

Honors Organic Chemistry II

Instructor: Prof. Matt Sigman, Office HEB 4253A

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(NOTE: I will respond to only yes/no questions or to make appointments by e-mail– please see me for other questions)

Class time: Meeting: M,T,W,H,F 8:35-9:25, JTB 320

Office Hours: Monday, Wednesday 1:45-3:15 or by appointment

Administrative Assistant: Ms. Tomi Carr, HEB 3220, phone: 581-6689

Graduate Teaching Assistant: Margaret Hilton (m.hilton@chem.utah.edu), Office Hours: TBA

Undergraduate Teaching Assistants: Amanda Bischoff (amandajbischoff@gmail.com)

Required Text: “Organic Chemistry” Janice Smith (3rd addition)

Recommended: “Organic Chemistry II as a Second Language” David Klein. This text will serve as a study guide/complement to the text and lecture. Some of the problem sets will utilize this text.

***NOT RECOMMENDED:** The study guide written to accompany the Smith text. This has all the answers to the problems in the text, which makes it too easy to look at them, and then not learn anything. Please use the TA's, myself, or the study guide on reserve in the Marriot library.*

- **Course Description:** This class is the second half of honors organic chemistry. Lecture topics include but are not limited to the structure, reactivity, and synthesis of carbonyl compounds (aldehydes, ketones, carboxylic acids, anhydrides, acyl halides, esters and amides), amines, aromatic compounds, and biologically related molecules (amino acids, proteins, and nucleic acids). Most of chapters 16-30 (but not inclusively) will be covered. Since this is an honors level course, I may bring related material from the chemical literature into class to enhance the modern organic chemistry experience. NMR will also be integrated including a NMR workshop sometime near the mid-semester mark.

- **Course Coverage:** We will cover, on the average, one full chapter per 2 to 3 lectures.

Exam Schedule:

Exam 1:	Friday, February 8 th
Exam 2:	Friday, March 8 th
Exam 3:	Friday, April 19 th
Final Exam:	Tuesday, April 30 th 7:30-10:00 am

Important Dates:

Monday, January 21st (MLK Day)
Last Day to Drop: January 16th
Monday, February 18th (Presidents' Day)
Spring Break: March 10th-17th
Last Day of Class: April 25th
Final Exam: Tuesday, April 30th 7:30-10:00 am

Grading:

1. **Problem Solving Sessions:** The problem solving session will be an essential aspect of the course and is designed for group involvement in problem solving but not for grading. On most Mondays, I will announce which days will focus on problem solving although many problems

- will be integrated with the lecture. During these sessions, you will work with a group of 3 and compare answers and discuss the challenging problems assigned.
2. **Exams:** Three exams will be given (100 pts each) and a final (200 pts). *You will be able to drop one exam or half the final. NO MAKE-UP EXAMS!*
 3. **Special Project:** To be announced at mid-semester. It will likely be the development and presentation of a new module for **ORGANIC PEDAGOGICAL ELECTRONIC NETWORK (OPEN)** on a **modern topic that should be covered in your class. I will provide details by spring break.**
 4. An A/B⁺ is the anticipated average.
 5. **Clickers** – I will supply clickers for several in-class activities including the NMR workshop. This will occur periodically during the course.

Exam Policy: there will be **no written make-up exams**. Students who must miss an exam due to a family emergency, legitimate university conflict, or health emergency may take an **oral exam** by appointment with Prof. Sigman. The procedure is this: bring written documentation to Prof. Sigman or his administrative assistant (one or the other must be contacted within 48 hours of the time of the exam). Make a 30-minute appointment. Scores for oral exams will be estimated based on the class average and distribution. Legitimate questions about the grading of an exam can be submitted up to one week after the exam is handed back. The procedure for turning in an exam for regrading is to attach a separate piece of paper to the front of the exam with your name, the question to be regarded, and a brief justification for the regrade. However, the exam will not be accepted if any writing is on the exam. The entire exam will be re-graded.

Academic Misconduct Policy: By submitting an assignment, you are representing that it is your own work and that you have followed the rules associated with the assignment. Incidents of academic misconduct (including cheating, plagiarizing, research misconduct, misrepresenting one's work, and/or inappropriately collaborating on an assignment) will be dealt with severely, in accordance with the Student Code (<http://www.admin.utah.edu/ppmanual/8/8-10.html>). A single instance of academic misconduct may result in a failing grade for the course. Multiple instances of academic misconduct may result in probation, suspension or dismissal from a program, suspension or dismissal from the University, or revocation of a degree or certificate.

Website: <https://learn-uu.uen.org/>, log in with your id number and password, and then find Chem 2321, sec. 001. Important information and grades will be posted at appropriate times. Problems worked in class are not available on the web site, nor are they available from me under any circumstances; so *come to class!* Problems worked in class will be representative of those on the exams. Extra problems, problem sessions, and other information will be posted.

Withdrawal Policy

Students may withdraw from the course until the midpoint of the term, but full tuition and fees must be paid. Note that you do not need instructor permission to drop. After the midpoint, withdrawal is allowed only in emergencies and by submitting a petition to the dean of your college. Incompletes are awarded only when a documented emergency prevents the student from taking the final exam, but the student must have taken the three midterm exams and completed 60% of the discussion worksheets.

Study Hints (How to do well in Organic Chemistry!)

- Come to class and take great notes. The lectures are meant to summarize and emphasize important concepts in organic chemistry. For the most part, the lectures are keyed to the text so that you can easily use the text to reiterate points.
- Understand the notes. Do not just memorize. Be able to extract the fundamental points and apply them to the mechanisms and syntheses that our outlined in class or the text. **Recopy notes** and make sure that you get any questions answered that you do not understand.
- Understand concepts. Ask yourself why and try to come up with a solution. Klein is especially excellent at distilling the key concepts so use this book to supplement the lectures and the text.
- Work through assigned problems. Do not just look at the answers. If you do not feel the questions assigned are adequate, work through the unassigned questions or look at other text books (I have several to check out in my office).
- Use the problem sessions wisely. Ask questions and do more problems.
- Study in groups. You can learn much from a group atmosphere and explaining a concept to a classmate is one of the best ways to understand the concept yourself.
- Use the teaching assistants office hours and my office hours.
- Lastly, be consistent about studying (30 min/day) to keep up and help organize your thoughts.

Suggested Problems from the Text (do not buy the study guide, but if you need answers, there is a study guide on reserve in the Marriott Library) 3rd addition:

- *I would suggest that you do all in-chapter problems. These are relatively straight-forward, but are a good initiation to the concepts at hand.*
- **Problems in bold are the most challenging questions.**
- Chapter 15 (last semester but good practice): 15.32-15.35, 15.44, 15.45, 15.48, 15.51, 15.56, 15.59, 15.60, 15.62, 15.68, 15.70, 15.71, 15.74, 15.75, **15.79, 15.80**
- Chapter 16: 16.34-16.38, 16.44-16.46, 16.48, 16.51-16.60, 16.62, **16.69-16.72**
- Chapter 17: 17.32-17.37, 17.39-17.41, 17.47-17.53, 17.61, **17.63-17.65**
- Chapter 18: 18.35 (I would also draw mechanisms), 18.37, 18.38 (draw mechanisms), 18.40, 18.41, 18.43, 18.44, 18.47-18.49, 18.51-18.54, 18.56-18.58, 18.61-18.66, 18.69, **18.76-18.79**
- Chapter 19: 19.34, 19.35, 19.37, 19.37-19.40, 19.45, 19.46, 19.66, 19.68, **19.71-19.73**
- Chapter 20: 20.39, 20.42, 20.49, 20.50, 20.52-20.55, 20.56, 20.58, 20.62, 20.66, 20.68, **20.80, 20.81, 20.83**
- Chapter 21: 21.45, 21.48-21.51, 21.53, 21.57, 21.62, 21.66, 21.70-21.73, 21.76-21.79, 21.81, 21.89, 21.90, **21.91-21.92**
- Chapter 22: 22.43, 22.44, 22.46-22.49, 22.52-22.54, 22.57, 22.59, 22.61, 22.63-22.65, 22.69, 22.71, 22.73, 22.74, **22.90, 22.91**
- Chapter 23: 23.32-23.34, 23.36, 23.40, 23.44, 23.46, 23.48, 23.50, 23.51, 23.53-23.63, 23.65-23.66, 23.69, 23.70, **23.72-23.74**
- Chapter 24: 24.27, 24.31, 24.38-24.40, 24.42, 24.43, 24.45, 24.47, 24.50-24.56, 24.58, 24.60, 24.62, 24.63, 24.66-24.67, **24.68-24.71**