

Chem 4580 Advanced Organic Chemistry I

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Office: Innovation E345

Office hours: Wednesday 12:30-1:30, Thursday 1:00-2:00 or by appointment

Recommended text: Carey, F. A., and Sundberg, R. J. *Advanced Organic Chemistry, Part B: Reactions and Synthesis*, 5th ed., ISBN: 978-0-387-68354-6.

Important dates

Problem Set 1 due, September 25

Midterm 1, October 4

Problem Set 2 due, October 25

Midterm 2, November 1

Problem Set 3 due, Nov 29th

Oral Presentations Dec 6, 8

Final Exam, Dec 14, 7:30 A.M. L/L-D D107

Grading

2 Midterm Exams 40%

Cumulative Final Exam 30%

Problem Sets 30%

Learning Objectives:

1. draw arrow pushing mechanisms for a series of reactions discussed in class.
2. list the chirality elements and apply that knowledge to identify stereochemical relationships between molecules that have a variety of chirality elements.
3. explain how a reaction's energy profile affects the position of the reaction equilibrium and rate.
4. recognize a variety of functional group transformations and be able to apply them in simple synthetic sequences.

Academic Conduct:

Cheating or plagiarism will be considered grounds for failing the course (a numerical score of zero). All graded assignments must be your own work. Cases of cheating or plagiarism will lead to further disciplinary action, which may include dismissal from the University according to the rules set forth in the University of Vermont's Code of Academic Integrity:

<http://www.uvm.edu/~uvmppg/ppg/student/acadintegrity.pdf>

Stereochemistry

Conformational, steric and stereoelectronic effects

Basic mechanistic principles

Reactions of nucleophilic carbon

Reactions of nucleophilic carbon with carbonyl carbons

Concerted reactions

Electrophilic additions to carbon-carbon multiple bonds

Religious Holidays:

Students have the right to practice the religion of their choice. *If you need to miss class to observe a religious holiday, please submit the dates of your absence to me in writing by the end of the second full week of classes.* You will be permitted to make up work within a mutually agreed-upon time.

Student Learning Accommodations:

In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact ACCESS, the office of Disability Services on campus. More information (including contact information) can be found online at www.uvm.edu/access. ACCESS works with students and faculty in an interactive process to explore reasonable and appropriate accommodations via an accommodation letter to faculty with recommended accommodations as early as possible each semester.