CHEM F321 Organic Chemistry I

Fall 2021
Lecture: Reichardt 201, 9:30 – 11:00 am
Lab: REIC 241
72862 2:15 – 5:15 W
72863 6:00 – 9:00 R
72864 11:30 – 2:30 R
76256 2:15 – 5:15 R

Prerequisite: Chem F106X with grade C or better

Course Instructor
Kriya Dunlap, Ph.D.
Office: West Ridge Research Building (WRRB) 230
Office Hrs: Tuesday 11:30 – 12:30 open zoom meeting or by appt
Phone: (907) 474-2766
Email: kldunlap@alaska.edu

Lecture and Lab Instructor
Thomas Green, Ph.D.
Office: REIC 174
Office Hrs: TBA
Phone: (907) 474-1559
Email: tkgreen@alaska.edu
Lab syllabus TBD

Course Materials

- **Lecture Text:** Wade and Simek, Organic Chemistry 9th Ed
- **Laboratory text:** Padias, A. *Making the Connections: A How-to Guide for Organic Chemistry Lab Techniques, 3rd Ed.*
- Internet/computer access (available in REIC 172)
- **Highly recommended:** Molecular model kit- my favorite is in the UAF bookstore

Course Structure: Coursework and lectures will follow topics in the order described on the *Tentative Lecture Schedule*. This schedule is **tentative.** I try my best to keep on schedule but it is not unusual to deviate from the schedule by a lecture or two in either direction. Homework will be assigned from the textbook and chapter quizzes will be conducted through blackboard. Exams will be held during class time. Lab schedule/syllabus will be handed out during lab sections.

Student Learning Outcomes:

- Identify and draw common functional groups
- Understand fundamental concepts of bonding and acidity
- Name a variety of organic functional groups, including hydrocarbons
- Predict the reactivity of organic compounds involving nucleophilic and electrophilic substitution, elimination and addition mechanisms
- Know common reagents used for hydrocarbon transformation into other functional groups.
- Interpret IR and NMR spectra of organic compounds to arrive at a structure
- Draw and interpret 3D structures of stereoisomers
- Predict and write out mechanisms of reactions based on fundamental concepts of acid/base chemistry (nucleophiles/electrophiles)

Instructor's expectations: It is strongly recommended that each student read the portion of the textbook that corresponds to the lecture, before coming to class. During class we will work through problems and you will have an opportunity to ask questions on the homework.

Blackboard: https://classes.uaf.edu. Syllabus, student grades, blackboard quizzes, zoom link for office hours, homework and the homework keys will all be posted on the UAF Blackboard website. Time sensitive information and reminders will be sent occasionally to all students using blackboard, so it is important that you verify that your email address attached to blackboard is correct and current.

Exams: There will be 2 one-hour exams that will cover material from the textbook chapters. You will be allowed the use of molecular model kits and non-programmable calculators only. Come to class on exam day and follow all COVID-19 safety protocols. *Exams cannot be made up unless you arrange a time before the exam and you have a valid excuse.* In the event of an unforeseen emergency, contact me as soon as possible. You may be asked to document your excuse. KEY WORDS: TALK TO ME.

Final Exam: The final exam will be held during finals week on Tuesday December, 9th from 10:15 – 12:15 pm. The final exam will be cumulative. More information will be available at a later date pertaining to the final and how it will be administered. Please be on time. In general, no work will be accepted after the final exam.

Quizzes: There will be a short timed blackboard quiz after completing each chapter. Students will be informed when a quiz is made available. Quiz questions will resemble exam questions and will prepare you for the type of questions that will be on the exam, as well as give you a way to assess your strengths and weaknesses from that chapter. Quizzes will be graded out of 10 points. Quizzes will be averaged and scaled to 100 points at the end of the semester. You are able to drop your lowest quiz grade. There are no make up quizzes.

Homework: Success in Organic chemistry requires practice working through problems and applying the knowledge you have acquired. Higher achievement on exams is usually a direct result of time spent doing homework assignments in their entirety. Homework for each chapter will take several hours. It will be easier to complete problems as we progress through the class and not wait until the day before it is due. I will provide homework problems from the textbook. I will grade you according to completion. Each will be graded out of 10 points. HW will be averaged and scaled to 100 points at the end of the semester. Questions from the HW and problems done in class will appear on quizzes and exams. Homework can be turned in during lecture, put in my mailbox in Reichardt 194 or emailed to me by the due date. I will accept photos of your homework taken with smart phones or other electronic documents emailed to me at kldunlap@alaska.edu. No late homework will be accepted.

Laboratory: Details on the laboratory will be provided at your scheduled laboratory time. Laboratory participation is worth 200 points.

Mobile Devices and Laptops: Mobile devices and laptops can be used during class. Please turn devices to silent or "vibrate" mode during class and lab. Usage of electronic devices should be used only to facilitates learning during scheduled class and lab times.

Computer access: Chemistry computer lab (REIC 172) is available for **course related activities** – www.uaf.edu/chem/instrumentation/policies**.** Currently, the Department of Computing and Communications (DCC) maintains two open labs on campus: the Bunnell Lab, and the Node (Rasmussen library). The Node has 24-hour access.

Amending this Syllabus: The instructor may make changes to this syllabus. Any changes will be clearly communicated via email sent to your UAF e-mail account and posted on Blackboard and course website.

Grading:

Quizzes	100 pts
Homework	100 pts
Laboratory	200 pts
Exam (2)	200 pts (100 pts each)
Final Exam	100 pts
Total	700 pts (max.)

Letter Grade	Percentage Grade
A+	94.5 - 100
A	90.5 - 94.4
A-	87.5 - 90.4
B+	84.5 - 87.4
B	80.5 - 84.4
B-	77.5 - 80.4
C+	74.5 - 77.4
C	70.5 - 74.4
C-	67.5 - 70.4
D+	64.5 - 67.4
D	60.5 - 64.4
D-	57.5 - 60.4
F	57.4 or lower

COVID-19 statement: Students should keep up-to-date on the university's policies, practices, and mandates related to COVID-19 by regularly checking this website: https://sites.google.com/alaska.edu/coronavirus/uaf?authuser=0. Further, students are expected to adhere to the university's policies, practices, and mandates and are subject to disciplinary actions if they do not comply.

Support Services: There are a large number of resources available to help students that may be having difficulty in the course or with a particular topic. CHEM 321 TAs keep regular office hours, which can be found on the **Chemistry Learning Center** calendar: www.uaf.edu/chem/clc/ and will be posted on Blackboard once available. Tom Green and I both hold regular office hours. Students can also make an appointment to see me for help if office hours do not fit with the student's schedule.

Student Academic Support:

- Speaking Center (907-474-5470, uaf-speakingcenter@alaska.edu, Gruening 507)
- Writing Center (907-474-5314, uaf-writing-center@alaska.edu, Gruening 8th floor)
- UAF Math Services, uafmathstatlab@gmail.com, Chapman Building (for math fee paying students only)
- Developmental Math Lab, Gruening 406
- The Debbie Moses Learning Center at CTC (907-455-2860, 604 Barnette St, Room 120, https://www.ctc.uaf.edu/student-services/student-success-center/)
- For more information and resources, please see the Academic Advising Resource List (https://www.uaf.edu/advising/lr/SKM_364e19011717281.pdf)

Student Protection: UAF embraces and grows a culture of respect, diversity, inclusion, and caring. Students at this university are protected against sexual harassment and discrimination (Title IX). Faculty members are designated as responsible employees which means they are required to report sexual misconduct. Graduate teaching assistants do not share the same reporting obligations. For more information on your rights as a student and the resources available to you to resolve problems, please go to the following site: https://catalog.uaf.edu/academics-regulations/students-rights-responsibilities/.

Disabilities Services: I will work with the Office of Disabilities Services to provide reasonable accommodations for students with disabilities. If you have a disability and require special assistance, please contact the instructor as soon as possible. Students with disabilities must provide documentation of the disability and a written statement indicating any special arrangements that need to be made.

Student Resources:

- Disability Services (907-474-5655, uaf-disability-services@alaska.edu, Whitaker 208)
- Student Health & Counseling **[6 free counseling sessions]** (907-474-7043, https://www.uaf.edu/chc/appointments.php, Whitaker 203)
- Center for Student Rights and Responsibilities (907-474-7317, uaf-studentrights@alaska.edu, Eielson 110)
- Associated Students of the University of Alaska Fairbanks (ASUAF) or ASUAF Student Government (907-474-7355, asuaf.office@alaska.edu, Wood Center 119)

Cheating/Academic Dishonesty: The Chemistry & Biochemistry Department Policy on Cheating is: "*Any student caught cheating will be assigned a course grade of F. The student's academic advisor will be notified of this failing grade and the student will not be allowed to drop the course*." The Department considers performing unauthorized "dry labs" as cheating. Partnering during the lab is acceptable but lab reports must show your own calculations and ideas.

Nondiscrimination statement: The University of Alaska is an affirmative action/equal opportunity employer and educational institution. The University of Alaska does not discriminate on the basis of race, religion, color, national origin, citizenship, age, sex, physical or mental disability, status as a protected veteran, marital status, changes in marital status, pregnancy, childbirth or related medical conditions, parenthood, sexual orientation, gender identity, political affiliation or belief, genetic information, or other legally protected status. The University's commitment to nondiscrimination, including against sex discrimination, applies to students, employees, and applicants for admission and employment. Contact information, applicable laws, and complaint procedures are included on UA's statement of nondiscrimination available at www.alaska.edu/nondiscrimination. For more information, contact:
UAF Department of Equity and Compliance
1692 Tok Lane, 3rd floor, Constitution Hall, Fairbanks, AK 99775
907-474-7300
uaf-deo@alaska.edu
Additional syllabi statement for courses including off-campus programs and research activities:
University Sponsored Off-Campus Programs and Research Activities
We want you to know that:

1. UA is an AA/EO employer and educational institution and prohibits illegal discrimination against any individual: www.alaska.edu/nondiscrimination.

2. Incidents can be reported to your university's Equity and Compliance office (listed below) or online reporting portal. University of Alaska takes immediate, effective, and appropriate action to respond to reported acts of discrimination and harassment.
3. There are supportive measures available to individuals that may have experienced discrimination.
4. University of Alaska's Board of Regents' Policy & University Regulations (UA BoR P&R) 01.02.020 Nondiscrimination and 01.04 Sex and Gender-Based Discrimination Under Title IX, go to: http://alaska.edu/bor/policy-regulations/.
5. UA BoR P&R apply at all university owned or operated sites, university sanctioned events, clinical sites and during all academic or research related travel that are university sponsored.

For further information on your rights and resources click here.

Tentative Schedule

Day	Date	Chapter	Recitation Topic
T	24-Aug	1	Syllabus, Gen Chem Review
R	26-Aug	1	
T	31-Aug	2	Acids and Base Functional Groups
R	2-Sept	2	
T	7-Sept	3	Structure and stereochemistry of alkanes
R	9-Sept	3	
T	14-Sept	3	
R	16-Sept	5	
T	21-Sept	5	Stereochemistry
R	23-Sept		**Exam Review**
T	28-Sept		**Exam 1** on Chapters 1,2,3,5
R	30-Sept	6	
T	5-Oct	6	Alkyl Halides; Nucleophilic substitutions
R	7-Oct	6	
T	12-Oct	7	
R	14-Oct	7	Structure and synthesis of Alkenes; elimination
T	19-Oct	8	
R	21-Oct	8	Reaction of Alkenes
T	26-Oct	9	
R	28-Oct	9	Alkynes
T	2-Nov		Exam 2 Review
R	4-Nov		**Exam 2** on chapters 6,7,8,9
T	9-Nov	10	
R	11-Nov	10	Structure and synthesis of alcohols
T	16-Nov	11	Alcohols rxn
R	18-Nov	11	
T	23-Nov	14	Ether, Epoxides, and Thioesters
R	25-Nov	**Thanksgiving**	**Break**
T	1-Dec	14	Ethers, Epoxides, and Thioesters
R	3-Dec		Final Exam Review
R	9-Dec		**Final Exam 10:15 -12:15**