

# Syllabus 6376: Organometallic Chemistry

Spring 2017  
5:30-7 pm MW  
162 Fleming

Prof. O. Daugulis  
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Text: Hartwig "Organotransition Metal Chemistry: From Bonding to Catalysis", 2010.

<b>Date</b>	<b>Topic</b>	<b>Reading</b>
Jan 18	Electron counting	Ch 1
Jan 23, 25	Ligand exchange	Ch 5
Jan 30, Feb 1, 6	Oxidative addition, reductive elimination	Ch 6, 7, 8
Feb 8, 13	Intramolecular insertions/eliminations	Ch 9
Feb 15, 20	Nucleophilic attack on complexed ligands	Ch 11
Feb 22	Electrophilic attack on complexed ligands	Ch 12
Feb 27	Metallacycles	pages 52, 97, 400, 490, 1036
March 1	<b>FIRST HOURLY EXAM</b>	
March 6, 8	Catalytic processes based on metal carbenes/ynes	Ch 21
March 20, 22, 27	Hydrogenation and related processes	Ch 15, 16, 17
Mar 29, Apr 3, 5	C-C bond formation	Ch 19.1-19.5, 19.7, 19.8.4
Apr 10, 12	C-X bond formation	Ch 19.6, 19.8.1-19.8.3
Apr 17, 19, 24	Alkene polymerization	Ch 17.8, 22
Apr 26	C-C and C-H activation	Ch 19.9, 18
May 1	<b>SECOND HOURLY EXAM</b>	
MAY TBD	<b>RESEARCH PROPOSAL DEFENSE</b>	

## **NOTES**

**1. GRADING:** separate for undergraduate and graduate students.

Undergraduate students: 100 points each exam. Five unannounced quizzes for 10 points each.

Graduate students: 100 points each exam. Five unannounced quizzes for 10 points each. Research proposal: 30 points from peer review (three reviews, if ranked #1, 10 points; ranked #2, 5 points; ranked #3, 0 points); 10 points quality of your reviews; 10 points quality of presentation.

### **NO MAKE-UP EXAMS!**

**2.** Problem sets will be distributed on (almost) weekly basis; will not be collected. Exams and quizzes will have some material from problem sets.

**3.** February 1 – last day to drop class without receiving a grade. March 31 - last day to drop the class with a “W”. January 16 – MLK Day. March 13, 15 – Spring break.

**4.** We will discuss how to prepare Research Proposal after the first hourly exam. You will need to discuss your idea with me by April 20.

**5.** Office hours – by appointment. Feel free to email me any questions or concerns you have and I will respond to them within few hours.