Chemistry 2301
Elementary Organic Chemistry I

Wednesday: 6:00-9:00 p.m.
Smith Hall 100
Fall Semester, 2016

Instructor: Professor Steven Kass, 223 Smith Hall, 625-7513 (kass@umn.edu)

Website: http://www1.chem.umn.edu/class/2301/kass16f (the link is available via my research website at kass.chem.umn.edu) (not Moodle)

Office Hours: Monday, 11:00-12:00; Wednesday, 4:00-5:00; other times by appointment.

Tutor Hours: Organic tutor hours will be held in Smith 124 throughout the semester beginning September 12th and running through finals week at the following times: Monday-Thursday 12:00 - 7:00 p.m. and Friday 1:00 – 3:00 p.m. For the specific listing of individual tutors, see the posted schedule on the door of Smith 124 and our class website. It is important to me that your time is well spent in this room. Please inform me or the Head Organic TA (Sarah Wegwerth, wegw0013@umn.edu) if tutors are not present at their scheduled time, helpful, or leave for extended periods of time. A reminder that the purpose of a tutor is to help you learn, not simply give you answers to questions or problems. The tutors are instructed to ask YOU questions that will help you understand what concept you are missing that is preventing you from solving a particular problem. Self-discovery will enhance the depth and retention of your knowledge.

ChemFoundations Program: An optional study group program is ChemFoundations. This program involves the volunteer efforts of advanced undergraduate/graduate students (the ChemFoundations Leader) who enjoy teaching and helping students to succeed in organic chemistry. Each ChemFoundations leader will meet at a designated time and place once a week with students to work problems and review difficult concepts. It is designed to be a one-hour to one and a half hour active-learning session; not a lecture, office hour, or private tutoring session. So please attend only if you are willing to participate and engage in group learning. You are free to “try-out” the different leaders and select one or more that best fits your learning style. Session information will be given the first week of classes and the Organic Chemfoundations program will start September 12th. For questions or problems, please contact Jake Brutman (brutm003@umn.edu) or Professor Jane Wissinger (jwiss@umn.edu).

Texts: Janice Smith’s Organic Chemistry (4th ed., McGraw-Hill), Solutions Manual and Molecular Model Set. Connect plus (electronic materials from the publisher which includes the ebook, practice questions, animations, etc.) is a supplemental item that maybe helpful to you but is not required. To log into the McGraw-Hill Connect website (www.mhhm.com) for access to this material, please go to https://connect.mheducation.com/class/s-kass-fall-2016 and register.

Exams: Four 60 minute exams [notes, model sets, and calculators are forbidden during tests].

Exam 1, September 28
Exam 2, October 26
Exam 3, November 16
Exam 4, December 7

Final Exam: Wednesday, December 21, 6:00-9:00 p.m. (3 hours)
All exams including the final will be given in Smith 100. A second room is not needed at this time. Should this change, this will be announced in class and on the class website.

**GRADING:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Hour Exams</td>
<td>20% x 3 = 60% (or 20% x 4 = 80%)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>40% (or 20%)</td>
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Grading Scale: A 80–100%; B 60–79%; C 40–59%; D 30–39%; F 0–29% (minus and pluses will be used so the lower end of the specified ranges will receive the letter grade (A, B, and C) with a minus and the higher part of the ranges will get the letter grade with a plus (B and C only).

Final grades will be assigned based on either one's three highest 60 minute exams (60%) and the final exam (40%) or all four 60 minute exams (80%) and the final exam (20%) depending upon which scheme gives the higher total numerical score. This will be done automatically for each student, and your grade assigned accordingly.

**NO MAKE-UP EXAMS WILL BE GIVEN.** If one misses a 60 minute exam it will be treated as one's lowest exam score and will be dropped. One's grade will be based on the remaining three 60 minute exams (60%) and the final (40%). If additional exams are missed they will be recorded as zeros and counted as such. If the final exam is missed, an ‘F’ grade will be given unless an incomplete had been arranged by 12/14.

All exams should be taken in **INK**. If you believe a grading error has been made, write the nature of the problem on a separate sheet of paper, attach it to your exam and turn it in to me within 1 week of when the exam was returned to the class. The whole test will be examined and points will be added/subtracted as appropriate. Regrades will not be considered for exams taken in pencil.

**Policy for "I" Grades:** Any student who does not officially withdraw or who does not satisfactorily complete the course will receive an "F" grade. As for incompletes, the policy of the Chemistry Department is that a student may request an incomplete only when (a) he or she has a University sanctioned excuse for missing the final exam and (b) he or she is passing the course based on all other graded components. Assignment of an "I" requires that the instructor and student sign a contract, available in the Departmental undergraduate office, stipulating the procedure by which the "I" grade will be made up (e.g., taking a final exam from another instructor the following semester). Failure to successfully complete the procedure outlined in the contract will result in the "I" being administratively changed by the University Registrar to an "F" or "N" (depending on the grade base) one calendar year from the end of the semester for which the "I" grade was granted.

**Prerequisites for this class:** A "C−" or better in Chem 1062/1066 or 1072H/1076H or equivalent.

**How To Do Well In This Class**

1. Come to class. Organic chemistry moves at a brisk pace and we will cover 15 chapters during the semester. To do well you will want to keep up.
2. PRACTICE PRACTICE PRACTICE. Like learning a foreign language or training for a 10 K race, one must actively work at learning organic chemistry. This means that one needs to read the text, attend lectures, and do as many practice problems as one can. The more effort one puts into writing molecules and mechanisms, and doing problems, the more one will learn. In this way, the concepts will become clearer, one will begin to be able to predict chemical outcomes, and less rote learning will be needed. This makes organic chemistry interesting and even fun!

Policy on Academic Dishonesty:

Scholastic dishonesty is a serious violation of ethical standards. In this course, the use of any material not supplied by the instructor during an exam (except for a pen or pencil) constitutes scholastic dishonesty. Model sets, calculators, notes, and copying the work of another are strictly forbidden for all of the examinations in this course. If a student is found cheating on an exam the matter will be reported to the student’s college Scholastic Conduct Committee and they will receive a zero on the test (which may not be used as one's dropped exam), or at the instructors discretion, an "F" in the course.

Disability Services

The University of Minnesota is committed to providing equitable access to learning opportunities for all students. Disability Services (DS) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact DS at 612-626-1333 to arrange a confidential discussion regarding equitable access and reasonable accommodations. If you are registered with DS and have a current letter requesting reasonable accommodations, please contact Prof. Kass early in the semester to review how the accommodations will be applied in this course. In no case should this be done with one week or less before a given exam.

Student Mental Health and Stress Management

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. University of Minnesota services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via http://www.mentalhealth.umn.edu/.
**Approximate Course Schedule**

Week 1: Chapter 1: Structure and Bonding

Week 2: Chapters 2 and 3: Acids and Bases and Introduction to Organic Molecules and Functional Groups

Week 3: Chapters 4 and 5: Alkanes and Stereochemistry

Week 4: Chapter 5: Stereochemistry

**Exam 1 (September 28)**

Week 5: Chapters 6 and 7: Understanding Organic Reactions and Alkyl Halides and Nucleophilic Substitution

Week 6: Chapter 7: Alkyl Halides and Nucleophilic Substitution

Week 7: Chapter 8: Alkyl Halides and Elimination Reactions

Week 8: Chapter 9: Alcohols, Ethers, and Epoxides

**Exam 2 (October 26)**

Week 9: Chapter 10: Alkenes

Week 10: Chapters 11 and 12: Alkynes and Oxidation and Reduction

Week 11: Chapter 12: Oxidation and Reduction

**Exam 3 (November 16)**

Week 12: Chapters 13 and 14: Mass Spectrometry and Infrared Spectroscopy and Nuclear Magnetic Resonance Spectroscopy

Week 13: Chapter 14: Nuclear Magnetic Resonance Spectroscopy

Week 14: Chapter 15: Radical Reactions

**Exam 4 (December 7)**

Week 15: Review

**Final Exam 6:00–9:00 p.m. (December 21)**

Assigned Problems

(These represent an absolute minimum number. The more you can do, the better!)
Chapter 1: 44 c and d, 47 c, 49, 50, 55, 56, 62 b, 63 b, 71, and 72.

Chapter 2: 35 a and d, 39, 49 d and g, 50 b, 51, 58, 65 b and c, 73, and 76,

Chapter 3: 28, 29, 32 a and f, 34, 38 b, and 49.

Chapter 4: 36 (1), 38 b, 39 a, d, k, and n, 41 b, g, and j, 44 b, 49 c, 55 (2), 57, 61 a, b, c, and f, and 74.

Chapter 5: 36, 37, 38, 46 a, f, and h, 48 b, 53 c, 62 a, c, e, g, and j, and 64.

Chapter 7: 44 d and e, 45 d and h, 50 a, b, and c, 51, 53, 54 c, 58 a, 60 d, 65 b, 67, 69 a, b, and c, 70, and 73.

Chapter 8: 34 c, 41 a and b, 46, 48, 49, 55 a, b, e, and f, 58 a and e, 61 a, 62, and 65.

Chapter 9: 39 a, e, and h, 41 e, f, g, h, and i, 53, 54, 55, 60, 61 b, 67 d, 71 e, f, g, and h, and 73 d.

Chapter 10: 40 c and e, 41 d and e, 50 e, f, g, and h, 67 a and c, 68 b, c, and d, and 73.

Chapter 11: 28 a, g, and h, 29 c and f, 34, 35, 36 d, e, and h, 40 a and c, 43 d, e, h, and i, 44, 46 a and c, 56 a, b, and c, and 64.

Chapter 12: 32, 39 b and c, 40 b and c, 49 a, 50 a and c, 62, 65 a and c, and 72.

Chapter 13: 24 a, c, and d, 28, 32, 38, 39, 42 a and b, 43, 45, and 54.

Chapter 14: 35 d, e, f, and j, 36 b, 54 a and e, 58, and 62.

Chapter 15: 34, 45 d, 48, 50, 51 a and d, 54, 56, 61 b, c, e, g, and h, 63 b, 78, and 80.

ChemFoundation Leaders
Meghan Maltby: Thursday 4:00-5:00 p.m. in Room 155 Ford Hall
Kelsey Hessil: Tuesday 1:00-2:00 p.m. in Room 137 Kolthoff Hall

Other leaders for other sections of 2301:

Rachel Astashinsky: Wednesday 3:00-4:00 p.m. in Room 133 Kolthoff
Ed Yu: Monday 5:00-6:00 p.m. in Room 139 Kolthoff
Shaoren Yuan: Monday 10:00-11:00 a.m. in Room 133 Kolthoff
Zachary Cosenza: Friday 3:00-4:00 p.m. in Room 134 Kolthoff
Mark Mizrachi: Thursday 5:00-6:00 p.m. in Room 136 Kolthoff
Thomas Vidil: Tuesday 6:00-7:00 p.m. in Room 132 Kolthoff
Erica Daniels: Monday 3:30-4:30 p.m. in Room 133 Kolthoff
Joshua Gallop: Wednesday 3:30-4:30 p.m. in Room 134 Kolthoff