Syllabus 6376: Organometallic Chemistry

Spring 2027
5:30-7 pm MW
154 Fleming

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

Date	Topic	Reading
Jan 20	Electron counting	Ch 1
Jan 25, 27	Ligand exchange	Ch 5
Feb 1, 3	Oxidative addition, reductive elimination	Ch 6, 7, 8
Feb 8, 10	Intramolecular insertions/eliminations	Ch 9
Feb 15, 17	Nucleophilic attack on complexed ligands	Ch 11
Feb 22	Electrophilic attack on complexed ligands	Ch 12
Feb 24	Metallacycles	pages 52, 97, 400, 490, 1036
March 1	**FIRST HOURLY EXAM**	
March 3, 8	Catalytic processes based on metal carbenes/ynes	Ch 21
March 10, 22, 24	Hydrogenation and related processes	Ch 15, 16, 17
Mar 29, 31, Apr 5	C-C bond formation	Ch 19.1-19.5, 19.7, 19.8.4
Apr 7, 12	C-X bond formation	Ch 19.6, 19.8.1-19.8.3
Apr 14, 19, 21	Alkene polymerization	Ch 17.8, 22
Apr 26, 28	C-C and C-H activation	Ch 19.9, 18
May 3	**SECOND HOURLY EXAM**	
MAY TBD	**RESEARCH PROPOSAL DEFENSE**	

NOTES

1. GRADING: separate for undergraduate/MS Plan 2 and graduate students.
Undergraduate/MS Plan 2 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: 24 points from peer review (three reviews, if ranked #1, 8 points; ranked #2, 4 points; ranked #3, 0 points); 12 points quality of your reviews; 14 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 3 – last day to drop class without receiving a grade. April 21 - last day to drop the class with a "W". March 15-20 – Spring break.

4. We will discuss how to prepare the 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 with any questions or concerns you have, and I will respond to them within a few hours.