

CHEM 232 Organic Chemistry, Spring 2021

Course Information

Instructor: Douglas B. Grotjahn (*he/him/his/himself*)

dbgrotjahn@sdsu.edu (answers normally within 24 h or following weekends)

Office Location: virtual meetings only

Office Hours Times (1 h each): Mon 11:00 AM, Wed 11:00 AM, additional TBD

Office Hours [here](#) (879 9095 9471) will be recorded and posted. Passcode is o-chem.

Synchronous Class Meetings [here](#) (875 3115 1042). Passcode is o-chem. MWF Class Times: 10:00–10:50 AM. Class Zoom meetings will be recorded and posted.

Lab matters are handled by TAs and the lab coordinator, Prof. Thomas Cole; please ask them about lab.

Required Materials

1. *Organic Chemistry* 12th Edition by Solomons and Fryhle – with WileyPlus.

We will use New WileyPlus for study guide and homework functions. Older editions or used copies of the text without the access code for the 12th edition will not give you access to WileyPlus, which we will use in this course to handle homework assignments.

Logging in to WileyPlus will be by way of your Canvas account.

2. BACON = Biology and Chemistry Online Notes

I will explain the use of BACON soon. Students have really enjoyed this material. Signing up for BACON will cost you \$6.

Custom course materials (lecture slides, etc.) will be posted on Canvas. Do not share them in violation of copyright. See below, in orange text.

Unauthorized recording or dissemination of virtual course instruction or materials by students, especially with the intent to disrupt normal university operations or facilitate academic dishonesty, is a violation of the Student Conduct Code. This includes posting of exam problems, the instructor's lecture slides and other original materials, or questions to online platforms. Violators may be subject to discipline.

For lab portion of course, see your 232L TA or coordinator Prof. Thomas Cole. Portions of *Chem 232 Lab Supplemental Material*, by Somanathan, Purse, and Bergdahl, will be posted online by your lab coordinator.

Most any other organic chemistry textbook will cover nearly the same material. Have a look at one if you'd like to see these concepts presented in a different way or try to more practice problems.

Adding/Dropping Procedures

February 2 at 7:59 pm is the deadline to add/drop classes or change grading basis. To add a class during the schedule adjustment period, students can request an add code from the instructor. Please email the instructor regarding add codes for other circumstances.

Extra Help

There are a variety of places to get extra help in studying the material:

Office hours

Discussions with your TA and your TA's office hours

Online discussions on this Canvas site

Tutors (the Chemistry Office makes a list; consult them during virtual office hours M-F 9 am to 1 pm - Join [Zoom Meeting](#) - Meeting ID: 935 1656 1203).

Course Requirements

The prerequisite for Chemistry 232 includes one year of General Chemistry. You will need to have a good understanding of general chemistry to do well in this class (**especially orbitals, electronic configurations, bonding theory, acidity and electronegativity**). We will go over these but as a matter of review, applying the concepts to organic chemistry.

Purpose

The goal of this class is to give you a thorough understanding of organic chemistry. This course will lay the foundation for future studies in biology, biochemistry and more advanced chemistry courses.

Expected Student Learning Outcomes for Chem 232

1. Understand physical properties of organic compounds and fundamental chemical reactions in organic chemistry.

2. Determine bonding, hybridization, Lewis structures, and / or stereochemistry of simple organic molecules.
3. Show chemical mechanisms for basic organic reactions using the curved arrow formalism (“arrow-pushing”).
4. Determine and differentiate various types of simple organic reactions, for example S_N1 , S_N2 , E1 and E2 pathways, radical chain reactions, or additions to double bonds.
5. Understand the relationship between different functional groups and organic chemical reactions.
6. Identify examples of organic chemistry in common “daily life” situations or biochemical processes.
7. Be able to apply and use the outcomes above in more advanced courses such as upper division organic chemistry (Chem 432), biochemistry, and more advanced organic chemistry courses.

Read ahead before lecture?

Required for the course is a source of Bound Optimally Organized Knowledge – that is, a BOOK (electronic or otherwise). It makes little sense to me and we hope to you who are paying your or someone else’s hard-earned dollars to be here that I should lecture day after day, simply following a textbook.

I am asking you to read material on topics BEFORE class. I expect you to read ahead and try some problems before the next class. Then in class or office hours, ask questions about what you don’t understand! The purpose of the class time is to clarify the material in the book and probably **not all topics can be covered in the class periods, but I expect you to cover what is assigned.** This will require you to learn from the book through reading and self study, along with asking those questions.

Will I look or feel stupid asking a stupid question?

One of the greatest fears for most people (adults anyway). Solution? Ask the questions. Don’t worry if they’re “stupid.” If you doubt the validity of this approach, go talk to an elementary-school class sometime and see how eager they are to ask questions. They don’t have to look cool. Why should we?

Studying the Subject

Many people find organic chemistry to be difficult. But difficult does not mean boring! In the past I've advised people that this class may require a minimum of 15 hours of time outside of class each week (although your mileage may vary). There is a lot of material to be covered and trying to memorize all of it is unnecessary since the point of the course is to develop an understanding of the subject. To understand organic chemistry you must think about it, read about it, struggle with problems, go down the wrong path (often). But do the reading and assigned problems before the next class and it will make the discussion easier to follow and will

help to clarify concepts that you may have found difficult in the reading. Repeat as needed. Let me know how it goes.

Homework

Working problems is essential to understanding organic chemistry. Do, and try to understand, as many problems as you can, not just the ones I assign. The exam problems will use the **concepts** covered in the homework problems - a few will be almost identical, but most different enough that you will need to **understand the principles rather than memorize**. The quiz and exam problems will be designed to test your understanding of the reading, homework and lectures. You are expected to keep up with the homework. Organic chemistry *cannot* be learned the night before the exam. Some homework problems will be assigned to go along with the reading assignments.

You are responsible for checking WileyPlus to keep track of when homework will be due.

Students who need extra accommodation

If you are a student with a disability and believe you will need accommodations for this class, it is your responsibility to contact Student Ability Success Center (SASC) at http://newscenter.sdsu.edu/student_affairs/sds/. To avoid any delay in the receipt of your accommodations, you should contact SASC as soon as possible. Please note that accommodations are not retroactive, and that accommodations based upon disability cannot be provided until you have presented your instructor with an accommodation letter from SASC. Your cooperation is appreciated.

Academic Honesty

I expect the highest integrity from you, as you expect of me.

The University adheres to a strict policy regarding cheating and plagiarism. These activities will not be tolerated in this class. Become familiar with the policy at [this site](https://newscenter.sdsu.edu/student_affairs/srr/conduct.aspx) (https://newscenter.sdsu.edu/student_affairs/srr/conduct.aspx) >. Any cheating or plagiarism will result in failing this class and a disciplinary review by Student Affairs. **Cheating, which includes unauthorized team work and the use of unauthorized resources or hired/voluntary help during exams, will not be tolerated.** I am here to help you succeed, and I am confident that you can do so, with hard and honest work.

Midterm and Final Exams

Exams and Quizzes and Group Work:

Quizzes will be pop quizzes.

If you are not here in class, you will miss quizzes and group work and *there will be no makeup under any circumstances.*

Midterms - Midterms on **Saturdays**.

- February 20, March 13, and April 10, and May 1, 12:00 to 14:00 (noon to 2:00 pm).
- Midterm 1 will cover Chapters 1 to 4.
- You **MUST** be able to attend the exams to take the class.
- **No make-up exams will be given under any circumstances.**

Final exam will be on Saturday, May 8 from 09:30 to 11:30.

Chem 232 final exam schedule is under Group Finals. In 2009, two people mis-read the schedule and missed the final exam – and got zero points! **There will be no make-up final!**

Details about how the exams will be conducted will be announced as we get closer to each exam date, but I expect that each exam will be composed of a combination of multiple choice / matching / fill in blank sorts of questions, along with drawing molecules / arrow-pushing / essay answer questions.

Summary of Grading

homework (WileyPlus)	50 points*
3 midterms (4 exams lowest one dropped) 3 x 150 =	450 points
comprehensive final exam	150 points
quizzes and group work	50 points
BACON	50 points
total	750 points*

The course final grade will be based on the final point total, using a curve to determine final letter grades.

*Note! Depending on how everything goes, the number of points assigned to group work, quizzes and/or homework may be adjusted up or down, and with it, the point total may be changed. In addition, some additional assignment(s) may be included, also changing the final point total.