

# Chemistry 6226

## *Advanced Synthetic Organic Chemistry*

Summer 2014

- Instructor:* Aaron Aponick, 328 Sisler Hall, 352.392.3484, aponick@chem.ufl.edu
- Lectures:* Mondays, Wednesdays, and Fridays 8:00-9:15 a.m., 105 Flint Hall
- Office Hours:* Tuesdays 8:00-10:00 a.m., 328 Sisler Hall and by appointment
- Teaching Assistant:* Barry Butler, bbbutlerjr@chem.ufl.edu; Justin Goodwin, goodwin@chem.ufl.edu
- Required Texts:* *Advanced Organic Chemistry, Part B: Reactions and Synthesis, 5<sup>th</sup> 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
Homework.....	100 pts
In Class Exercises.....	100 pts
Take Home Exams .....	100 pts

*Exam Dates:*

Exam 1 .....	June 18, 2014
Exam 2 .....	August 6, 2014

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

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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.

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