

CHEMISTRY 031

Fall 2021

Innovation E102

Instructor: Alexandria (Lex) Alveshere

She/her/hers

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Minimum Open Hours: Monday (1:00-5:30 PM), Wednesday (9:00AM-4:25PM)

Thursday (6:30-9:00PM)(virtual only!)

See my blocked-out schedule on Blackboard for other available times!

Section E T/Th (4:25-5:40PM)

I. Introduction

Course Overview

This course is the first in a two-semester sequence covering the foundational principles of chemistry. To begin in this course, we will start by learning the basic tools and vocabulary used by scientists to describe their work: units, measurements, and problem-solving tool. From there, we'll look at the structure of the atom, and continue up in scale to the structure and properties of individual elements. Then, we'll look at the interactions between two (or more!) atoms/elements, called bonds, how those differ depending on the identity of the atoms involved, and how those bonds are formed. Towards the latter half of the semester, we'll explore the properties of large groups of molecules and how different molecules interact with each other outside of bond forming events. In the second course in this sequence, Chem 032, we'll explore more complex molecular interactions and expand our knowledge of the topics covered in this course.

Course Learning Objectives and Outcomes

The course learning objectives listed below describe the fundamental goals of this course. Success in this course will be measured by meeting the course objectives listed below. Please note that these objectives are not in the order in which they will be achieved or in order of importance!

- 1) You will be familiar with and appreciate the scope, methodology, and application of modern chemistry and its ability to explain the physical world.
- 2) You will understand that all matter consists of atoms and that the combination of different kinds of atoms in discrete combinations and geometries produce the extensive variety of materials, objects, and "stuff" observed in the world.
- 3) You will learn to solve problems and interpret data using valid and efficient methods of analysis as well as assess the results of calculations for validity and reasonability.

- 4) You will learn the principles of atomic and molecular theory, stoichiometry, thermodynamics, and simple* molecular interactions.

In addition to the overarching learning objectives listed above, by the end of the semester students should be able to do the following tasks, called learning outcomes. Again, these learning outcomes are not necessarily listed in the order that they will be covered in class.

- 1) Use dimensional analysis to convert measurements between different units
- 2) Name simple covalent and ionic chemical compounds
- 3) Balance chemical equations and use the balanced equations to determine the limiting reagents, theoretical yield, and percent yield
- 4) Predict the properties of a solution using the composition of the solution
- 5) Describe the electronic structure of atoms
- 6) Describe and predict the properties of elements on the periodic table based on their position
- 7) Differentiate between types of bonds and reactions
- 8) Determine the energy changes of a reaction as it progresses
- 9) Draw Lewis dot structures and use them to determine the 3D shapes of molecules
- 10) Describe the properties and behaviors of gases

II. Course Structure

Course Participant Expectations

Part of my goal as an instructor for this course is to make the class as accessible and engaging as possible for all students, regardless of previous experiences with chemistry or prior knowledge coming into the class. As a part of this goal, we've created some class expectations for both students and for me as your instructor.

Student Expectations

- 1) I will be an active participant in the learning process to the best of my ability.
- 2) I will seek out help from my instructor, tutors, and peers when needed.
- 3) I will ask questions when I don't understand something.
- 4) I will help to build a positive, collaborative, and respectful atmosphere in the classroom by helping my fellow classmates when I am able.
- 5) I will communicate with instructors and fellow students in a respectful, professional, courteous manner.

Instructor Expectations

- 1) I will strive to make this class as accessible as possible to students
 - a. I will be present and ready to help during office hours
 - b. I will post lecture notes and recordings within 48 hours of finishing class
 - c. I will respond to all communications in a respectful, courteous, and timely fashion

* In this case, simple does not necessarily mean easy, but the opposite of complex

- d. I will notify students of any extended times that I will be unavailable and provide alternative contacts
- 2) I will seek to build a positive, engaging, and collaborative atmosphere in the classroom, where students can feel comfortable asking questions and enjoy the learning process.
- 3) I will treat all questions as equally valid and coming from a genuine desire to understand the material.
- 4) I will highlight and celebrate chemists who come from diverse backgrounds and show the impact they have on the field of chemistry.

Instructional Methods

The primary method of instruction in this class will be through lecture, with some small-group problem solving interspersed. Lecture time will be used to cover new material and concepts in addition to working through sample problems. It is highly recommended that you familiarize yourself with the material to be covered in lecture before attending class and use in-class lectures to deepen your understanding of the material, whether that be through reading the covered topics from the assigned textbook or other instructional materials (some suggestions below!).

Textbook and Mastering Chemistry Access

There are four options to purchase “Chemistry Structure and Properties” 2nd Ed., by Tro (Full text ISBN-13: 978-0-13-429393-6) along with Mastering Chemistry online access.

- 1) An online site (~\$300; physical text and Mastering)
- 2) At the UVM bookstore (~\$160; physical text, solutions manual, and Mastering)
- 3) Digital access (~\$120; etext and Mastering)
- 4) Purchase a used textbook (\$??) and Mastering Chemistry separately (~\$75)

The digital solutions manual will be provided for free but also comes with the UVM package and has the complete solutions to all the assigned problems. The most bang for your buck is the UVM bookstore package. **The textbook itself is not required for the class**, but it is highly recommended as it has a wealth of practice problems with answers. However, I recognize that the cost of the textbook, even used, can present a significant barrier to acquiring it. If that is the case, there are alternative resources available in the “Additional Resources” section of this syllabus. There is also the option to partner with one or more other students and purchase the textbook together, though do be aware that the etext version of the textbook does have DRM that prevents more than two devices from accessing it at one time. **Mastering Chemistry is required**, and a significant portion of your homework grade will be earned through Mastering Chemistry assignments.

Open Hours

Open hours are an informal time where you can come chat with me in an individual or small group setting. Open hours can be used to get additional help on course material, seek feedback on graded assignments, access the homework problems in the textbook if you've not bought it or forgot it at home, troubleshoot Mastering Chemistry, get advice about university life, talk about your life plans, tell me about your new favorite book, and more. I

would love for you to stop by, even if it is just to say hello. Rule of thumb: if my office door is open, and I am not currently with another student, feel free to come in with questions. I am also available over Teams for questions—please send a Teams chat message and wait for a response before calling via Teams.

Listed at the top of the first page of the syllabus are the *minimum* open hours I will be holding throughout the semester. I will be available outside of those times, when possible, though unless you schedule something in advance, I cannot promise my availability. If you would like to arrange a time to outside of the listed minimum open hours or to discuss something in private, please arrange a meeting time in advance via email or Teams chat. My recommendation would be to let me know what you would like to meet about, suggest two to three times you would be willing/able to meet with me, and whether you'd prefer to meet in-person or virtually.

In the event that COVID restrictions prohibit meeting in person for office hours, we will reassess office hours and make a plan together for how to make sure that I remain as accessible as possible for everyone.

Problem Sets and Ungraded Assignments

For each chapter, problems from the official class textbook will be recommended to you to help build you build problem-solving skills and strengthen the connections that we build in class. These problems are not required and will not be turned in for class credit, but I strongly encourage you to attempt every problem assigned as the best way to learn chemistry is to practice chemistry. The answers for these assigned textbook problems can be found in the solutions manual provided on Bb for checking solutions. Exams from previous semesters will also be available in Bb for additional practice with answer keys provided—even though questions may change from year to year, many of the concepts will stay the same. Do not look at the answer before attempting the problems. It is easy to lull yourself into a false sense of security that way.

Mastering Chemistry and Homework Quizzes

Throughout the semester you will have the opportunity to demonstrate your knowledge the form of homework quizzes on Mastering Chemistry. These quizzes are open note and open book, but you are expected to work by yourself to answer the questions. While there will be 12 quizzes throughout the semester, only the best **10** scores will be recorded for every student. You will have several days to complete each quiz, and once the quizzes close, they will not re-open.

Exams

Throughout the semester, your mastery of the course content will be tested at three midterms exams, administered on the days specified below. There are no scheduled make-up dates for the exams. However, your lowest mid-semester exam score can be replaced by your final exam score if you receive a higher percentage on that exam. Regardless of your Chem031 section, the exams are all administered at the same time at different locations depending on your lab section (also below).

All mid-semester exams are written to take about 1.5 hours, but all students are provided with the full 3-hour exam block to complete the exam, regardless of time accommodations. For the final exam, students with ACCESS time accommodations may request additional time. If you are absent from an exam official documentation of sickness or family crisis is required or you will receive a ZERO for the exam. Students with legitimate excuses will be permitted to take the exam early. Except in very unusual circumstances makeup exams will not be administered after the scheduled exam time.

While taking the exams, you are only permitted to use a non-graphing calculator. No other electronic devices are allowed. **Students caught using sources other than their own mind and their non-graphing calculator to complete the exam will be referred to the Center for Student Conduct as an Academic Integrity Violation.** All exams, with the exception of the final exam, will be made available after grading is completed for practice.

Exam Dates:

Exam 1	September 20*	Exam 3	November 15*
Exam 2	October 18*	<i>*All mid-semester exams will take place from 6:40-9:40PM</i>	
Final Exam (Section E)		December 16 4:30-7:15 PM	

Note: You must take your final exam during your registered section's time unless you obtain prior permission

Mid-Semester Exam Locations

Innovation E105	L01-L04 & Z01-Z04	Williams 301	L32-L37 & Z32-Z37
Innovation E102	L05-L11 & Z05-Z11	Votey 105	L38-L43 & Z38-Z43
Billings LH	L12-L23 & Z12-Z23	Fleming 101	L44-L50 & Z44-Z50
Rowell 103	L24-L31 & Z24-Z31	Lafayette L108	L51-L54 & Z51-Z54

All students will take the final exam in Innovation E102 (normal lecture location)

Additional Resources

Beyond lectures, open hours, the textbook, and Mastering Chemistry, there are a wealth of additional resources available to you on the internet and at UVM. You may find some of these resources more useful than others—that's fine! You may not find any of them useful—that's okay too! If you discover other resources throughout the semester that help you learn chemistry, please let me know, and I'll add them to my list!

UVM Specific Resources:

- TA Office Hours: see the Lab section of this syllabus. Please know that these office hours are not just for lab help, but for assistance with all aspects of Chem 031!
- UVM Tutoring Center (https://www.uvm.edu/academicsuccess/subject_area_tutoring): UVM provides tutoring for specific classes, including Chem 031, for free to all students at the university. Sessions must be scheduled in advance, but tutors are all students who have taken and succeeded in the class.
- Supplemental Instruction (https://www.uvm.edu/academicsuccess/supplemental_instruction_schedule): Supplemental Instruction or SI is a peer-led study group run by the Tutoring Center to help students in large enrollment

classes review the material, practice solving problems, and work with peers to help better understand course content. Unlike individual tutoring, you do not need to sign up in advance to attend!

- Chemistry Grad Student Tutoring (email andrea.lucey@uvm.edu for a list of current Grad Student Tutors): Many of the chemistry grad students at UVM provide tutoring in chemistry. However, unlike the previously listed resources, this is **not** a free service, and most of the tutors charge between \$25-\$40 per hour depending on the situation.

General Internet Resources:

- ChemLibreTexts (<https://chem.libretexts.org/>), an alternative open-access chemistry textbook
- Khan Academy (<https://www.khanacademy.org/science/chemistry>), a non-profit organization that offers a variety of course to help support learning
- The Organic Chemistry Tutor (<https://tinyurl.com/OrgChemTutor>), an educational Youtuber who mostly covers chemistry topics, including gen. chem and organic chem.
- Professor Dave Explains (<https://tinyurl.com/ProfDaveExpl>), an educational Youtuber who covers a variety of topics, including chemistry
- Wikipedia and Simple Wikipedia provide a good overview on many of the topics covered in this class
- Other colleges/university websites (look for the .edu as part of the web address!)

A word of caution: While Chegg, Quora, and other similar “homework help” sites/forums also contain information on chemistry, it is best to avoid these sites for two main reasons: 1) the information provided by these sites is not always correct and often contains errors or misinformation, and 2) it is easy to cross the line from using these sites to help you understand chemistry to committing academic integrity violations. A good rule of thumb when using some of these additional resources is not to look for the answer itself but for information that will help you discover the answer for yourself. For example, don’t search for the whole question but individual pieces of information. Posting on these sites for help with *graded* assignments is considered cheating and a violation of UVM’s academic conduct policies.

III. Laboratory

Lab

In order to learn chemistry well, you must also learn to do chemistry. As a part of this course, you will attend lab every week to perform experiments that serve to teach you hands-on skills as well as reinforce the concepts covered in class. Please read the separate lab syllabus (found here:) for a full breakdown of requirements, grading, and policies for lab.

Lab Attendance

Students must attend the lab section they are assigned to. 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 (i.e. just not showing up to lab) will result in a ZERO grade for the laboratory experiment. If you miss a lab, contact your TA and the lab coordinator Christine Cardillo (Christine.cardillo@uvm.edu) as soon as possible to determine how to make up the missed lab. If there is a need to reschedule your lab time to one that is not your assigned time you must obtain permission from the lab coordinator as soon as you are aware of the need to reschedule.

Before the First Lab

Before attending your first lab of the semester (13-17 Sept), make sure you have completed the following tasks:

1. Purchased a notebook with carbon-less copies to record lab data.
 - 1.1. These can be purchased online or at the UVM bookstore
2. Purchased safety eye wear
 - 2.1. Everyone in the lab must wear OSHA approved (EZ87stamped) safety glasses or goggles once any experimentation has been started. Students not observing this rule will receive a **ZERO** for the experiment, warnings will not be given. Safety eyewear can be purchased at the UVM bookstore or in the Discovery Building stockroom.
 - 2.2. Contact Lenses are a potential health hazard and can be worn in the laboratory only if no other types of corrective lenses are available. If you have to wear contact lenses then you must wear goggles and please let your TA know.
3. Reviewed the lab attire rules
 - 3.1. Appropriate dress for lab work includes full-length pants (no shorts, capris, or crops), a shirt with sleeves that covers the back and midriff (no open-back shirts, crop tops, or tank tops), and shoes that encase the foot (no open toes, slip-ons, or open top shoes)
 - 3.2. If you arrive in lab without meeting the attire requirements, you will be asked to leave
4. Reviewed and passed the **Safety Presentation and Quiz**
 - 4.1. You must get at least an 80% on the Safety Quiz **before** the first week of lab in order to be allowed to perform the experiment

Lab Period Expectations

For many of you, this will be your first experience in a college chemistry lab, and I recognize that may be intimidating and stressful. To help you ease into the lab setting, I want to lay out what you can expect from your typical lab period and give you some tips and tricks to help you get the maximum benefit from lab.

Before coming to each lab, you should read the material provided in the lab manual for that week's experiment and complete the pre-lab questions. The pre-lab questions serve as a scaffolded way to guide you to the important parts of the lab and help prepare you for the week's lab. They will also help you think deeper about how the material we cover in class has practical applications in the lab.

I would highly recommend printing the complete lab, found in the lab Bb page, including the introductory material, experimental procedure, and post-lab questions and calculations, and actively annotating that document as you read it. While there will not be a pre-lab quiz, effective preparation for lab means both more efficient, safer, and all-around better performance in the lab. My personal recommendation is to also review the post-lab questions and calculations before going to lab—they will give you a heads up about what sorts of information you should be gathering during the lab and how it will be used in your post-lab exercises.

At the start of each lab period, you'll come in and turn in your pre-lab questions and pick up a copy of the day's recitation questions. The first half hour of the lab period will be spent working the recitation problems in small groups with the help of your lab TA. Recitation questions are designed to help reinforce the course material and set you up for completing the post-lab calculations. The questions are not given in advance of the lab—this helps simulate a test situation where you don't know the exact questions in advance. Unlike a test situation, you have the opportunity to work on these questions in small groups and use your class notes, textbook, and any other resources to help you solve them.

These questions will not be graded, but active participation in the recitation section of the lab will help you do better in the class and on exams. To get the most out of the recitation session, review the concepts covered in lecture before attending lab and take a look at the post-lab calculations. There may be times that the lab gets slightly out of sync with the lecture, especially if you have a lab time that is earlier in the week. In that case, you can use recitation as an initial exposure to the material, which will then be further developed in class.

After the recitation period, your TA give a pre-lab chat, emphasizing important points for the lab as well as give you some pointers for success in the lab. The TA will also demonstrate any new techniques needed to successfully perform the lab. From there, you will be turned loose to start in on your experiments. Labs will typically be done in pairs, giving you someone to bounce ideas off of and divide the work with. This set-up works best when both students are equal participants in the experimental work.

Once you have completed the lab and cleaned up your reagents and equipment, you should check in with your TA to make sure that you haven't missed anything, and then you can leave the lab. However, I would strongly recommend that you remain in the lab room if you finish early and use that time to work on your post-lab calculations and questions. Your lab TA is a great resource for helping you with the post-lab, and by sticking around and working on the post-lab, you can easily take full advantage of their expert knowledge.

IV. Grading

Grading

Every student in this class has the opportunity to earn an A/their desired grade. You are not competing with your fellow students for grades in this course. If everyone in the course scores in the "A-range" (maximum lower limit for an A- being 900 points total), I will give

everyone in the course at least an “A-” for the semester. Your final grade at the end of the semester will reflect your overall performance in the course. While I cannot say in advance exactly which point ranges correspond to each letter grade, I will give approximate correlations throughout the semester, following each of the mid-term exams.

I highly encourage students to work together as you study, review the material, and practice your problem-solving skills, **but all graded work must be solely your own**, including homework quizzes, exams, and lab reports. Be prepared to work independently to demonstrate your own mastery of the material.

Lab Score Breakdown

Each lab will be worth a total of 25 points, for a total of 250 points possible for the lab portion of your grade, making lab worth the same as final exam or two mid-semester exam. Often lab ends up being a major boost for most students’ final grade. Grades for each lab will be divided between the pre-lab questions (10 points) and the post-lab calculations and questions (15 points).

Manually Calculating Your Course Total

There are a maximum of 1000 points available split between your “lecture” points (max 750) and your “lab” points (max 250). Doing well in both components of the course is needed to do well in the course overall. The points are further broken down as follows:

- 1) Homework: 125 points
 $12.5 \text{ points/assignment} * 10 \text{ assignments}^\dagger = 125 \text{ points}$
- 2) Lab: 250 points
 $25 \text{ points/lab} * 10 \text{ labs} = 250 \text{ points}$
- 3) Mid-Semester Exams: 375 points[‡]
 $125 \text{ points/exam} * 3 \text{ exams} = 375 \text{ points}$
- 4) Final Exam: 250 points

You must take the final exam to pass the course

Grade Appeals

The University of Vermont is committed to an environment in which the quality of students’ work is evaluated fairly, and in which students have the right to discuss and review their academic performance with their instructors. If you feel you have been graded unfairly, you have the right to appeal your grade by following the procedures outlined in this document: <https://www.uvm.edu/sites/default/files/UVM-Policies/policies/gradeappeals.pdf>

V. Diversity Equity and Inclusion (DEI)

Diversity, Equity, and Inclusion

[†] Note that there will be 12 total homework assignments, but only the top 10 scores will be counted for your final grade.

[‡] If you score higher (in terms of percentage) on the final exam than one of your mid-semester exams, that score will be scaled to replace your lowest mid-semester exam score.

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. The university also has a number of groups on campus that are dedicated to various aspects of DEI, many of which are listed below.

To read more about official UVM policies, events, and initiatives regarding diversity, equity, and inclusion: <https://www.uvm.edu/diversity>

Managing Your Identity at UVM

Students at UVM can specify the first name and pronoun they want used on campus. All students at the University of Vermont can indicate their preferred first name and pronoun to the University community regardless of whether or not they have legally changed their names. Choosing a preferred name in the BANNER system will automatically change which name appears in many internal locations such as class lists, grade reports, and unofficial transcripts.

For more information on how to update your preferred name and personal pronouns as well as keeping your legal name private: <https://www.uvm.edu/registrar/preferred-name-and-pronoun>

ACCESS Student Learning Accommodations

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*.

Rights and Responsibilities: <https://www.uvm.edu/academicsuccess/rights-and-responsibilities>

Contact ACCESS: A170 Living/Learning Center
802.656.7753
access@uvm.edu

UVM Policy on disability certification and student support: <https://www.uvm.edu/sites/default/files/UVM-Policies/policies/disability.pdf>

If you are having difficulty navigating the ACCESS process, let me know as soon as possible so we can work towards getting you the accommodations you need.

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 (no later than 10 September). You will be permitted to make up work within a mutually agreed-upon time.

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

Interfaith Center

We all have a need to make meaning of our lives and find answers to the big questions: Who am I? Why am I here? What's my relationship with that which is beyond me? 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. <https://www.uvm.edu/interfaithcenter>

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. <https://www.uvm.edu/prism>

Mosaic Center for Students of Color

The Mosaic Center for Students of Color (MCSC) 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. <https://www.uvm.edu/mcsc>

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. <https://www.uvm.edu/wagecenter>

UVM Women in STEM

A student led group at UVM with a focus on gender equality in the STEM fields. Their mission is to connect students at the UVM and to support diversity in STEM fields at all levels of education, including undergraduate, graduate, and postdoctoral. Additionally, we aim to address and discuss issues for underrepresented groups in STEM, hold meetings to improve professional skills, and form a community that is inclusive of all gender identities that support equality in STEM.

Blog: <https://blog.uvm.edu/wstem/uvm-womxn-in-stem-network/>

UVM oSTEM

oSTEM is a national chapter-based organization (<https://ostem.org/>) that empowers LGBTQ+ people in STEM to succeed personally, academically and professionally. <https://www.facebook.com/groups/ostemvermont/>

Resources Outside UVM for DEI

The American Chemical Society (ACS) has curated a number of resources on Diversity and Inclusion (<https://www.acs.org/content/acs/en/membership-and-networks/acs/welcom>

[ing/diversity.html](#)) as well as the Association of American Medical Colleges (AAMC) (<https://www.aamc.org/what-we-do/equity-diversity-inclusion>) There are also a number of other national groups for advancing the interests of underrepresented minorities in STEM fields, some of which are specific to certain STEM disciplines.

- The National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCHE): <https://www.nobccche.org/>
- The American Indian Science and Engineering Society (AISES): <https://www.aises.org/>
- Advancing Chicanos/Hispanics & Native Americans in Science (SACNAS): <https://www.sacnas.org/>
- Out to Innovate (formerly NOGLSTP): <https://www.noglstp.org/>
- Association for Women in Science (AWIS): <https://www.awis.org/>
- The Society of Asian Scientists and Engineers (SASE): <https://www.saseconnect.org/>
- Women of Color Research Network (WoCRN): <https://womeninscience.nih.gov/women-of-color>
- Latinas in STEM: <http://www.latinasinstem.com/>
- Maximizing Access to Research Careers (MARC): <https://www.nigms.nih.gov/training/MARC>

VI. Health and Safety

Health and Safety

The University of Vermont's number one priority is to support a healthy and safe community. To help accomplish that goal, UVM provides a number of resources for students to help maintain physical and mental health.

Center for Health and Wellbeing (CHWB): <https://www.uvm.edu/health>
802.656.3350
health@uvm.edu

Counseling & Psychiatry Services (CAPS): <https://www.uvm.edu/health/CAPS>
802.656.3340

Center for Health and Wellbeing (CHWB)

CHWB has a number of resources for supporting student physical health, including on-campus appointments for behavioral health, cold & flu, eating disorder and body image support, nutrition services, sexual health, transgender healthcare, allergies, and sports injuries. Most services at CHWB will take place via telehealth, and if you are having difficulty finding a private space for your telehealth appointment, spaces in the Davis center can be booked a minimum of six hours in advance ([https://www.uvm.edu/sites/default/files/Center-for-Health-Wellbeing-at-UVM/Telehealth Rooms - How to Schedule.pdf](https://www.uvm.edu/sites/default/files/Center-for-Health-Wellbeing-at-UVM/Telehealth%20Rooms%20-%20How%20to%20Schedule.pdf))

Counseling and Psychiatry Services (CAPS)

CAPS provides free short-term counseling to students at UVM, both in individual and group settings. In addition, CAPS also offers drop-in conversations with counselors, called Let's

Talk, which are a more immediate option if you're struggling and are having difficulty making a scheduled appointment with CAPS (<https://www.uvm.edu/health/letstalk>). They also offer a variety of workshops to help support and strengthen mental health (<https://www.uvm.edu/health/mentalhealthworkshops>) and targeted group therapies for students struggling with issues such as body image, being away from home, managing college life, and depression/anxiety (<https://www.uvm.edu/health/group-counseling>).

Living Well

Living Well in the Dudley H. Davis Center is a home base for health promotion on the UVM campus. Whether you're looking for medical services, drop-in counseling, or help changing habits, you can find it at Living Well. Living Well has drop-in offices hours for your questions and support about sexuality, nutrition, substance use, tobacco and nicotine as well as mindfulness workshops, mental health workshops, sexuality education, substance use workshops and therapy dogs. For more information about what's offered at Living Well, visit their website: <https://www.uvm.edu/health/livingwell>

Students in Distress

Occasionally, members of our community find themselves or others in need of additional help and support. If you are concerned about the health, well-being, or safety of yourself or a fellow student, you can reach out to the Dean of Students directly at 802.656.3380 or submit an anonymous Concerning and/or Risky Event (CARE) form, found at the link below. https://www.uvm.edu/deanofstudents/student_advocacy/care_form

More specific resources for students in distress, including but not limited to depression, anxiety, substance abuse, abusive relationships, and sexual harassment, can be found at the following link: https://www.uvm.edu/deanofstudents/students_concern

Illness Accommodations

You do not need to supply verification of illness if you need to miss class due to an illness. If you are feeling ill, please do not come to class.

The Center for Health and Wellbeing does not provide students with notes verifying medical illness. This approach makes the best use of their limited medical resources by not having students who are required to provide verification of a recent illness utilize appointment times which can be used for students who require evaluation and therapy. Instead, contact your college's Dean's office so they can report your illness to all of your professors.

When students experience a serious illness requiring hospitalization or when an extended absence from class is foreseen, a Center staff member will (with the student's permission) notify the Dean's Office of the student's College or School so that faculty members can be made aware, and the student supported in working successfully through the absence.

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. [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.

VII. Additional Policies

Email/Teams Chat Etiquette

The primary way that you can communicate with me outside of class time is via email. While your written messages to me don't have to be overly formal, professional written communication is an important skill to build, and professional communication will serve you well as you work towards your degree and move out into the professional world. To make sure everyone is on the same page, I recommend reviewing the format below before sending your first few emails. The format listed below can also be used for Teams chats (excluding the subject line).

- 1) Subject line: Make this short and descriptive—think of it as a one-line summary of the email.
- 2) Greeting: Some form of greeting (Hello and Good morning/afternoon are always good ones!) followed by my name (Prof. Alveshere, Prof. Lex, Alexandria, etc. *but never Mrs./Ms.!*)
 - a. If you are unsure of how to address someone you are emailing, you can leave off their name in the initial email and address them in later emails based on how they sign-off on their emails.
- 3) Introduction: Let me know not only your name but also which section you are in and if we've had any personal interactions. That helps me put faces to names and speed of the process of answering any questions you have.
- 4) Reason for emailing: This is where you tell me what you want! Try to give me as much information in your initial email as possible so that we don't have to spend a lot of time emailing back and forth, dragging out the process of getting help. If you have multiple questions, number them to make it easier for me to respond and make sure I answer all of your questions.
 - a. If you're trying to set up a time to meet with me, you can speed that process up by suggesting three potential times to meet as well as what you want to meet about and whether you'd prefer to meet virtually or in-person in your initial email!
- 5) Sign-off: Your name goes here!

- 6) Before sending your email, you should double-check it for spelling/grammar mistakes

In terms of email/MS Teams chat response times, I can usually be expected to respond to emails within about 24 hours (excluding the weekends), between the hours of 8:30 AM and 8:30 PM. Messages sent after that time will usually get a response the next day since I'm old and like to go to bed early. If you have not received a response to a message after ~24 hours, send me another message asking for a response. I occasionally open messages and forget to respond to them (I am only human!). My responses to messages will be limited on the weekends, so messages sent late on Friday may not receive a response until Monday morning.

Electronic Devices in the Classroom

The use of electronic devices during lecture is permitted as long as they are being used in a manner that is not disruptive to your fellow students. This includes, but is not limited to, making sure that all electronic devices are silenced and that you are using them to support your learning by taking notes, accessing class materials, and/or doing calculations. If you are using your electronic devices in such a way that disrupts other students, I reserve the right to ask you to either put the device away or leave the classroom. If you cannot silence your electronic device (waiting for a medical update, a potential family emergency, etc.), please let me know before class begins.

Academic Integrity

Offenses against the Code of Academic Integrity (i.e. cheating) are deemed serious and insult the integrity of the entire academic community. Any suspected violations of the code are taken very seriously and will be forwarded to the Center for Student Ethics and Standards for further investigation.

For more information: <http://www.uvm.edu/policies/student/acadintegrity.pdf>

Affirmative Action and Equal Opportunity (AAEO)

Sexual misconduct, discrimination, and harassment are never the fault of the victim.

The Affirmative Action and Equal Opportunity Office investigates complaints by administering an equal opportunity complaint procedure including investigating allegations of prohibited discrimination and harassment brought by students, faculty, and staff. This office also resolves both informally and formally complaints of discrimination based on race, color, religion, ancestry, national origin, sex, sexual orientation, disability, age, positive HIV-related blood test results, status as a disabled or Vietnam era veteran, or gender identity or expression. UVM encourages any person who has experienced or witnessed a bias incident, discrimination, or harassment to report the conduct to UVM and to utilize available support services. Visit <https://www.uvm.edu/aaeo> to report an incident or to seek out resources for preventing and recovering from a bias incident.

In the deeply unfortunate event that you experience a bias incident and need additional help and support in dealing with AAEO, please reach out to me. I will personally provide what support I can as you navigate the reporting process and recover from the incident.

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.

<http://catalogue.uvm.edu/undergraduate/academicinfo/ferparightsdisclosure/>

VIII. Tentative Lecture Schedule

<u>Dates</u>	<u>Material</u>	<u>Homework Problems</u>
30 Aug – 3 Sept	Syllabus	Review the syllabus
	Essentials: Units, Measurement, and Problem Solving	ChE: 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
	Chapter 1: Atoms	Ch1: 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
6 Sept	LABOR DAY HOLIDAY	
7-10 Sept	Chapter 1: Atoms Chapter 2: The Quantum Mechanical Model of the Atom	Ch2: 35, 37, 39, 41, 43, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 79, 85, 89, 91
13 Sept	LAST DAY TO ADD/DROP COURSE	
13-17 Sept	Chapter 2: The Quantum Mechanical Model of the Atom	See previous box
20 Sept	MID-SEMESTER EXAM 1	Chapters E, 1, & 2 [§]
21-24 Sept	Chapter 3: Periodic Properties of the Elements	Ch3: 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
27 Sept – 1 Oct	Chapter 4: Molecules and Compounds	Ch4: 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
4-7 Oct	Chapter 4: Molecules and Compounds Chapter 5: Chemical Bonding I	Ch5: 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
8 Oct	Fall Recess	
11-15 Oct	Chapter 5: Chemical Bonding I	See previous box
18 Oct	MID-SEMESTER EXAM 2	Chapters 3, 4, & 5 ^{**}
19-22 Oct	Chapter 11: Liquids, Solids, and Intermolecular Forces (11.1-11.4 ONLY) Chapter 6: Chemical Bonding II	Ch11: 35, 37, 39, 41, 43, 45, 47, 49, 51 Ch6: 25, 29, 31, 33, 35, 39, 41, 43, 45, 49, 51, 53, 55, 57, 59, 61

[§] Material covered on exam will depend on our lecture progress

^{**} Material covered on exam will depend on our lecture progress

25-29 Oct	Chapter 6: Chemical Bonding II Chapter 7: Chemical Reactions and Chemical Quantities	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
1 Nov	LAST DAY TO WITHDRAW FROM THE COURSE	
1-5 Nov	Chapter 7: Chemical Reactions and Chemical Quantities Chapter 8: Introduction to Solutions and Aqueous Reactions	Ch8: 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
8-12 Nov	Chapter 8: Introduction to Solutions and Aqueous Reactions Chapter 9: Thermochemistry	Ch9: 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
15 Nov	MID-SEMESTER EXAM 3	Chapters 6, 7, 8, 9, & 11.1-11.4^{††}
16-19 Nov	Chapter 9: Thermochemistry	See previous box
22-26 Nov	Thanksgiving Holiday!	
29 Nov – 3 Dec	Chapter 10: Gases	Ch10: 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
6-10 Dec	Chapter 10: Gases Chapter 11: Liquids, Solids, and Intermolecular Forces (11.5-11.9) Review for the Final	Ch11: 53, 57, 59, 61, 63, 65, 67, 69, 71, 73, 77, 81, 85, 87, 93
16 Dec 4:30-7:15 PM	Final Exam (Section E)	Cumulative
17 Dec 1:30- 4:15PM	Final Exam (Section F)	Cumulative

^{††} Material covered on exam will depend on our lecture progress

IX. Lab Schedule

Dates	Experiment	Description	Associated Textbook Chapters
30 Aug – 3 Sept	NO LAB!	Purchase safety glasses, lab notebook, etc.	N/A
7 Sept – 10 Sept	NO LAB!	Complete the lab safety quiz	N/A
13 Sept – 17 Sept	Check-In	Meet your TA, get familiar with the lab, set expectations	N/A
20 Sept – 24 Sept	Experiment 1	Measurement and Density	Chapters E & 1
27 Sept – 1 Oct	Experiment 2	Flame Emission Spectra	Chapter 2
4 Oct – 8 Oct	Experiment 3	Ionization Energy and Atomic Radius	Chapter 3
11 Oct – 15 Oct	Experiment 4	Determination of a Chemical Formula	Chapter 4
18 Oct – 22 Oct	Experiment 5	Molecular Models	Chapters 4 & 5
25 Oct – 29 Oct	Experiment 6	Intermolecular Forces	Chapter 11
1 Nov – 5 Nov	Experiment 7	Chemical Reactions	Chapter 7
8 Nov – 12 Nov	Experiment 8	Titration of a Food Product	Chapter 8
15 Nov – 19 Nov	Experiment 9	Heat Capacity and Enthalpy	Chapter 9
22 Nov – 26 Nov	NO LAB!	Thanksgiving Break	Enjoy yourself!
29 Nov – 3 Dec	Experiment 10	Gas Law Determination of Molecular Mass & Check-Out	Chapter 10