Chemistry 6226
Advanced Synthetic Organic Chemistry
Spring 2013

Instructor: Aaron Aponick, 328 Sisler Hall, 352.392.3484, aponick@chem.ufl.edu

Lectures: Mondays, Wednesdays, and Fridays 8:30-9:20 a.m., 111 Flint Hall

Office Hours: Tuesdays 8:00-10:00 a.m., 328 Sisler Hall and by appointment

Teaching Assistant: Paulo Paioti, ppaioni@chem.ufl.edu

by Francis A. Carey and Richard J. Sundberg, ISBN 9780387683546

Classics in Stereoselective Synthesis
by Erick M. Carreira and Lisbet Kvaerno ISBN 9783527299669

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
   - Carbene
   - Enolates, formation/alkylation/aldol reactions
   - Radical Cyclization
   - Pericyclic Reactions
   - Acyclic Stereocontrol
Grading:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Weight</th>
<th>Exam Dates</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>100 pts</td>
<td>February 13, 2013</td>
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<tr>
<td>Exam 2</td>
<td>100 pts</td>
<td>March 27, 2013</td>
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<tr>
<td>Exam 3/Final</td>
<td>100 pts</td>
<td>April 24, 2013</td>
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<td>Problem Sets</td>
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All exams are scheduled 7:30-9:30 in 340 Sisler Hall

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.