CHEMISTRY 261-01 – Winter Session 2020 - 2021
Monday, December 7, 2020 – Saturday, January 16, 2021
Organic Chemistry I

Instructor: Dr. Christopher McDaniel

Teaching Assistant: TBD

Email: mcdaniel@chem.umass.edu (must have "**CHEM 261**" (without quotes) **in the subject line)**

Lectures:

261-01, Online	At your leisure, but keep up.

Outside of Class Availability: In ISB 241F and Virtual via Zoom.

Day	**Time Available**
Monday - Thursday	10:00 – 11:00 AM EST

Course Objectives

To Gain a clear understanding of the principles that govern organic chemistry, and not mere memorization of facts and mechanisms. This course will, hopefully, help you understand common functional groups, bonding, conformations of molecules, stereochemistry and various reactions of organic compounds.

IF YOU HAVE A QUESTION, DO NOT HESITATE TO ASK!
My goal, is to help you learn, not to teach.
Your goal should be to learn and apply the material.
If you do not have questions, you do not know what you do not understand.

Grading

Graded Assignment	% of Grade
OWL Homework	20
Lecture Watching	10
OWL Quizzes	10
eExams	40
eExam Final	20
Total Percentage	**100**

eExams and Final

There will be 2 exams and 1 final exam, all electronic using OWL and will be unproctored on the dates given below. You can take your exam at any time that day, but it must be submitted (finished) by 10:00 PM EST. The **final eExam is comprehensive**. They are open notes, but no book.

eExam Dates:

eExam	Day	Date	Time	Lectures Covered
1	Wednesday	12/23	Anytime (8:00 AM – 10:00 PM EST)	1-10
2	Wednesday	01/06	"	1-20
FINAL	Friday	01/18	"	1-30

If the % grade of your final eExam is higher than the % grade of your lowest exam, then your final eExam % grade will be used to replace your exam % grade. Note the final exam is after the session ends. This is to give you more time to study the material.

Final Grade Distribution

I anticipate the average in this class will be around a "C+" (≈ 77%). The minimum final percentage distribution for the grading scale is shown below. If the class produces an average significantly lower than expected, the grading scale will be adjusted in favor of the student. I will never "down curve." For example, an "A-" will never be higher than a 90%, but can be adjusted to an 89% if I find it necessary. **I reserve the right to adjust the percentage ranges in favor of the student.**

Approximate Percentage Range	Anticipated Grade	Approximate Percentage Range	Anticipated Grade
100 - 93.0	A	79.9 - 77.0	C+
92.9 - 90.0	A-	76.9 - 73.0	C
89.9 - 86.0	B+	72.9 - 70.0	C-
85.9 - 83.0	B	69.9 - 60.0	D+
82.9 - 80.0	B-	59.9 - 50.0, <50	D, F

Important Information

Course Prerequisites
CHEM 112 or 122H or an equivalent general chemistry II with a grade of "C-" or better.
I will review pertinent information from these courses; however, I do expect working knowledge of the material from them.

Course Materials

The e-Book is available via the Moodle link after you purchase your OWL access code (see below for information). *Organic Chemistry: Customized Edition for UMass Amherst*, Author: John McMurry, Publisher: Brooks/Cole, 8th Edition, 2014, ISBN: 978-1-305-29605-3

Study Guide (Optional): *Student Guide and Solutions Manual* by Susan McMurry
ISBN: 978-0-8400-5445-6. Available at Amazon Course Materials.
Molecular Visions Organic Model Kit (Optional, but recommended): Available at eCampus on SPIRE.

Course Webpage:

We will be making use of the OWL system developed here at UMass Amherst for graded, web-based homework, quizzes and secure exams. We will utilize Moodle for announcements, handouts, online lectures. We will use the Zoom platform for online office hours. You are responsible for all electronic communication from me and the TA, and any announcements posted.

OWL Access Codes
Access codes are needed to access your OWL course, which also includes the online eBook. Codes are valid for either 24 or 48 months (price depends on how long you want access). Visit the website for more information and how to purchase the OWL access code.

HELP!!

I will be holding office hours in-person, and the TA and I will be holding online hours via the Zoom at the times listed in the table on the first page of this syllabus. You can, of course, always come to my office, regardless if it is office hours or not. Unfortunately, the chemistry department does not offer private for-pay tutoring. Your TA and I will be your main resource for success in this class. Please do not hesitate to contact one of us!!!

All lectures will be posted MP4 format (video and audio) using Camtasia, a screencasting and screen capture software program. You can watch and hear everything that was said that day; you just cannot see me (but why would you want to!). I will record video of me when appropriate for the material.

Notes

These are one of the best ways for you to succeed in this class. Active note taking and not just copying down is imperative to your learning and understanding the material. I suggest a dedicated notebook for this class as we will be doing a lot of writing.

20% of your grade will be determined on how you perform on the OWL HOMEWORK. You must log into Moodle and follow the OWL link. You cannot log in to OWL directly. For the shortened session, all due dates are the last day of class. You will have as many opportunities as necessary to get the questions correct.

OWL Quizzes
There will be eight OWL quizzes that will account for 15% of your final grade, and I will count the highest 6 (by percentages as the point values differ). These are timed assignments (~60 minutes) without a proctor, and are delivered via the exam format to get you used to the system. You are responsible for knowing the due dates. They will be open for 3 days before the due date, but once you start your clock never stops.

Course Topics and Material

The chapters from the book that will be covered this semester are listed below in the anticipated week. *If I do not cover a particular section in lecture, then you are not responsible for that material.*

Week 1:	Chapter 1: Structure and Bonding; Chapter 2: Polar Covalent Bonds and Bronsted-Lowry and Lewis Acids and Bases
Week 2:	Chapter 3: Alkanes and Their Stereochemistry; Chapter 4: Cycloalkanes
Week 3:	Chapter 5: Stereochemistry at Tetrahedral Centers; Chapter 6: Organic Reactions Overview
Week 4:	Chapter 7: Structure and Reactivity of Alkenes; Chapter 8: Reactions of Alkenes; Chapter 9: Reactions of Alkynes;
Week 5:	Chapter 10: Organohalides; Chapter 11: Nucleophilic Substitution Reactions and Elimination Reactions
Week 6:	Finish Chapter 11; Chapter 13: NMR Spectroscopy

Academic Misconduct and the Student Code of Conduct

As per requirement by UMass Amherst: "Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. [See **Appendix B** of the Student Code of Conduct for detailed examples of behavior that constitutes academic dishonesty.] Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. The procedures outlined below are intended to provide an efficient and orderly process by which action may be taken if it appears that academic dishonesty has occurred and by which students may appeal such actions."

Academic misconduct of any type will not be tolerated and will be dealt with in accordance with the Student Code of Conduct as outlined on the following UMass website:

www.umass.edu/dean_students/codeofconduct/acadhonesty/#B

Disabilities and Accommodation Policy

The University of Massachusetts Amherst is dedicated to providing equal opportunity/accommodations and access for every student. If you would like to request such accommodations because of a physical, mental, or learning disability, please contact your instructor or the Office of Disability Services, DS, (161 Whitmore Administration Building) within the first two weeks of class. Their phone number is 413.545.0892. "Any student with a disability who needs a classroom accommodation, access to technology or other academic assistance in this course should contact Disability Services (ds@educ.umass.edu) and/or the instructor. DS serves

students with a wide range of disabilities including, but not limited to, physical disabilities, sensory impairments, learning disabilities, attention deficit disorder, depression, and anxiety."

Dropping and Withdrawal

The **add/drop** date for this class (**no W**) is **Friday**, **December 11**, 2020. The last possible day to withdrawal with a "W" is **Thursday, December 31**, 2020.

YOU ARE RESPONSIBILE FOR ALL CHANGES TO THIS SYLLABUS MADE IN CLASS, REGARDLESS IF YOU ARE IN ATTENDANCE OR NOT

Keys to Success in Organic Chemistry

Organic chemistry is best learned by working out problems. This means trying the problem, working through it by looking back at your notes and the textbook for help, then looking at the answer. DO NOT READ THE ANSWER KEY AND AGREE WITH THEIR SOLUTIONS! THIS IS SETTING UP FOR eExam DISASTER!! Read the book with pencil/paper in hand and take your own notes as you go along. This ensures the material is going through your head. Practice writing structures and mechanisms as you learn them so they are easier to recall when needed. I suggest working as many problems as possible, then working them again. The type and level of difficulty on the quizzes and eExams will reflect the problem sets that I create for you.

SPEND TIME WITH THE MATERIAL EACH DAY! I can't stress this enough. Working 2-3 hours each day is much more beneficial than trying to do everything 12 hours before the eExam. To succeed in this class, most students find that 15-20 hours/week is necessary. In my experience, students who wait to study until a few days before the eExam, never looking at the material, usually do very poorly.

DO NOT WORK THE PROBLEMS WITH THE ANSWER RIGHT BESIDE YOU!!
This is a guaranteed way to learn and understand absolutely nothing.

During the course of CHEM 261 the amount of material covered over such a short period of time is so large that the significance of the "facts" being learned and the relationship of this knowledge to those diverse fields are lost. In this way, organic chemistry is identical to a foreign language. You wouldn't go into a foreign language never having looked over the vocabulary. Before the synthesis of elegant compounds and the appreciation of complex biochemical transformations can be appreciated, basic rules of nomenclature and reaction (our "**vocabulary**") and reaction mechanisms (our "**grammar**") must be mastered.

It has been my experience that success in organic chemistry requires much self-motivation and practice. Reading a chapter without doing problems is generally as useless as watching an undubbed foreign movie without subtitles, or reading a book about how to play a guitar and then attempting to play a concert in front of 15,000 people without any practice.

It has been said that the key to organic chemistry is merely **memorization**. This is **FALSE**. Believe it or not, the best way to succeed in this course is by learning and applying the fundamental

concepts and by doing problems. Even nomenclature is best learned through practice and experience rather than straight memorization.

Flash cards will only take you so far in this course, as will become apparent in the later weeks. Not understanding the stuff on the flash card will not help you when asked about material in a slightly different matter than what has been presented previously. **Remember, the chemistry will never change, just the way that it is presented!!** If I asked you to, without a calculator, multiply 256 x 96, most of us would need a minute or two to work it out. Somewhere along our childhood education, we had to memorize the multiplication table. But what happens when the table stops at a 12 by 12 matrix? You'll need to use your understanding of multiplication, i.e., break it down into smaller, more approachable problems one step at a time.

The eExams will be prepared in a manner that requires a good understanding, not a good memory.

Study Habits that Worked for Me

- Study at a time day when you are alert. It is useless to study tired.
- After lecture, recopy all of your notes into a separate notebook. This takes a lot of time, but it ensures the material goes through your head again! Trust me, it works.
- Go through your notes and the textbook and write questions down as you go. You will forget them if you come to office hours not prepared to ask.
- Do all of the suggested problems in the text, and complete the problem sets I provide you without the answer key open next to you.
- Study 2-3 hours, 5 - 6 days/week. You will find that cramming for an exam is not necessary when you do this.
- **I cannot stress these last two points enough. Please take the advice of someone who struggled initially in organic chemistry.**
- Find a study partner or group, but no more than 3 people in said group. Any more than this, we all start to get off topic too much and before you know it, you have "studied" for 3 hours. Your study time needs to be quality as opposed to quantity.
- Think about what you are doing, while you are doing it.
- Relax and do your best. If you work hard, it will pay off in the end