

# General Chemistry I

## CHEM 1211

The instructor reserves the right to make changes or corrections to this syllabus at any time. Students will be notified when any changes are made by email or eLC announcements.

## Course Overview

**This is a Core IMPACTS course that is part of the STEM area.**

Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help master course content, and support students' broad academic and career goals.

This course should direct students toward a broad Orienting Question:

- How do I ask scientific questions or use data, mathematics, or technology to understand the universe?

Completion of this course should enable students to meet the following Learning Outcome:

- Students will use the scientific method and laboratory procedures or mathematical and computational methods to analyze data, solve problems, and explain natural phenomena.

Course content, activities and exercises in this course should help students develop the following Career-Ready Competencies:

- Inquiry and Analysis
- Problem-Solving
- Teamwork

## Instructor

Dr. Matthew D. Seivert  
Chemistry Annex (Cedar Street Building D), Room 409F  
Email: [mseivert@uga.edu](mailto:mseivert@uga.edu)

### **Group Office Hours (for content questions):**

Mondays, 3:00 PM-5:00 PM, Chemistry Annex (Cedar Street Building D), Room 414

Wednesdays, 11:00 AM-1:00 PM, Chemistry Annex (Cedar Street Building D), Room 414

### **One-On-One Office Hours (for discussion of personal matters, course standing, etc.):**

By appointment – email for availability

## Course Description

Chemistry 1211 is an in-person course with in-person lectures either MWF or TR for a total of 150 minutes per week. Chemistry 1211D is the companion 50-minute, once weekly required in-person recitation session. Chemistry 1211L is the companion one credit hour lab course and must be taken concurrently unless you already have credit for the lab course. CHEM 1211/1211L are initial chemistry courses that are comparable to similar sequences for science majors taught at major state universities in the country. This course uses an American Chemical Society Examinations Institute standardized exam as the final.

## Course Meeting Information

This is an in-person course with a weekly required in-person recitation session.

## Textbook (e-text to be purchased through eLC)

*Chemistry & Chemical Reactivity, 11<sup>th</sup> Edition*; John C. Kotz, Paul M. Treichel, John R. Townsend, and David R. Treichel. The textbook **must be purchased through eLC** to receive the special UGA price of \$40.00. **Do not purchase this textbook through the UGA bookstore or another vendor.**

## Other Required Materials:

Any non-programmable, scientific calculator such as the Ti-3x series or the Casio ClassWiz series (The TI-36x Pro is recommended). Programmable or graphing calculators (eg. TI-83 or similar) **are not permitted.**

## Course Learning Outcomes

1. Apply, integrate, and synthesize concepts from multiple fundamental areas of chemistry to solve complex problems.
2. Explain the behavior of, and interactions between, matter and energy at the atomic, microscopic, and macroscopic domains using appropriate models and symbols.
3. Predict chemical and physical behavior from three-dimensional models of molecules and ions.
4. Distinguish between chemical and physical changes.
5. Predict macroscopic characteristics of materials based on atomic/molecular structure using appropriate models.
6. Describe how chemical reactions obey the law of definite proportions and the first and second laws of thermodynamics.
7. Demonstrate how the Bohr model of the atom relates to the modern description by quantum theory, and using terms of the quantum theory, relate atoms to the Periodic Table.

# Course Requirements and Grading

## Course Coverage

These chapters will be covered in CHEM 1211:

Chapter 1: Basic Concepts of Chemistry  
Chapter 1R: The Tools of Quantitative Chemistry  
Chapter 2: Atoms, Molecules, and Ions  
Chapter 3: Chemical Reactions  
Chapter 4: Stoichiometry: Quantitative Information about Chemical Reactions  
Chapter 5: Principles of Chemical Reactivity: Energy and Chemical Reactions  
Chapter 6: The Structure of Atoms  
Chapter 7: The Structure of Atoms and Periodic Trends  
Chapter 8: Bonding and Molecular Structure  
Chapter 9: Orbital Hybridization and Molecular Orbitals  
Chapter 10: Gases and Their Properties

## Course Assignments

### Recitation Sessions

In addition to lecture, you are required to attend weekly in-person recitation sessions that are intended to supplement course material and promote a deeper understanding of concepts. The assignments during recitation sessions may include worksheets, case studies, and other activities. During the recitation sessions you will work in small groups, and assignments will be due at 9:00 AM on the Saturday immediately following the recitation. The worksheets will be posted to eLC, and you will need to convert the completed worksheets to a single PDF file and upload them to Gradescope yourself. **You are responsible for uploading the correct file as instructed in recitation.** Assignments will not be regraded if the pages in the PDF file are in an incorrect order or there are missing pages or other formatting issues. There will be a practice recitation (recitation 0) for you to practice creating and uploading the correct PDF file to Gradescope.

**You must attend recitation to receive credit for the recitation.** Attendance will be taken at the recitation sessions. You will **not be marked as attending if you arrive more than 10 minutes after the recitation session begins or if you leave before the recitation period is over**, and you will not earn credit for that recitation.

There will be **13 recitation sessions** worth a total of 144 points. You will receive a portion of the recitation session points based on your total percentage. If you score 90% of the credit for the recitation questions, you will earn 90% of 144 points (or 129.6 points) toward your final grade. Your 3 lowest assignment grades will be excused. These excused absences are intended to cover situations where you are unable to attend recitation, such as: illness, religious holidays, family emergencies, mental health days, etc.

**Academic Honesty Expectations:** You are expected to work in groups on recitations; however, you must do your own problems and submit your own PDF file to Gradescope.

## Class Activities

The instructor will provide class activities to accompany the in-person discussions during the semester. The activities can be worksheets, hands-on activities, clicker questions, or other activities. **Students must be present to receive credit for the class activities and are responsible for uploading any required files correctly.** Make-ups are not offered for in-class activities. Raw points equal to the average for **five days** of classes will be dropped for all students at the end of the semester to account for any absences. If you have to miss more than three days of class due to an extended illness, injury, or other documentable reason, please contact your instructor directly to discuss.

**Class activities will be worth a total of 50 points.** You will receive a portion of the class activities points based on your total percentage. If you score 90% of the credit for the class activities, you will earn 90% of 50 points (or 45 points) toward your final grade.

**Academic Honesty Expectations:** You must respond to your own questions and be present in class to attempt the activities. If you respond to class activities while you are not present in the classroom, a report will be made to the Office of Academic Honesty.

## Reading Checks

Before each week of lecture, you will need to complete a reading check that assesses basic mastery of the material that will be covered in class that week. Reading checks will be delivered on WebAssign and will be available on **Wednesdays at 5:00 PM** and will be due on **Mondays at 9:00 AM** unless otherwise announced. There will be a total of **fifteen** reading checks worth **three points** each. We suggest starting early, as no assignments will be excused based on technical difficulties. Your 3 lowest assignment grades will be dropped at the end of the semester. These assignment drops are intended to cover situations where you are unable to complete your assignment, such as: illness, religious holidays, family emergencies, mental health issues, etc.

**Five** attempts will be allowed for each question in the Reading Check. There is a 5% penalty for each incorrect attempt after three, so it is in your best interest to work the problems as you read the chapter.

**Academic Honesty Expectations:** You may work in groups on reading checks; however, each of you must do your own problems.

## Progress Quizzes

Progress quizzes are **timed** assignments designed to test your understanding of the course materials and simulate exam conditions. The point value of progress quizzes has been intentionally set at a low value so that you can stumble on the progress quiz and not severely hurt your grade in CHEM 1211. It is much better to find out what you're struggling with on the progress quiz instead of the exam.

Progress quizzes will open on **Fridays at 5:00 PM** and will be due **Wednesdays at 9:00 AM** unless otherwise announced. There will be a total of **sixteen** progress quizzes worth **five points** each. We suggest starting early, as no extensions will be granted based on technical difficulties. Your 3 lowest assignment grades will be dropped at the end of the semester. These assignment drops are intended to cover situations where you are unable to complete your assignment, such as: illness, religious holidays, family emergencies, mental health issues, etc.

**Be Aware:** Opening the progress quiz before it is due to look at the questions commits you to completing the assignment. The timer **cannot** be stopped or reset.

**Academic Honesty Expectations:** You are expected to work on your own when completing the progress quizzes. You should not use **any** outside resources. This is your opportunity to see what you need to work on before the exam. You should not share or post progress quiz questions for other students while the progress quiz is open.

## Syllabus and Fundamentals Quiz

An introductory take-home quiz will be given to the class during the first week of courses. This quiz will cover some basic mathematical and chemical background knowledge and syllabus policies. See eLC for format and due date.

**Academic Honesty Expectations:** You are expected to work on your own when completing the Syllabus and Fundamentals Quiz. You should not use **any** outside resources. This is your opportunity to see what you need to work on for the semester. You should not share or post quiz questions for other students while the Syllabus and Fundamentals Quiz is open.

## Suggested Exercises and Practice Quizzes

Suggested practice problems for each chapter may be posted. It is recommended that you do these with your available resources to help you build skills and master the material. These problems will not be graded.

## Exams

Four (4) 90-minute examinations will be given on Thursday evenings. Exams will be worth 200 points. Exams will be administered in-person. Your exam grade with the lowest percentage score will be replaced with your final exam percentage value if it is higher. **Makeup exams are given at the discretion of the course coordinator and require official documentation (e.g. a doctor's note) of an unavoidable absence. You must contact Dr. Alexandra Heide (adheide@uga.edu), as soon as possible and no later than 12:00 PM (noon) Monday of the exam week to request a make-up for absences that are known about in advance. For emergency absences (e.g. sickness), contact Dr. Heide as soon as possible.** You must use your UGA email and include your course CRN and the exam in question in the subject line of the email, with documentation included in the body.

Because this is a course with mass exams, there are a few rules that you should be familiar with before entering the exam room. These rules will be enforced by the exam proctors.

- Personal belongings are to be left at the front or sides of the room and electronic devices turned off.
- You are not allowed to have a cell phone or smart watch on your person during the exam. All electronic devices must be left with your belongings. Any student found with a cell phone or smart watch will be referred to the Academic Honesty office.
- You should make use of the facilities before you enter the exam room. Once in the exam room you cannot leave until you have finished the exam. If you have a medical reason this is not possible, please sign up with the DRC as soon as possible.
- Bring your ID - we can accept any government issued photo ID but your UGA ID is preferred.

- You may only use a non-graphing calculator (see Other Required Materials) with the back cover removed and left in your bookbag.
- You will not be given extra time to bubble in answers after time is called, so make sure all answers have been transferred to the answer sheet before time has elapsed.

### Exam Schedule:

Exam 1	Thursday, 5:30-7:00 PM	September 12, 2024
Exam 2	Thursday, 5:30-7:00 PM	October 10, 2024
Exam 3	Thursday, 5:30-7:00 PM	October 31, 2024
Exam 4	Thursday, 5:30-7:00 PM	November 21, 2024
Final Exam	Wednesday, 7:00-8:50 PM	December 11, 2024

### Final Exam

The final exam will be administered on December 11. It will be the (multiple-choice) First-Term General Chemistry Exam from the American Chemical Society (ACS) Examinations Institute. You will not be allowed to write on this exam; doing so will result in a fee of \$25 and a hold being placed on your account. The exam has a total value of **400 points** in the course. If your percentage grade on this exam is higher than your lowest exam percentage grade, this percentage grade will replace it. It is in your best interest to do as well as you can on this exam.

### Course Grades

Course grades in CHEM 1211 will be calculated based on these components:

Assignment	Points
Midterm Exams	800
Final Exam (ACS)	400
Syllabus and Fundamentals Quiz	5
Reading Checks	36
Progress Quizzes	65
Class Activities	50
Recitation	144
<b>Total</b>	<b>1500</b>

If you score below 50% on the final exam, you will receive an 'F' for the course. If you score 50% or higher on the final exam, your final grade will be based on the total points earned out of **1500** total possible points:

A	= 1350 to 1500	90%
A -	= 1320 to 1349.9	88%
B+	= 1290 to 1319.9	86%
B	= 1200 to 1289.9	80%
B-	= 1170 to 1199.9	78%
C+	= 1125 to 1169.9	75%
C	= 975 to 1124.9	65%

D	=	750 to 974.9	50%
F	=	0 to 749.9	

**Final grades will not be adjusted (i.e., “curved”) at the end of the semester.** Course letter grades are delivered via Athena and appear when they are posted and released by the Registrar’s Office.

## Regrade Requests

Requests for regrades on any assignment, including exams, must be submitted **no later than one week** after the score or key is posted. After one week, no grades will be changed, even in the case of errors.

Regrade requests for anything on Gradescope (recitation worksheets, exams) must be submitted using the regrade request function on Gradescope.

Regrade requests for anything on WebAssign or for in-class activities should be directed to your instructor by UGA email.

## Policies and Procedures

### Communication

The instructor will communicate with the class in two ways: (1) email and (2) announcements on the course eLC site. You may login to eLC at <http://elc.uga.edu> using your UGA myID and password. It is highly recommended that you forward your eLC e-mail to your preferred e-mail address. Remember that official communication is through eLC e-mail and/or UGA mail. It is your responsibility by UGA policy to check both *on a daily basis*.

The eLC site will also be used to store and deliver lecture slides, exam resources, general handouts and other documents. You will also find instructions covering Gradescope and WebAssign.

### Email Etiquette

The course instructor receives a large number of student emails per day. To ensure your email is answered as quickly as possible:

- Do not send email to eLC accounts. Instructors may be reached via their primary email addresses.
- Instructors will not respond to questions that are answered in the course syllabus or postings on eLC.
- Please allow at least **48 business hours** for a response due to the high volume of emails.
- Your emails must be both courteous and coherent. If you would not say it in person, don’t write it in an email.
- Students should include their course number and CRN in every email, as instructors teach multiple large courses.

- Experience has demonstrated that it is not effective to answer homework or concept questions via email. In order to receive help concerning class work or homework you should visit your instructor during regularly scheduled office hours.

## What about lab (CHEM 1211L)?

CHEM 1211 and 1211L are individual courses that are administered and graded separately. You will receive separate and independent grades for these two courses. However, CHEM 1211 and 1211L must be taken concurrently. All students must be registered for both lecture and lab. (A small number of students may have already completed the lecture or lab when rules allowed that. Students who have taken CHEM 1211 and 1211L previously, and received grades of "I", should not register for the course(s) a second time because the earlier "I" grade will automatically be changed to an "F".)

## Withdrawal Policy

The last day to withdraw from CHEM 1211 is **Monday October 21, 2024**. A grade of 'W' is assigned to all withdrawals made prior to the withdrawal deadline, irrespective of performance in the course. Withdrawal is accomplished through Athena. Go to the withdrawal section of Athena and follow the instructions.

CHEM 1211 and CHEM 1211L are corequisite courses. You **may not** remain enrolled in CHEM 1211L if you withdraw from CHEM 1211. There are no exceptions to this policy. After the withdrawal deadline, no student may withdraw from CHEM 1211/1211L except in the case of an approved hardship withdrawal that is authorized by the Office of Student Services (<http://reg.uga.edu/policies/withdrawals>).

## Incomplete Policy

An incomplete grade, "I", may be assigned to students that are passing CHEM 1211 but are unable to complete all university coursework during the current semester due to unforeseen personal and/or medical circumstances. An incomplete grade is not assigned to students who are able to complete their university coursework but choose not to complete chemistry due to poor performance. In order to receive an incomplete in the class you must meet with your instructor and sign a contract which stipulates the terms and conditions of all university sanctioned incompletes.

## Disability Accommodations

Students with a disability that are seeking classroom or testing accommodations must register with the Disability Resource Center (DRC). More information can be found at [https://drc.uga.edu/site/content\\_page/register-for-services](https://drc.uga.edu/site/content_page/register-for-services).

## Academic Honesty

As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found at: [www.uga.edu/honesty](http://www.uga.edu/honesty). Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.



## FERPA Notice

The Federal Family Educational Rights and Privacy Act (FERPA) grants students certain information privacy rights. See the registrar's explanation at <https://osas.franklin.uga.edu/ferpa-and-privacy> FERPA allows disclosure of directory information (name, address, telephone, email, date of birth, place of birth, major, activities, degrees, awards, prior schools), unless a <https://reg.uga.edu/resources/documents/imported/FERPARequestForRestriction.pdf> is submitted to the Registrar's Office.

## Mental Health and Wellness Resources

If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of Student Affairs at 706-542-7774 or visit <https://sco.uga.edu>. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.

UGA has several resources for a student seeking mental health services (<https://www.uhs.uga.edu/bewelluga/bewelluga>) or crisis support (<https://www.uhs.uga.edu/info/emergencies>).

If you need help managing stress anxiety, relationships, etc., please visit BeWellUGA (<https://www.uhs.uga.edu/bewelluga/bewelluga>) for a list of FREE workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center. Additional resources can be accessed through the UGA App.

Week	Dates	Chapter/Section	Reading Check	Progress Quiz	Recitation Session
1	August 14-17	Introduction, Ch. 1.1-1.6	RC1: 8/14-8/19 Ch 1.7, 1R	PQ1: 8/16-8/21 Ch. 1.1-1.6	R0: Take home, Not meeting
2	August 18-24	Ch.1.7, 1R	RC2: 8/21-8/26 Ch 2.1-2.6, simple organic naming	PQ2: 8/23-8/28 Ch 1.7, 1R	R1: 8/19-8/22
3	August 25-31	Ch. 2.1-2.6, simple organic naming	RC3: 8/28-9/2 Ch 2.7-2.8, 3.1-3.4	PQ3: 8/30-9/4 Ch. 2.1-2.6, simple organic naming	R2: 8/26-8/29
4	September 1-7	Ch. 2.7-2.8, 3.1-3.3	RC4: 9/4-9/9 Ch 3.5-3.9, 4.1	PQ4: 9/6-9/11 Ch 2.7-2.8, 3.1-3.3	Not meeting
	<b>September 2</b>	<b>No Class (Labor Day)</b>			
5	September 8-14	Ch. 3.4-3.9, 4.1	RC5: 9/11-9/16 Ch 4.2-4.5, 4.7	PQ5: 9/13-9/18 Ch 3.4-3.9, 4.1	R3: 9/9-9/12 <u>Exam Review</u>
	<b>September 12</b>	<b>Exam 1 (Ch 1, 1R, 2, 3.1-3.3)</b>			
6	September 15-21	Ch. 4.2-4.5, 4.7	RC6: 9/18-9/23 Ch 5.1-5.5	PQ6: 9/20-9/25 Ch 4.2-4.5, 4.7	R4: 9/16-9/19

7	September 22-28	Ch. 5.1-5.5 (omit heating curves)	RC7: 9/25-9/30 Ch 5.6-5.8	PQ7: 9/27-10/2 5.1-5.5	R5: 9/23-9/26
8	September 29-October 5	Ch. 5.6-5.8	RC8: 10/2-10/7 Ch 6.1-6.5, 6.7	PQ8: 10/4-10/9 Ch 5.6-5.8	R6: 9/30-10/3
9	October 6-12	Ch. 6.1-6.5, 6.7	RC9: 10/9-10/14 Ch 6.6, 7.1-7.4	PQ9: 10/11-10/16 Ch 6.1-6.5, 6.7	R7: 10/7-10/10 <u>Exam Review</u>
	<b>October 10</b>	<b>Exam 2 (Ch. 3.4-3.9, 4, 5)</b>			
10	October 13-19	Ch. 6.6, 7.1-7.4	RC10: 10/16-10/21 Ch 7.5-7.6, 8.1-8.2	PQ10: 10/18-10/23 Ch 6.6, 7.1-7.4	R8: 10/14-10/17
11	October 20-26	Ch. 7.5-7.6, 8.1-8.2, Lattice Energy	RC11: 10/23-10/28 Ch 8.3-8.7	PQ11: 10/25-10/30 Ch 7.5-7.6, 8.1-8.2, Lattice Energy	R9: 10/21-10/24
12	October 27-November 2	Ch. 8.3-8.7	RC12: 10/30-11/4 Ch 8.8-8.10, 9.1	PQ12: 11/1-11/6 Ch 8.3-8.7	R10: 10/28-10/31 <u>Exam Review</u>
	<b>October 31</b>	<b>Exam 3 (Ch. 6, 7, 8.1-8.2, Lattice Energy)</b>			

	<b>November 1</b>	<b>No Class (Fall Break)</b>			
13	November 3-9	Ch. 8.8-8.10	RC13: 11/6-11/11 Ch 9.2, 10.1-10.2	PQ13: 11/8-11/13 Ch 8.8-8.10	R11: 11/4-11/7
14	November 10-16	Ch. 9.1-9.2	RC14: 11/13-11/18 Ch 10.1-10.6	PQ14: 11/15-11/20 Ch 9.1-9.2	R12: 11/11-11/14
15	November 17-23	Ch. 10.1-10.6	RC15: 11/20-11/25 Ch 10.7-10.8	PQ15: 11/22-11/27 Ch 10.1-10.6	R13: 11/18-11/21 <u>Exam Review</u>
	<b>November 21</b>	<b>Exam 4 (Ch. 8.3-8.10, 9.1-9.2)</b>			
16	November 24-30	Ch. 10.7-10.8	No RC	PQ16: 11/29-12/3 Ch 10.7-10.8	Not meeting
	<b>November 27-29</b>	<b>No Class (Thanksgiving Break)</b>			
17	December 1-3	Review	No RC	No PQ	Not meeting
	<b>December 11</b>	<b>FINAL EXAM First Term ACS Standardized Exam</b>			