

CHEM 1580 INTRO ORGANIC CHEMISTRY

University of Vermont

Spring 2024

GENERAL INFORMATION

INSTRUCTOR: Amy Hoeltge, Ph.D.

EMAIL: Amy.Hoeltge@uvm.edu

OFFICE: Innovation E337

OFFICE HOURS: MWF 10:45-12:15 *by appointment*

COURSE DESCRIPTION

This is a one semester introductory course in organic chemistry. Material will include basic principles of organic chemistry including bonding, hybridization, resonance theory, isomerism, conformations of cyclic and acyclic alkanes, stereoisomerism, chirality, optical properties of stereoisomers, and nomenclature, reactions, and mechanisms of functional groups.

REQUIRED COURSE MATERIALS

all available in the UVM bookstore

1. TEXTBOOK & ONLINE ACCESS:

Organic Chemistry; Smith, J.; 7th Edition

ALEKS 360 (McGraw Hill) **Class ID code is HRU4D-DHQQD** (this includes the etext)

2. LAB NOTEBOOK: A carbon-less copy notebook

3. SAFETY EYEWEAR: Everyone must wear OSHA approved safety glasses or goggles while in lab.

4. Lab Coat

**Our ALEKS course has been synced with our Brightspace page.
Please ONLY access ALEKS for our course from there.**

RECOMMENDED COURSE MATERIALS

available online or in a local shop

- MOLECULAR MODELING KIT: A plastic ball/stick pack specifically for Organic Chemistry
- COLORED PENCILS/PENS/MARKERS: Helpful for following reaction mechanisms

LECTURE

We will meet, in person, on MWF from 9:40-10:30 am, in Innovation E102. Attendance is not mandatory, though strongly encouraged. **You are responsible for all course information verbally provided during our in-person lectures.**

- I will upload lecture notes to Brightspace. You can find them in the Course Materials section under Content & Activities. Please realize that sharing these notes is not required of me and I will be doing it as a courtesy to you.
 - **Lectures will not be recorded or streamed.**
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QUIZZES

There is a lot of content in this course and much of it overlaps. Additionally, we are using a textbook that covers two semesters' worth of material – relevant for our course apart from the rigor. For this introductory course, some of the content found in the textbook will not be covered. I will attenuate my lectures accordingly and I will clearly outline which sections of the textbook are relevant to this course.

To help reduce stress, information will be delivered in smaller, more digestible pieces. Rather than four multi-chapter exams, there will be fourteen quizzes during the semester – one quiz for each block of related content. Some blocks will be comprised of material from more than one chapter. You will be made aware of the chapter content for each quiz when the quiz becomes available.

Only the top twelve quiz scores will count toward your course grade. This means that a student may miss two of the fourteen quizzes and their course grade will be unharmed.

Quizzes will open once we finish a block of material and will be found online, in ALEKS. I will announce the opening of a quiz **in class**. So it is in your best interest to attend lecture.

You will have **four days** to get each quiz done. No extensions will be granted, regardless of the reason.

Quizzes are also open book and other than the four-day limit, they are untimed. It is highly recommended that you begin each quiz the day it opens, to afford yourself as much time as possible to get it done. Email requests for extensions on quizzes will not receive a response.

All missing quizzes will receive a zero, regardless of the reason. Students will not be able to re-take or make up missing quizzes.

Only the top twelve of fourteen quiz scores will count toward your course grade. Having this many mini assignments affords students a greater chance of securing points for the course.

FINAL EXAM

A comprehensive final exam will be given at the end of the semester, online via ALEKS. This exam will be open book and will become available at 12 am on Sunday, May 5th. It will remain available for you to take, at your leisure, until Thursday May 9th at 10:30 am (the end time for our scheduled final exam per UVM).

Students must take the final exam to pass the course. You will have **five days** to complete this untimed, open book assignment. Anyone missing a final exam will receive an F for the course. The final exam may not be made up or re-taken. Late submissions of the final will not be graded. Please plan accordingly.

HOMEWORK

In addition to a healthy helping of practice exercises at the end of each chapter, you may polish your skills in ALEKS, using the chapter modules. If you are interested in feedback, rather than simply checking your answers, ALEKS provides a detailed solution and explanation for each practice exercise.

I have selected a large group of topics from each chapter and the pool of questions offered on ALEKS is quite generous. Practice exercises offered on ALEKS will likely better prepare you for quizzes and the final exam because it will require your work to be entered the same way via the database. You will become more skilled with the program the more you practice in ALEKS.

If you choose to practice using the textbook end-of-chapter exercises, **you** will be responsible for deciding which ones align with the content from the course. We will not cover every section of every chapter. Being mindful of lecture notes and attendance will help you discern which exercises are relevant. Please, no emails asking what we covered or what exercises would be best to try. If you attend lecture and/or obtain the notes, you'll know.

Homework is ungraded. Please do not worry about due dates listed on ALEKS for the modules. I had to assign deadlines for them to appear in the online assignment section of the course. They are not "due", and they are not given points.

LAB

More information can be found on the Brightspace page for your lab section.

Before the start of lab, purchase your lab manual, lab notebook, and safety glasses. On your lab's Brightspace 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 from lab.

GRADING

Quizzes	best 12 of 14 @ 50 pts ea = 600 pts
Lab	10 labs @ 25 pts ea = 250 pts
Final Exam	1 comprehensive exam = 150 pts
Course Total	1,000 pts

A note from the Dean's office does not excuse you from quiz or final exam work or afford alternate exam date/time accommodations.

I do not use the Brightspace gradebook. All lecture grades are available to you, at any time during the course, via ALEKS. Please do not email me asking why you cannot see quiz or exam grades in Brightspace.

Letter grade cut offs are not determined until after the last exam. However, in the past, whole letter ranges have *generally* trended as follows:

Total Course Grade (points)	Course Letter Grade
880-1,000	A
780-870	B
680-770	C
580-670	D
<580	F

OFFICE HOURS

If you would like additional help in the course, you may schedule a specific time to meet with me during my posted office hours. I am also exceedingly available outside of class time, during evening hours, and on weekends. If you need time with me outside of my office hours, please ask and we can arrange an appointment time that works for us both.

Please send me an email at least two hours prior to our appointment 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>

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.

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

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>**

HEALTH AND 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): **(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.

<https://www.uvm.edu/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. **<https://www.uvm.edu/interfaithcenter>**

MOSAIC CENTER FOR STUDENTS OF COLOR

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.

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

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>**

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>**

Tentative Spring 2024 Lecture Schedule

Dates	Chapter(s)	Content	Quiz
Jan 17	syllabus	make sure you have your ALEKS account by this date	
Jan 19-24	1	gen chem review – chemical bonding and periodic trends	1
Jan 26-31	2	gen chem review – equilibrium & acid/base chemistry	2
Feb 2	3	organic functional groups & intermolecular forces of attraction	3
Feb 5-9	4 13 possibly 5	alkanes – structure, isomerism, and naming radical rxns possible intro to chirality (quiz 5 material)	4
Feb 12-16	5	Stereoisomerism	5
Feb 16	6	gen chem review – chemical rxns (thermodynamic & kinetic considerations)	6
Feb 19-21	7	alkyl halides and nucleophilic substitution rxns	6
Feb 23-26	8	alkyl halides and elimination rxns competition between substitution and elimination rxns	6
Feb 28 – Mar 4	9	alcohols & ethers – structure, naming, physical properties, and rxns	7
Mar 6-8	23	amines & ammonium salts – structure, naming, physical properties, and rxns	8
Mar 11-15	NO CLASSES	SPRING BREAK	
Mar 20-25	10 11	alkenes - structure, stereoisomerism, naming, rxns, and regiochemistry alkynes – structure, naming, physical properties, and rxns	9
Mar 27-29	14	dienes, conjugation, stability, and rxns	9
Apr 1-8	15 16	aromatic compounds – structure and stability rxns of aromatic compounds	10
Apr 10-15	17 18 12	intro to carbonyl compounds aldehydes & ketones – structure and nucleophilic addition rxns redox rxns	11
Apr 17-19	19 12	carboxylic acids – structure, physical properties, and reactivity redox rxns	12
Apr 22-24	20	carboxylic acid derivatives – structure and naming	13
Apr 26 – May 3	21 22	rxns at the α -carbon – enolate chemistry condensation rxns	14
May 5-9	FINAL EXAM	ALEKS - Sunday 5/5 @ 12 pm until Thursday 5/9 @ 10:30 am	