THE UNIVERSITY OF TEXAS AT TYLER

General Chemistry II

CHEM 1312.001

Fall 2024

(August 19—December 13)

UTTyler
THE UNIVERSITY OF TEXAS AT TYLER

Instructor Information

Lauren Johnson, MS

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Email Address:
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Office Hours:
M, W: 10:30-11:30 AM
T: 1:30-3:30 PM

Important Dates and Information:

- Course meets every T/R in RBS 2024 from 11:00 AM—12:20 PM
- September 9 (Monday) - Census Date
- November 4 (Monday) - Last day to Withdraw
- December 10 (Tuesday) - Final Exam 11 AM—1 PM
- Tentative Midterm Dates:

1. September 26 (Thursday)
2. October 31 (Thursday)
3. November 28 (Thursday)

Introduction

General Chemistry II is a continuation of General Chemistry I. The course will cover many topics first introduced in Gen Chem I in more detail (e.g. acids/ bases, redox, and solubility).

New topics will include intermolecular forces, phase changes, liquids and solutions, colligative properties, solid-state chemistry, kinetics and mechanisms, equilibrium, entropy, voltaic cells, and nuclear chemistry. The material spans Chapters 10—17 and 19—21 in the textbook).

Good study habits will be essential to your success. You will have to employ logic and critical thinking in order to solve a wide variety of problems.

Student Learning Outcomes (Core Curriculum)

1) Apply the scientific method to analyze items or problems found on homework, quizzes, and tests (Critical Thinking).
2) Manipulate and analyze data embedded in word problems found on homework, quizzes, and tests (Empirical and Quantitative Skills).
3) Demonstrate teamwork by researching and presenting (both orally and via PowerPoint) on a molecule (Communication and Teamwork)

Course Requirements

- Prerequisites for this course: CHEM 1311 (Gen Chem I) and CHEM 1111 (Gen Chem I Lab).
- General Chemistry II Lab (CHEM 1112) is NOT part of this course. However, General Chemistry II Laboratory should be taken concurrently with this course. You cannot use this lecture course as part of your degree requirements without the corresponding laboratory course.
- The deadline for all registrations, schedule changes, and section changes (the "Census Date") is **Monday, September 9.** Please see the University Policies section at the end of this syllabus for more information regarding dropping class, grade replacement, etc.

The last day to withdraw from the course is November 4 (Monday) If you wish to drop the course, it is YOUR responsibility; failure to officially withdraw from the course will result in a grade of F. *If you are withdrawing from this course, you are encouraged, but not required to, withdraw from the laboratory course (CHEM 1112) and vice versa*. Your lab instructor is not responsible for catching you up on lecture material you missed.

REQUIRED MATERIALS

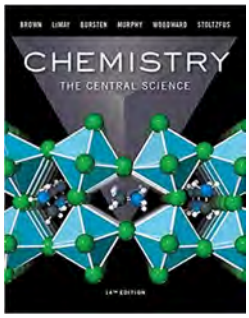
Scientific calculator capable of exponents and logarithms.

Fancy, programmable calculators are permitted, but

Achieve
ISBN: 9781319390211

Publisher: Macmillan

RECOMMENDED MATERIALS



Chemistry: The Central Science, 14th Ed

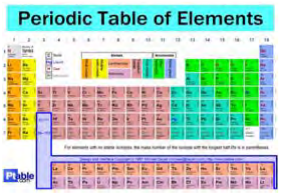
by Brown, Lemay, and Bursten

Textbook options

- hardcover ISBN: 9780134414232

Solutions to Red Exercises
ISBN: 9780134552231

Student Guide
ISBN: 9780134554075



Some kind of periodic table, these can be purchased or printed off the web.

The textbook for this course is highly recommended. I will be teaching out of this textbook and recommending practice problems out of this text.

COURSE TOPICS

Gases	**CHAPTER 10**
Liquids and Intermolecular Forces	**CHAPTER 11**
Solids and Modern Materials	**CHAPTER 12**
Properties of Solutions	**CHAPTER 13**
Chemical Kinetics	**CHAPTER 14**
Chemical Equilibrium	**CHAPTER 15**
Acid-Base Equilibria	**CHAPTER 16**
Additional Aspects of Aqueous Equilibria	**CHAPTER 17**
Chemical Thermodynamics	**CHAPTER 19**
Electrochemistry	**CHAPTER 20**
Nuclear Chemistry	**CHAPTER 21**

GRADING SCALE

Grades will tentatively be assigned on a 90/80/70/60 scale, but may be adjusted based upon my evaluation of the overall class performance. Attendance, class participation, and initiative will be considered for borderline grades. Grades will be posted on Canvas* and weighted as follows:

3 midterm exams	45% (15% for each exam)
Homework	20%
Quizzes	15%
Final Exam	20%
Total	**100%**

*The OFFICIAL grade book is the Excel file on my computer (in the event of typos/mistakes).

EXAM GRADE REPLACEMENT

- At the end of the semester, I will ***replace*** your lowest exam score with your final exam score if your final exam score is higher. (If the final exam score is the lowest score, then no grade will be replaced.)
- Only one score can be replaced.
- As an example, if your exam scores are 60, 75, 80, and 85 with a 70 on the final, your final grade would be calculated based on the scores 70, 75, 80, 85 and 70 in which the first exam score of 60 was replaced with the 70.

HOMEWORK AND QUIZZES

Homework will regularly be assigned for you to complete outside of the lecture class time. Extra assignments could include reading material from the text. It is very important that you complete such homework assignments in a timely manner. ***All online homework problems accessed through the Macmillan Achieve website, count as 20% of your total course grade***.

Follow the Achieve link from our Canvas page.

Quizzes will be given face-to-face in class. The quizzes will either be given at the beginning or at the end of class. The average of your quizzes will account for 15% of your final grade. I will drop at least the two lowest quiz grades at the end of the semester. Some quizzes will be group quizzes and some will be completed on your own. I will announce most of the quizzes in advance but there may also be occasional pop quizzes .

ONLINE CONTENT

I will communicate with you in class and through Canvas:

- Lecture slides will be posted prior to the lecture. (You may want to print them out to use during lectures. Having these notes isn't a substitute for attending lecture.)
- All homework assignments as well as some quiz assignments will be completed and graded through Canvas.
- Exam dates and homework due dates will be listed on Canvas.
- Links to video tutorials and other helpful information

Please monitor the email account you have on Canvas for all announcements and postings.
You are automatically enrolled in all classes you are registered in. Not all instructors use Canvas, but the course will still appear on your home page.

IN-CLASS EXAMS

- The *regular exam* dates listed on page 1 are tentative (the final exam date/time is fixed).
- At least one week's notice will be given prior to the exam. Regular exams will be mostly multiple-choice with some short answer/calculation questions. They will cover material discussed in lecture AND from assigned reading in the text. *You are responsible for the assigned reading even if it has not been discussed during lecture!*
- ***One*** 3½" x 5" note card, both sides is permitted (no photocopies or printed materials!). **No other materials, including cell phones and smart watches, are permitted! The use of websites such as Chegg, Reddit, Course Hero, etc. is considered cheating. If exam material is found on these sites, all information will be turned over to the office of judicial affairs on campus.**
- I will do my best to return everything by the next class period. I do make mistakes from time to time. If you think that I made a grading error, please see me within one week after taking the exam. *All* scores are considered final one week after grades are posted on Canvas!

FINAL EXAM AND MAKE-UP POLICY

- The final examination will be given on (and only on) **Tuesday December 10, 11:00 am—1:00 pm.** You are required to take the final examination in order to receive a passing grade in the course. There will be no make-up of the final exam, no exceptions!
- The comprehensive final examination is a nationally standardized exam written by the American Chemical Society and covers material from both general chemistry 1 and 2 (70 multiple-choice questions). The questions are not particularly hard, but there are A LOT of them.

Missed exams will be handled according to one of the two following methods:

- If you know that you will miss an exam due to an excused absence, then you can take the exam early. To do so you must give me at least one-week notice. **You will not be allowed to take the exam after the scheduled exam date, so, plan ahead if you know you will be absent.** For any unplanned absence, such as illness, car-trouble, funeral, etc. the final exam will replace the exam you missed. **No exams will be given after the scheduled dates.**
- Missing a second exam will require a special meeting with me to determine the appropriate action. Such an action may include, but is not limited to withdrawing from the course.

- If you have any questions regarding these policies, please ask me.

ARTIFICIAL INTELLIGENCE STATEMENT

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course (see below) is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy.

For this course, AI is not permitted in this course at all. **The work submitted by students in this course will be generated by themselves. This includes all process work, drafts, brainstorming artifacts, editing, and final products. This extends to group assignments where students must create collaboratively create the project. Any instance of the following constitutes a violation of UT Tyler's Honor Code: a student has another person/entity do any portion of a graded assignment, which includes purchasing work from a company, hiring a person or company to complete an assignment or exam, using a previously submitted assignment and/or using AI tools (such as ChatGPT).**