will be able to:

1. Utilize scientific vocabulary and examples to describe major ideas appropriate to a specific scientific discipline.
2. Use quantitative reasoning to analyze and/or support scientific information.
3. Identify, describe critique, respond to, and construct the various components of the scientific process such as observations, inferences, operational definitions, aspects of scientific design, conclusions, control of variables, etc.
4. Explain scientific issues of current importance to society within scientific, technological, historical, societal and ethical contexts.

### **COPYRIGHT NOTICE:**

Your instructor retains all copyrights to all original materials distributed in this course (including, but not limited to, hard copies and electronic copies of lecture slides, notes, practice problems, worksheets, assignments, lab materials, and exams). Reposting, selling, or otherwise distributing these materials in any fashion at any time is prohibited. This includes no audio or video recording during class without instructor written permission.

### **TU MASK POLICY:**

All students are expected to follow Towson University policy regarding wearing masks. Students who do not follow the policy will be referred to the Office of Student Accountability and Restorative Practices.

### **AUDITS:**

The audit option is most appropriate for students seeking to explore a topic not required for their degree. The audit option is not an appropriate alternative to pursuing a letter grade or withdrawing from a course. Towson University requires students to obtain instructor permission to audit a course prior to the withdrawal deadline. In keeping with the purpose of an audit, I will not approve audit requests received after the Add/Drop period.

## ASSIGNMENTS & GRADING

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The overall course grade will be computed as shown below. Any grade disputes on a given assignment must be brought to the instructor's attention prior to the last day of classes.

**HOMEWORK (10% OF TOTAL GRADE):** Homework assignments will be provided through Blackboard. Assignments are provided for each chapter and due dates are posted at the beginning of the semester. **Students must provide documentation of an excused absence to their instructor within 24 hours of the due date to be allowed to make up missed assignments.** Students have at least one week to complete the assignment. Therefore, there are no extensions for homework assignments without a documented excused absence for the duration the assignment was available.

**IN CLASS WORK (12% OF TOTAL GRADE):** Students are expected to attend class and participate in work during class. In class work may take the form of individual or small group problem solving. In class work will be graded as 50% participation and 50% correct answer. Points cannot be made up without a documented excused absence! Thus, you must attend class and correctly complete the work to earn the full points.

**QUIZZES (60 % OF TOTAL GRADE):** Ten announced quizzes will be given during class.

**QUIZ CONFLICT:** In the case that a student has a university sanctioned event or religious observance that will conflict with an in-class quiz, the student must provide documentation to the instructor a minimum of 2 weeks in advance of the quiz date (sooner if possible). An alternate time may be arranged to take a quiz *PRIOR* to the scheduled quiz time, instructor availability permitting. Students who will be representing TU at events, conferences, or other official activities should obtain a Notification of Absence from Class Form from the Office of Campus Life, University Union 232, to be given to their instructors. If written notification is not provided to the instructor before to the quiz date, the student will be subject to the missed quiz policy below.

**MISSED IN-CLASS QUIZZES:** Students are expected to take all quizzes as scheduled. The lowest quiz score for each student will be dropped at the end of the semester. If a student misses one quiz, they must contact the instructor within 24 hours to request the quiz alternate assignment. The student will have one week to complete the assignment. If the assignment is completed and earns instructor approval, the final exam percentage earned will be used to calculate a score to replace the missed quiz zero. If the problem set is not completed with instructor approval, the missed quiz will be counted as a zero. **If a student misses a second quiz (or more), the student must provide documentation for a TU excused absence to their instructor within 24 hours of the quiz time.** Instead of a make-up quiz, a quiz alternate assignment will be completed as described above.

**FINAL EXAM (18% OF TOTAL GRADE):** There will be one cumulative final exam given on Saturday December 13 from 12:30 pm to 2:30 pm.

**FINAL EXAM:** The final exam is required. If a student doesn't make it to the final exam due to unexpected extreme circumstances beyond their control, they must contact the instructor by email within 24 hours detailing their circumstances. At that point, it is up to the instructor to determine *if* and when an alternate final exam time will be scheduled. Students who do not take the final exam earn zero points. The final exam is Saturday December 13 from 12:30 pm to 2:30 pm.

Only students with documented excused absences will be allowed to make up missed work. Towson University excused absences include illness, injury, death in the family, religious observation, and TU required event.

## ASSIGNMENTS & GRADING

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The quiz dates and coverage are subject to change:

**Except for Quiz 7, all quizzes are scheduled for Fridays.**

Quiz 1: 9/5/25  
Quiz 2: 9/12/25  
Quiz 3: 9/19/25  
Quiz 4: 9/26/25  
Quiz 5: 10/3/25  
Quiz 6: 10/10/25  
Quiz 7: 10/27/25 (Monday, not a Friday)  
Quiz 8: 11/7/25  
Quiz 9: 11/14/25  
Quiz 10: 11/21/25

Final Exam: Saturday, December 13 from 12:30 pm to 2:30 pm

### **Important information about quizzes and exams**

When providing solutions to quiz and exam questions, students must use the preferred method explained in class to earn full credit. If an alternative method is used, students must be prepared to justify and explain the solution during a meeting with the instructor.

Quizzes and exams are designed to test student understanding of the material. This means, students should NOT expect quiz/exam questions to be identical to the problems solved in class or on homework. Being able to solve similar types of problems to what was covered in class demonstrates learning. The best way to prepare for quizzes/exams is to do as many practice problems as possible. Research shows cramming doesn't help you learn material! To learn chemistry, you need to practice at least one hour every day in addition to attending class and solving homework problems.

<b>POINTS:</b>	<b>Assignment</b>	<b>Each Worth</b>	<b>Total</b>
	Homework (10 total)	10	100
	In Class Work		120
	Quizzes (10 total)	60	600
	Cumulative Final Exam	180	180
		<b>Total Points</b>	<b>1000</b>

<b>GRADING</b>	A	93-100	C+	77-79.9
<b>SCALE:</b>	A-	90-92.9	C	70-76.9
	B+	87-89.9	D+	67-69.9
	B	83-86.9	D	60-66.9
	B-	80-82.9	F	Below 60

## COURSE POLICIES & REQUIREMENTS

<b>ACCOMMODATIONS</b>	Students with approved accommodations must submit their ADS memos to the instructor <i>the first week of class</i> . It is the student's responsibility to present this paperwork and to follow up regarding accommodations that require instructor participation (e.g. testing accommodations). Contact Accessibility & Disability Services <a href="http://www.towson.edu/accessibility-disability-services/">http://www.towson.edu/accessibility-disability-services/</a> with questions.
<b>ATTENDANCE &amp; COURSE ASSIGNMENTS</b>	Attendance is expected at <u>all</u> lectures. TU policy on student class attendance: <a href="https://catalog.towson.edu/undergraduate/academic-policies/class-attendance-absence-policy/">https://catalog.towson.edu/undergraduate/academic-policies/class-attendance-absence-policy/</a> It is the student's responsibility to obtain lecture notes and/or announcements from a fellow student if class is missed. It is the student's responsibility to complete course work by the posted dates (dates on Blackboard or listed in the syllabus). It is the student's responsibility to understand all missed course work policies (see page 3).
<b>CHEATING</b>	Students are subject to the Towson University Student Academic Integrity Policy. Note that academic dishonesty includes (but is not limited to) cheating <i>and</i> allowing another student to cheat. No use of AI on assignments. <i>Any</i> violation of the university's academic integrity policy will be penalized, up to and including a grade of F <i>for the course</i> for each student involved. In addition, letters detailing the specifics of the occurrence will be kept on file by the University for seven years. TU policy: <a href="https://www.towson.edu/about/administration/policies/03-01-00-student-academic-integrity-policy.html">https://www.towson.edu/about/administration/policies/03-01-00-student-academic-integrity-policy.html</a>
<b>COMMUNICATION</b>	All course documents will be available on Blackboard. Students are responsible for anything sent by the instructor via email or posted on Blackboard. All email communication will be sent to university email accounts; students are responsible for checking that account frequently.
<b>DIVERSITY</b>	<p>The students, faculty, and staff at Towson University represent a diverse and vibrant community of learners and scholars. As a community, we value the unique contributions of each individual and promote active participation in all aspects of the learning process by each community member. Your instructor supports Towson University's goal of fostering a diverse and inclusive educational setting. Your instructor strives to create an educational environment built upon the principles of mutual respect and support. Toward this end, all members participating in this course are expected to demonstrate respect for all other members of the class, both within and outside the classroom. If you feel these expectations have not been met, please speak with your instructor or the designated diversity liaison, <u>Dr. Cindy Zeller</u> (<a href="mailto:czeller@towson.edu">czeller@towson.edu</a>).</p> <p>For further information regarding the diversity and inclusion policies of Towson University, please see <a href="#">Towson University's Office of Inclusion and Institutional Equity</a>, <a href="#">the Fisher College of Science and Mathematics Diversity Action Plan</a>, and the <a href="#">Chemistry Department Diversity Action Plan</a>.</p>
<b>ELECTRONIC DEVICES</b>	Only an approved calculator may be used during a quiz or exam. All other electronic devices must be placed in a closed bag (backpack, purse, etc.) or up in the front of the classroom with the instructor. Students failing to comply will be subject to penalties under the academic integrity policy described above.
<b>TITLE IX</b>	TU is committed to ensuring a safe learning environment on campus <a href="http://towson.edu/titleix">http://towson.edu/titleix</a> . Counseling resources: <a href="https://www.towson.edu/counseling/">https://www.towson.edu/counseling/</a>

## STUDYING RESOURCES

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<b>OFFICE HOURS</b>	I am available for help during my office hours (see page 1) or by email.
<b>IN CLASS WORK</b>	In class work sessions are designed to improve student learning and performance through practice with immediate instructor feedback.
<b>TUTORING CENTER</b>	Free tutoring is available in the Science Tutoring Center SC 3224. Additional resources are available through the Tutoring and Learning Center <a href="https://www.towson.edu/tutoring-learning">https://www.towson.edu/tutoring-learning</a>
<b>ACADEMIC COACHING</b>	The Tutoring and Learning Center offers academic coaching to help students recognize and achieve their academic goals and reach self-efficacy: <a href="https://www.towson.edu/tutoring-learning/academic-support/academic-coaching/">https://www.towson.edu/tutoring-learning/academic-support/academic-coaching/</a>

## CHEM 132 COURSE CONTENT

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CHAPTER	SECTIONS
10. Liquids and Solids	10.1 – 10.4
11. Solutions and Colloids	11.1 – 11.5
17. Kinetics	17.1 – 17.7
13. Fundamental Equilibrium Concepts	13.1 – 13.4
14. Acid-Base Equilibria	14.1 – 14.7
15. Equilibria of Other Reaction Classes	15.1 – 15.3
12. Thermodynamics	12.1 – 12.4
16. Electrochemistry	16.1 – 16.4