

General Chemistry I SPRING 2022
CHEM 031 | Section A | CRN: 12211

Instructor: Amy Hoeltge, Ph.D.

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Office: Innovation E337

Lecture: MWF 1:10-2:00pm Innovation E102

Office Hours: open or by appointment

Exams: Thurs 6:00-9:00pm MLS 235

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)

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

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.

Four suggested 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.

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 1:10-2:00pm, 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. My personal notes from class will also be uploaded as PDFs. These will be 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 exams will be given in person, on Thursday evenings from 6:00-9:00pm. 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.

Attendance at all examinations is required. Students must take their exam on the date it is given to the whole class. **No alternate exam dates will be permitted.** A grade of zero will be assigned to any student who misses an exam, without exception.

There will be no makeup exams given. Please see Grading policy below.

Review Sessions:

Review sessions will be held on Teams the Sunday afternoon immediately before each exam. These sessions represent an opportunity for students to ask questions about homework and class topics in preparation for the exams. Attendance is optional but highly recommended for students having difficulty with the course.

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 Solutions Manual posted on BB.

Online Quizzes:

There will be ten graded quizzes (best 10 out of 12) during the semester. Your lowest two quiz scores will count as extra credit points at the end of the semester.

Each chapter quiz will open once we complete the material and will be found online, in Mastering Chemistry. I will announce to the class when a chapter quiz becomes available.

Once open, quizzes will remain available until the night before your final exam. Quizzes present a great study method for exams. However, it is not advised that you procrastinate taking these until the end of the semester.

Quizzes may only be taken once for credit. There are no exceptions to this policy.

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. 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.

Grading:

Exams*:	3 exams @ 125 pts each	375 pts
Online Quizzes:	12 quizzes (top 10 counted) @ 12.5 pts each	125 pts
Final Exam**:	cumulative	250 pts
Labs:	10 experiments	250 pts
.....		
Total Course		1,000 pts

*If you miss an exam, you will receive a zero. **There are no exceptions.** However, you may substitute your final exam score (percentage wise) for your **single lowest** exam score. This means that points lost for missing an exam OR a low scoring exam can be recovered via the final. If you miss two exams, one of them will be a zero. See examples below...

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

Example A (one missed exam):

Exam 1: 98 ; Exam 2: 62 ; **Exam 3: missed (zero)** ; Quiz: 120 ; Lab: 222 ; **Final: 190**

$$190/250 = 76\% \text{ and } 76\%(125) = 95$$

$$\text{Course Total: } 98 + 62 + 95 + 120 + 222 + 190 = 787 \text{ pts}$$

Example B (replacing lowest exam):

Exam 1: 101 ; Exam 2: 98 ; **Exam 3: 67** ; Quiz: 120 ; Lab: 222 ; **Final: 150**

$$150/250 = 60\% \text{ and } 60\%(125) = 75$$

$$\text{Course Total: } 101 + 98 + 75 + 120 + 222 + 175 = 791 \text{ pts}$$

Example C (two missed exams):

Exam 1: **missed (zero)** ; Exam 2: 109 ; **Exam 3: missed (zero)** ; Quiz: 115 ; Lab: 230 ; **Final: 200**

$$200/250 = 80\% \text{ and } 80\%(125) = 100 \text{ and final only replaces single lowest exam score}$$

$$\text{Course Total: } 0 + 109 + 100 + 115 + 230 + 200 = 754 \text{ pts}$$

Office Hours:

You are welcome to drop by my office any time the door is open. If you would like an appointment, please email me and we can arrange something specific. I am also available to meet in evenings and on weekends via Teams.

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>

Spring 2022 Tentative Lecture Schedule

Dates	Chapter	Practice Homework
Jan 19 - 21	E	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
Jan 24 - 28	1	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
Jan 31 - Feb 4	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
Jan 31	LAST DAY TO ADD/DROP	
Feb 7 - 11	2 & 3	
Feb 10	EXAM 1	Ch E, 1, and 2
Feb 14 - 18	3 & 4	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
Feb 21 - 25	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
Feb 28 - Mar 4	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
Mar 7 - 11	SPRING BREAK	
Mar 14 - 18	11.1-11.4 & 6	Ch 11.1-11.4: 35,37,39,41,43,45,47,49,51
Mar 17	EXAM 2	Ch 3, 4, 5, and 11.1-11.4
Mar 21 - 25	6 & 7	Ch 6: 25,29,31,33,35,39,41,43,45,49,51,53,55,57,59,61
Mar 28 – Apr 1	7	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
Apr 4	LAST DAY TO WITHDRAW	

Apr 4 - 8	8	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
Apr 11 - 15	8 & 9	
Apr 14	EXAM 3	Ch 6, 7, 8
Apr 18 - 22	9 & 10	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
Apr 25 - 29	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
May 2 - 6	11.5 - end	Ch 11.5 - end: 53,57,59,61,63,65,67,69,71,73,77,81,85,87,93
May 12	FINAL EXAM	Cumulative ; Innovation E102 ; 10:30 am– 1:15 pm

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](#)