

Syllabus 6376: Organometallic Chemistry

Spring 2025
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 13	Electron counting	Ch 1
Jan 15, 22	Ligand exchange	Ch 5
Jan 27, 29	Oxidative addition, reductive elimination	Ch 6, 7, 8
Feb 3, 5	Intramolecular insertions/eliminations	Ch 9
Feb 10, 12	Nucleophilic attack on complexed ligands	Ch 11
Feb 17	Electrophilic attack on complexed ligands	Ch 12
Feb 19	Metallacycles	pages 52, 97, 400, 490, 1036
Feb 24	FIRST HOURLY EXAM	
Feb 26, March 3	Catalytic processes based on metal carbenes/ynes	Ch 21
March 5, 17, 19	Hydrogenation and related processes	Ch 15, 16, 17
Mar 24, 26, 31	C-C bond formation	Ch 19.1-19.5, 19.7, 19.8.4
Apr 2, 7	C-X bond formation	Ch 19.6, 19.8.1-19.8.3
Apr 9, 14, 16	Alkene polymerization	Ch 17.8, 22
Apr 21, 23	C-C and C-H activation	Ch 19.9, 18
April 28	SECOND HOURLY EXAM	
MAY TBD	RESEARCH PROPOSAL DEFENSE	

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: 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. January 29 – last day to drop class without receiving a grade. April 16 - last day to drop the class with a “W”. March 10-15 – 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 any questions or concerns you have, and I will respond to them within a few hours.