Syllabus
Chem 502 - Organic Synthesis
Spring Semester 2018
M,W,F 0900-0950
Norton 209

Instructor
Dr. Steven T. Diver
Office: NSC572
Office hours: Mondays 10-11am; Fridays 1-2pm; by appointment

The goal of this class is to introduce you to a critical reading of organic synthesis literature, to teach how to write a reasonable reaction mechanism, and to familiarize you with common synthetic reactions. There will be some focus on catalyzed organic reactions and asymmetric catalysis. Last, there will be examples of how syntheses are put together in total synthesis.

Recommended Text
"Advanced Organic Chemistry" by David Lewis (Oxford University Press)
Useful, readable text for further explanation and some problems will be assigned directly from this text. We will not cover every Chapter, but many will be useful for future reference.

Reference Texts (Not Required)
"Strategic Applications of Named Reactions in Organic Synthesis" by Kürti and Czako
"*Modern Organic Synthesis Lecture Notes*" by Dale Boger
"*Advanced Organic Chemistry"* by Smith and March
"*Advanced Organic Chemistry, Parts A, B*" by Carey and Sundberg
"Classics in Total Synthesis, I-III" by Nicolaou
"*Classics in Stereoselective Synthesis"* by Carreira

Grading Scheme
There will be three midterm exams and two scheduled quizzes. A few homework assignments will be given, tba. Quizzes will be given in class and may not be announced. There will be a few weekly homework assignments, TBA. Grading: midterms (25% each), homework and quizzes (25%).

Exams
Exams will be given in class during the 50 min period. The exams cover the material previously discussed in class, with emphasis on the new material covered since the last midterm or quiz. There will be some questions that relate to the material, requiring use of mechanism or analysis for novel problems. No calculators or cell phones are allowed in the exam session. There is no final exam. (There are no make-up exams offered. For unavoidable conflicts, see Dr. Diver at least one week in advance. Excused absences must be according to University Policy and require verification.) Midterm dates: 3/9, 4/13, 5/6. Scheduled quizzes: 2/23, 4/2(Monday).

Topics
Pericyclic Reactions, Oxidation, Alkene synthesis, Alkyne synthesis, Carbonyl addition, Aldol reaction, Esterification and peptide coupling, Pd cross couplings, Reactive intermediates, Asymmetric reactions-oxidation, Asymmetric reactions-reduction, Alkene metathesis, Nucleophlic catalysis, CH activation, Total synthesis.