



Adam Mickiewicz University in Poznań

Doctoral School of Exact Sciences AMU

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Scientific lectures

Field of science	Module in Organometallic Chemistry. The Basics of Catalysis.
Teaching method	In person lectures
Language	English
Numbers of hours	15 h
Aims of the course	This module aims to equip students with essential tools to understand mechanistic proposals in catalysis involving organometallic complexes. Students will explore the structure and bonding of organometallic compounds, the mechanisms of organometallic reactions, and how these principles apply to catalytic processes, particularly in homogeneous systems. Key topics such as electronic and steric effects on reactivity will also be covered, with a focus on their applications in synthesis..
Course contents	Module in Organometallic Chemistry. The Basics of Catalysis. (6h) FUNDAMENTAL PROCESSES <ul style="list-style-type: none">• Ligand-Substitution Processes• Oxidative Addition• Reductive Elimination• σ-Bond Metathesis• Migratory Insertion• β-Hydride Elimination• α-Hydride Elimination and α-Hydride Abstraction• Nucleophilic Attack on Ligands Coordinated to Transition Metals.• Electrophilic Attack on Ligands Coordinated to Transition Metals.

	<ul style="list-style-type: none"> • Transmetallation. <p>Practical Seminar (2h)</p> <p>Evaluation Test (2h)</p>
Prerequisites and co-requisites	General knowledge on organometallic compounds
Learning outcomes	
On completion of the course PhD candidates will be able to:	Assessment mode
E_U01, E_U05, E_U06; E_W01, E_W02, E_W08; E_K05; E_K05.	exam
Literature	To be provided as part of a course package
Additional information	Course duration: Monday 9 th – Thursday 12 th or Friday 13 th June 2025