

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.

, 5<sup>th</sup> 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

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

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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.

within a mutually agreed-upon time.

You will be permitted to make up work

### **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](http://www.uvm.edu/access). ACCESS works with students and faculty in an interactive process