

General Chemistry I FALL 2021
CHEM 031 | Section A | CRN: 90166

Instructor: Amy Hoeltge, Ph.D.

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Office: Innovation E337

Lecture: MWF 9:40-10:30am Innovation E102

Office Hours: by appointment *on Teams*

Exams: M 6:40-9:40pm *location by lab section*

Course Description: This is the first semester of a two-semester course sequence. Topics include matter, stoichiometry, gas laws, thermochemistry, quantum theory, atomic structure, electronic configurations, bonding, and intermolecular forces.

Required Course Materials:

Textbook: Chemistry Structure and Properties ; 2nd Ed.; Tro, N. (ISBN-13: 978-0-13-429393-6)

Online Access: Mastering Chemistry (you will need to purchase an individual online access code). **There is no course ID. Sign in via the link on our Blackboard page.**

A digital copy of the solutions manual will be provided free of charge on BlackBoard.

Four ways to obtain your textbook and Mastering Chemistry:

- 1) Online for approximately \$300; text and mastering
- 2) UVM bookstore for approximately \$160; text, solutions manual, and mastering
- 3) Digital access for approximately \$120; etext and mastering
- 4) Borrow a text and purchase the online Mastering code separately for approximately \$75

Lab Manual*: You will find all experiments as individual PDFs on your lab section's BB website. You are responsible for printing out each one and bringing it with you to lab.

Lab Notebook*: A carbon-less copy notebook is required. You can find these in the UVM bookstore.

Safety eyewear*: Everyone must wear OSHA approved safety glasses or goggles while in the lab. Students not observing this rule will receive a **zero** for the experiment.

**for students participating in on-campus labs*

Calculator: A non-programmable, non-graphing calculator to be used for exams in this course. You can find one at the UVM bookstore, or nearly anywhere, for about \$10.

Lecture: We will meet in person on MWF from 9:40-10:30am, in Innovation E102. This time will be used to introduce new content and to answer questions. In addition to live lectures, which will not be recorded, you will be provided with PowerPoint lecture slides, courtesy of your textbook's publisher. These have been designed by the author, not by me, but I will make them available to you, for free, as an additional resource. The notes we take in class will also be uploaded as PDFs. These can be located in the Course Materials section of our BlackBoard page, in their respective chapter folders.

Exams: Dates for each exam are listed on the lecture schedule. These three exams will be given to all CHEM031 sections, in person, on Monday evenings from 6:40-9:40pm. Only non-programmable, non-graphing calculators are permitted for these exams. You will not be allowed to use cell phones, laptops, tablets, or any programmable devices on exams. Students caught with any other electronic devices will receive a grade of **zero** for the exam.

Exams are written to take no more than 1.5 hrs. All students will have a full 3.0 hrs to take the exams. **Since double time is already built into the exam schedule, ACCESS accommodations for extended time do not apply for the three mid-semester exams.** *ACCESS accommodations DO apply, however, for the final exam.*

Attendance at all examinations and labs is required. A grade of zero will be assigned to any student who misses an exam or lab except in the case of an excused absence. *There will be no makeup exams given. Please see Grading section below for our policy.*

Exam Locations (based on your lab section):

<u>Lecture Hall</u>	<u>Lab Sections</u>
Innovation E105	L01-L04 & Z01-Z04
Innovation E102	L05-L11 & Z05-Z11
Billings LH	L12-L23 & Z12-Z23
Rowell 103	L24-L31 & Z24-Z31
Williams 301	L32-L37 & Z32-Z37
Votey 105	L38-L43 & Z38-Z43
Fleming 101	L44-L49 & Z44-Z49
Lafayette L108	L50-L54 & Z50-Z54

Review Sessions: Review sessions will be held on Teams the Sunday afternoon immediately before each of the three exams. These sessions represent an opportunity for students to ask questions about homework and class topics in preparation for the exams. If you keep up with the course work on a daily basis you will be best prepared to benefit from these sessions. Attendance is optional but highly recommended for students having difficulty with the course.

Problem Solving Sessions: I will host weekly problem solving sessions on Teams, Mondays at 6:40pm, on the evenings we don't meet for an exam. Links to these meetings will be provided as I will be presenting from only one of my two team channels. I will record these meetings and share the link to the MS Stream recording for all of my students. These sessions present a great opportunity for us to cover more ground outside of class. Please email me any homework, lecture, or exam questions you have prior to the session and I will arrange them in a fluid order to maximize time efficiency and to avoid repeats.

Homework: A long list of suggested practice problems can be found at the end of this syllabus, in the lecture schedule. These exercises will not be collected or graded. However, failure to master these problems will certainly not lead to a wildly successful experience in this course. You can check your answers by referring to the appendix of your textbook.

Online Quizzes: There will be ten graded quizzes (best 10 out of 12) during the semester. These will occur once we finish a chapter and will be found online, in Mastering Chemistry. You will have five whole days to get your chapter quiz done. No extensions will be granted.

Lab: More information can be found on the Blackboard page for your lab section.

Before the start of lab, purchase your lab manual, lab notebook, and safety glasses. On your lab's Blackboard page, review and complete the Safety Presentation and Safety Quiz. You will not be able to participate in lab until this is complete.

Students **must** attend the lab section to which they are assigned. If more than **two** labs are missed you will receive an **F** for the course. Only the academic dean of your college may grant an incomplete. An unexcused absence will result in a **ZERO** grade for the laboratory experiment. Official documentation of sickness or a family crisis is required for an excused absence.

Prior to attending your on-campus lab you must view the video that accompanies the experiment. Videos can be found at:

Grading:

Exams*:	3 exams @ 125pts. ea.	375pts.	37.5%
Online Quizzes:	12 quizzes (top 10 counted) @ 12.5pts. ea.	125pts.	12.5%
Final Exam**:	comprehensive	250pts.	25%
Labs:	10 experiments	250pts.	25%

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Total Course 1,000pts 100%

*If one of your three mid-semester exams is lower (percentage wise) than your final exam, the percent you have earned on the final will count as that mid-semester exam score. This will only happen for **one of your mid-semester exams, not all three.**

**You must take the final exam to pass the course.

Office Hours:

If you would prefer to discuss something personal or would like additional help in the course, you may schedule a private Teams session with me via email. I am exceedingly available outside of class time, during evening hours, and on weekends.

Send up a flare if you would like to meet with me and we can work out a date/time that fits both of our schedules. I will create a Teams invitation for your private session and I ask that you kindly reply so I know whether or not to expect you.

Please send me an email at least two hours prior to our private session if you will not be able to make it. That way I can offer the time slot to one of your classmates.

Accommodations:

Student Learning Accommodations Statement

"In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact ACCESS, the office of Disability Services on campus. ACCESS works with students to create reasonable and appropriate accommodations via an accommodation letter to their professors as early as possible each semester." Contact ACCESS: A170 Living/Learning Center - 802-656-7753

Academic Integrity: This policy addresses plagiarism, fabrication, cheating, and collusion.

<http://www.uvm.edu/policies/student/acaintegrity.pdf>

Fall 2021 Tentative Lecture Schedule

Dates	Chapter	Practice Homework
Aug 30-Sep 3	E and 1	Ch E: 19,21,23,25,27,29,33,37,39,41,45,47,49,51,53,55,59,61,65,71,73,75,79,81,87,89,91,95,99 Ch 1: 35,39,43,45,49,53,55,57,59,61,63,65,67,71,75,77,79,83,85,87,89,91,93,97,103,105,107,109,117
Sep 6	LABOR DAY NO CLASS	
Sep 7-10	1 and 2	Ch 2: 35,37,39,41,43,51,53,55,57,59,61,63,65,67,69,71,73,79,85,89,91
Sep 13	LAST DAY TO ADD/DROP	
Sep 13-17	2	
Sep 20	EXAM 1	Ch E, 1, and 2
Sep 20-24	3	Ch 3: 41,43,45,47,49,51,53,55,57,59,61,63,65,67,69,71,73,75,77,79,81,83,87,89,91,93,95,97, 101,103,109,115,127,135
Sep 27-Oct 1	4	Ch 4: 29,31,33,35,37,39,43,45,47,49,51,53,55,57,61,63,65,67,69,71,75,77,79,83,87,93,95,97, 101,103,105,109,111,117,119,121,123,125,127,137
Oct 4-8	4 and 5	
Oct 8	FALL RECESS NO CLASS	
Oct 11-14	5	Ch 5: 23,25,27,29,31,35,37,41,43,45,47,49,51,53,55, 57,59,61,63,65,69,71,73,75,79,81,83,85,91,95,97,99, 101
Oct 18	EXAM 2	Ch 3, 4, and 5
Oct 18-22	11.1-11.5 and 6	Ch 11: 35,37,39,41,43,45,47,49,51
Oct 25-29	6 and 7	Ch 6: 25,29,31,33,35,39,41,43,45,49,51,53,55,57,59,61
Nov 1	LAST DAY TO WITHDRAW	

Nov 1-5	7 and 8	Ch 7: 15,17,19,21,23,25,27,29,31,33,35,37,39,41,43, 45,47,49,53,55,57,61,63,65,67,69,71,75,81,85
Nov 8-12	8 and 9	Ch 8: 21,23,25,27,29,31,33,35,37,39,41,43,45,47,49, 51,53,55,57,59,61,63,65,67,69,71,73,75,77,79,81,87, 91,93,99
Nov 15	EXAM 3	Ch 6, 7, 8, 9, 11
Nov 16-29	9	Ch 9: 31,33,35,37,39,41,43,45,47,49,51,53,57,59,61, 63,65,67,69,71,73,75,77,79,81,83,85,87,89,91,93,95, 99,101,107,111,113,117,119,123
Nov 22-26	THANKSGIVING BREAK	
Nov 29 – Dec 3	10	Ch 10: 25,29,31,33,35,37,39,41,43,45,47,49,51,53,55, 57,59,61,63,67,69,71,73,77,79,81,83,85,87,89,91,93, 95,99,101,105,107,113,123,125,127
Dec 6-10	10 and 11	Ch 11: 53,57,59,61,63,65,67,69,71,73,77,81,85,87,93
Dec 16	FINAL EXAM	Cumulative ; 7:30-10:15am ; Innovation E102

Fall 2021 Lab Schedule

Week	Dates	Activity	Description
1	Aug 30 – Sep 3	NO LAB	Purchase lab manual, breakage card, goggles, etc
2	Sep 7 – Sep 10	NO LAB	Complete Lab Safety Quiz on Blackboard
3	Sep 13 – Sep 17	Check In	Check In
4	Sep 20 – Sep 24	Experiment 1	Measurement and Density
5	Sep 27 - Oct 1	Experiment 2	Flame Emission Spectra
6	Oct 4 – Oct 8	Experiment 3	Ionization Energy/Atomic Radius
7	Oct 11 – Oct 15	Experiment 4	Determination of a Chemical Formula
8	Oct 18 – Oct 22	Experiment 5	Molecular Models (VSEPR)
9	Oct 25 – Oct 29	Experiment 6	Intermolecular Forces
10	Nov 1 – Nov 5	Experiment 7	Chemical Reactions
11	Nov 8 – Nov 12	Experiment 8	Acid/Base Titration
12	Nov 15 – Nov 19	Experiment 9	Heat Capacity and Enthalpy
13	Nov 22 – Nov 26	NO LAB	FALL BREAK
14	Nov 29 – Dec 3	Experiment 10 & Check Out	Gas Law Determination of Molecular Weight

Religious Holidays

Religious Holiday Policy Statement

Religious Holidays: Students have the right to practice the religion of their choice. If you need to miss class to observe a religious holiday, please submit the dates of your absence to me in writing by the end of the second full week of classes. You will be permitted to make up work within a mutually agreed-upon time.

<https://www.uvm.edu/registrar/religious-holidays>

COVID-19 Accommodations

Due to COVID-19 we advise that a student feeling any symptoms should get checked out before attending an in-person class. Keep in mind that if a student attends an in-person class and tests positive for COVID-19 that they are putting other students at risk and their possibly quarantine as well. When in doubt, go get tested. The [Green and Gold Promise](#) clearly articulates the expectations that UVM has for students, faculty, and staff to remain compliant with all COVID-19 recommendations from the federal CDC, the State of Vermont, and the City of Burlington. This include following all rules regarding facial coverings and social distancing when attending class. If you do not follow these guidelines, I will ask you to leave the class. If you forget your mask, you cannot enter the class and should go back and retrieve your mask. [The Code of Student Conduct](#) outlines policies related to violations of the Green and Gold Promise. Sanctions for violations include fines, educational sanctions, parent notification, probation, and suspension.

Health & Safety

The University of Vermont's number one priority is to support a healthy and safe community:

Center for Health and Wellbeing: <https://www.uvm.edu/health>

Counseling & Psychiatry Services (CAPS): Phone: (802) 656-3340

C.A.R.E.: If you are concerned about a UVM community member or are concerned about a specific event, we encourage you to contact the Dean of Students Office (802-656-3380). If you would like to remain anonymous, you can report your concerns online by visiting the Dean of Students website at <https://www.uvm.edu/studentaffairs>

Diversity, Equity, and Inclusion

The Division of Diversity, Equity, and Inclusion believes excellence should be inclusive of the entire University of Vermont (UVM) community and is steadfastly committed to this belief. Every day, our Division strives to make our work accessible, affirming, and action-oriented to help ensure excellence is inclusive of everyone. [UVM Diversity](#)

Interfaith Center: Each of us engages those questions differently, perhaps through a religious tradition, philosophy, or spiritual practice. No matter how you make meaning of your life, you are welcome at the Interfaith Center for reflection, spiritual practice, education, and community building. [Interfaith Center](#)

Mosaic Center for Students of Color (MCSC): MCSC's vision is to create a diverse and rich community of empowered, engaged, and enthusiastic students of color at UVM. We fully support the holistic development of self-identified students of color so that they can obtain their goals for academic achievement, personal growth, identity formation, and cultural development. [Mosaic Center](#)

Prism Center: The Prism Center serves the diverse queer and trans communities at the University of Vermont. We support and empower lesbian, gay, bisexual, transgender and queer students, as well as students whose identities fall in between or expand beyond those categories, and work to create a campus community where people of all sexual and gender identities can thrive. [Prism Center](#)

UVM Women & Gender Equity Center: The equity center cultivates joyful community while advancing gender equity across identities. We envision a brave, diverse, and equitable learning environment for all members of the UVM community. We provide advocacy services for those in our community who have experienced sexual or intimate partner violence, and strive to provide programming, education, and events that ask our community to explore the intersections of their gender and other identities. [Women and Gender Equity Center](#)

FERPA Rights Disclosure

The purpose of this policy is to communicate the rights of students regarding access to, and privacy of their student educational records as provided for in the Family Educational Rights and Privacy Act (FERPA) of 1974. [FERPA](#)