

CHM 5250
SYNTHETIC ORGANIC CHEMISTRY
Fall 2014

MWF, 12:20 – 1:10PM, HTL 219

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Office Hours: walk in or make an appointment (5007 CSL)

Course Objective: To provide you with the knowledge of general tactics in organic synthesis to allow future design and execution of synthetic strategies.

Prerequisite: Mastery of undergraduate organic chemistry.

Grading: 2 tests (100 pts each), 1 final exam (200 pts), plus SynPOWquizzes (100 pts)

Exams: Cumulative, and they assume a thorough understanding of undergraduate organic chemistry. However, specific exams will focus on the most recent material.

Homework: Study end-of-chapter problems; one or more will appear on each exam

Quizzes: Take-home and/or in-class on the Synthesis Paper of the Week (SynPOW)

Course Materials:

Required: Zweifel, G.S.; Nantz, M.H., *Modern Organic Synthesis*, W.H. Freeman: 2006
ChemBioDraw Ultra Version 13 software, available from the Department site license
Access to the primary organic chemistry literature (e.g., *J. Am. Chem. Soc.*)

Recommended: *Re-read your undergraduate organic textbook!*

Kürti&Czakó, *Strategic Applications of Named Reactions in Organic Synthesis*, 2005

R. B. Grossman, *The Art of Writing Reasonable Organic Reaction Mechanisms*

Some form of molecular models; e.g., HGS 5000/Biochemistry Set,

<http://www.maruzen.info/hgs/catalog/index.php>

Lecture Schedule: (9 chapters, 3 lectures per chapter)

1. Synthetic Design
2. Stereochemical considerations
3. Protecting Groups

Test #1 Monday evening, Sept 29, 5:00 – 7:00 pm

4. Redox reactions
5. Alkene and Alkyne reactions
6. Enolates

Test #2 Monday evening, Oct 27, 5:00 – 7:00 pm

7. Organometallics (4 lectures)
8. Alkene and Alkyne Synthesis
9. Synthesis of Carbocycles

Final Exam Friday morning, Dec 12, 7:30 – 9:30 am

Tentative daily lecture schedule

week	Mon (book)	Wed (book)	Fri (lit)
1 (8/25-29)	Chap 1	Chap 1	in-class quiz
2 (9/1-5)	LABOR DAY	Chap 1	take-home quiz
3 (9/8-12)	Chap 2	Chap 2	in-class quiz
4 (9/15-19)	Chap 2	Chap 3	in-class quiz
5 (9/22-26)	Chap 3	Chap 3	take-home quiz
6 (9/29-10/3)	Chap 4 / TEST 1	Chap 4	take-home quiz
7 (10/6-10)	Chap 4	Chap 5	in-class quiz
8 (10/13-17)	Chap 5	Chap 5	in-class quiz
9 (10/20-24)	Chap 6	Chap 6	in-class quiz
10 (10/27-31)	Chap 6 / TEST 2	Chap 7	Chap 7
11 (11/3-7)	Chap 7	Chap 7	take-home quiz
12 (11/10-14)	Chap 8	Chap 8	in-class quiz
13 (11/24-28)	Chap 8	THANKSGIVING	BREAK
14 (12/1-5)	Chap 9	Chap 9	Chap 9

ALL SYLLABI ARE REQUIRED BY FSU TO INCLUDE THE FOLLOWING STATEMENTS:

University Attendance Policy:

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy:

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to ". . . be honest and truthful and . . . [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://dof.fsu.edu/honorpolicy.htm>.)

Americans with Disabilities Act:

Students with disabilities needing academic accommodation should:

- (1) register with and provide documentation to the Student Disability Resource Center; and
- (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the:

Student Disability Resource Center
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
sdrc@admin.fsu.edu
<http://www.disabilitycenter.fsu.edu/>

Required Liberal Studies Area V Statement (for CHM 1020, CHM 1020L, CHM 1032, CHM 1045, CHM 1045L, CHM 1046, CHM 1046L, CHM 1050, CHM 1050L, CHM 1051, CHM 1051L, CHM 2200, CHM 2200L):

The Liberal Studies Program at Florida State University has been designed to provide a perspective on the qualities, accomplishments, and aspirations of human beings, the past and present civilizations we have created, and the natural and technological world we inhabit. This course has been approved as meeting the requirements for **Liberal Studies Area V, Natural Science**, and in combination with your other Liberal Studies courses, provides an important foundation for your lifelong quest for knowledge.

Free Tutoring from FSU:

On-campus tutoring and writing assistance is available for many courses at Florida State University. For more information, visit the Academic Center for Excellence (ACE) Tutoring Services' comprehensive list of on-campus tutoring options – see <http://ace.fsu.edu/tutoring> or contact tutor@fsu.edu. High-quality tutoring is available by appointment and on a walk-in basis. These services are offered by tutors trained to encourage the highest level of individual academic success while upholding personal academic integrity.

Syllabus Change Policy:

"Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice."