Jordan University of Science and Technology

Faculty of Science & Arts

Chemistry Department

CHEM423 Organometallic And Organometalloid Compounds
Summer Semester 2019-2020

Course Catalog
3 Credit Hours. This is an advanced undergraduate level course that covers the organometallic chemistry of the main and transition metals with emphasis on introduction to organometallic chemistry of both the main group and transition metal, basic reaction types and the natural extensions to the very relevant area of homogeneous catalysis

Text Book	
Title	Organometallics (A Concise Introduction)
Author(s)	A. Salzer
Edition	2nd Edition
Short Name	A.Sazer
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Powell	Principles of Organometallics Chemistry	R. Powell	2nd Edition	

Instructor	
Name	**Dr. Abdel Latif Ibdah**
Office Location	N4L0
Office Hours	
Email	aaibdah@just.edu.jo

Class Schedule & Room

Section 1:
Lecture Time: Sun, Mon, Tue, Wed : 16:00 - 17:30
Room: منصة الكترونية

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
913210	CHEM321 Inorganic Chemistry (2)	Prerequisite / Pass

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	Introduction	**chapter 1** From **A.Saze**
Week 2	Organmetallics of Groups 1 (IA) and 2 (IIA)	**Chapter 2** From **A.Saze**
Week 3	Organmetallics of Group 3 (IIIA) and 14 (IVA)	**chapter 3** From **A.Saze**
Week 4	Organmetallics of Group 15 (VA)	**chapter 3** From **A.Saze**
Week 5	Organmetallics of Group 16 (Group 14 (IVA)IA)	**Chapter 4** From **A.Saze**
Week 6	Metal Carbonyls	**chapter 5** From **A.Saze**
Week 7	Metal Hydrides and alkyls	**chapter 6** From **A.Saze**
Week 8	Olefin, -alkyne and n-cyclic polyene Metal complexes	**Chapter 7** From **A.Saze**
Week 9	Olefin, -alkyne and n-cyclic polyene Metal complexes	**Chapter 7** From **A.Saze**
Week 10	Oxidative Addition, Reductive Elimination Reactions	**chapter 8** From **A.Saze**
Week 11	Insertion Reactions	**Chapter 9** From **A.Saze**
Week 12	Substitution Reactions	**Chapter 10** From **A.Saze**
Week 13	Applications to Catalysis, catalytic cycles	**chapter 10** From **A.Saze**
Week 14	Applications to Catalysis, catalytic cycles	**Chapter 11** From **A.Saze**

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Understand the organmetallic chemistry of the main group elements [1a]	25%	
Understand the different ligands and their metal complexes [1b, 1e]	25%	
Understand the reaction types of organotransion metal complexes [1e]	25%	
Understand the applications of transition metal complexes in industry [1c]	25%	

Relationship to Program Student Outcomes (Out of 100%)										
a	b	c	d	e	f	g	h	i	j	k
25	12.50	25		37.50						

Evaluation	
Assessment Tool	**Weight**
First Exam	30%
Second Exam	30%
Final Exam	40%

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