

Chemistry 6226

Advanced Synthetic Organic Chemistry

Spring 2016

- Instructor:* Aaron Aponick, 328 Sisler Hall, 352.392.3484, aponick@chem.ufl.edu
- Lectures:* Mondays, Wednesdays, and Fridays 8:30-9:20 a.m., 142 Leigh Hall
- Office Hours:* 328 Sisler Hall, by appointment as needed
- Required Texts:* *Advanced Organic Chemistry, Part B: Reactions and Synthesis, 5th Ed.*
by Francis A. Carey and Richard J. Sundberg, ISBN 9780387683546
- Classics in Stereoselective Synthesis*
by Erick M. Carreira and Lisbet Kvaerno ISBN 9783527299669
- Reference Texts:* *Modern Methods of Organic Synthesis, 4th Ed.*
by William Carruthers & Iain Coldham
- Modern Organic Synthesis*
Dale L. Boger, TSRI press
- Transition Metals in the Synthesis of Complex Organic Molecules*
by Louis S. Hegedus
- Organic Synthesis, Strategy and Control*
by Paul Wyatt and Stuart Warren
- Strategic Applications of Named Reactions in Organic Synthesis*
by Laszlo Kurti and Barbara Czako
- Encyclopedia of Reagents for Organic Synthesis*
Available in the Science Library Reference Section and online
- Comprehensive Asymmetric Catalysis*
by Jacobsen, Pfaltz, and Yamamoto eds.
- Protecting Groups*
by Philip J. Kocienski
- Protective Groups in Organic Synthesis*
by Theodora W. Green and Peter G. M. Wuts

Course Objective and Content: This course is intended to provide an overview of synthetic organic chemistry with an emphasis on carbon-carbon bond forming reactions. Understanding issues of chemo-, regio-, and stereoselectivity are central to developing synthetic strategies and therefore will be highlighted throughout. The course consists of lectures and practice problems taken from the current literature when possible.

Tentative Course Outline:

1. Functional Group Interconversion

- Oxidation
- Reduction
- Protecting Groups
- Alkene Functionalization
- Miscellaneous

2. C-C Bond Forming Reactions

- Olefination
- Cross-coupling
- Carbenes
- Enolates, formation/alkylation/aldol reactions
- Radical Cyclization
- Pericyclic Reactions
- Acyclic Stereocontrol

Grading:

Exam 1	100 pts
Exam 2	100 pts
Exam 3	100 pts
In Class Exercises	100 pts
Homework	100 pts

Exam Dates:

Exam 1	February 10, 2015
Exam 2	March 16, 2015
Exam 3	April 20, 2015

Exams are scheduled 7:30-9:30 pm with the room to be announced.

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Information on current UF grading policies for assigning grade points:
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>

Regrade requests must occur within 1 week of when the exam is returned. Note that grading for the entire exam will be checked for accuracy.

Grade disputes must be submitted within 3 weeks of the end of the semester.

No cell phones, text messaging, headphones, computers, or other electronic devices are to be used during any class meeting.