YOZGAT BOZOK UNIVERSITY FACULTY OF ARTS AND SCIENCES

CHEMISTRY DEPARTMENT COURSE PLAN

Course Code	Course Title	Semester	Course Type (C/E)	T+A+L (Time/Week)	Credit	ECTS	Course Language
KİM733	Organometallic Chemistry	1-2	E	2+0+0		5	Turkish

COURSE INFORMATION

Course Catalog Description (Content)	To have knowledge about organometallic ligands and compounds. To learn organometal reactions and important organometal catalysts.
The Aim of the Course	To provide the relationship between organic and inorganic chemistry. To learn the properties and applications of Organometallic compounds by using the basic course knowledge of inorganic chemistry and Organic Chemistry.
Course Level	Bachelor degree
Course Language	Turkish
Teaching method	(X) Formal ( ) Online ( ) Mixed/Hybrid
Teaching Staff of the Course	Prof. Dr. Mustafa SAÇMACI
Prerequisite Course(s) of the Course	
Learning Outcomes from the Course	1. Gains knowledge about organometallic ligands and their compounds. 2. Learns the reactions of organometallic compounds, and learns about different bonding types. 3. Understands the importance of catalyst roles of organometal compounds in industry and learns their usage areas. 4. Learns the relationship between organic and inorganic chemistry. 5. Learns the properties and applications of organometallic compounds.

COURSE CONTENT

Week	Theory	Practice/Laboratory
1	History, organic ligands, nomenclature	
2	18-electron rule, electron counting	
3	Carbonyl and carbonyl-like ligands	
4	Carbonyl complexes	
5	Hydride and dihydrogen complexes	
6	ligands containing π systems, linear π systems	
7	Cyclic π systems	
8	Cyclic π systems	
9	Fullerene complexes	
10	Alkyl, carbene and carbine complexes	
11	Reactions of organometal compounds	
12	Information about IR spectra of organometallic compounds and their structure determination	
13	Information about 1H/13C-NMR spectra of organometallic compounds and their structure determination	
14	Organometallic catalysts	
15	Final Exam	

Course Learning Resources

1. Inorganic Chemistry, 3rd edition, Translation Editor: N.Karacan, P.Gürkan
2. Inorganic Chemistry2, Cemal Kaya

ASSESSMENT CRITERIA

Work Activities During the Semester	Number	Contribution
Homework	1	%30
Practice		
Forum/ Discussion Application		
Short Exam (Quiz)	2	%35
Ratio Of Semester Studies To Semester Success (%)		%40
Ratio of Final to Success (%)	1	%60
Total		%100

COURSE WORKLOAD TABLE

Activity	Total Weeks	Duration (Weekly Hours)	Total Workload
Theory	14	2	28
Practice			
Forum/ Discussion Application			
Reading	14	3	42
Internet Scanning, Library Study	14	2	28
Material Design, Application			
Report Preparation			
Presentation Preparation			
Presentation			
Final Exam	1	2	2
Preparation for the Final Exam	4	6	24
Other(s) (Specify: … …. ……..)			
Total Workload			
Total Workload / 25 (s)			124/25
ECTS Credits of the Course			124/25≅5

Note: The workload of the course will be determined by the instructor on a per-course basis.

PROGRAM LEARNING OUTPUTS CONTRIBUTION LEVELS

No	Program Learning Outputs	1	2	3	4	5
1	Gains extensive knowledge about the basic chemical properties of matter and uses this knowledge in daily life, industrial scale, and practical chemistry and shares them with the society.				**X**	
2	Performs experiments, collects data, interprets, evaluates results, defines problems parallel to current technological developments, produces solutions against problems encountered in the laboratory.		**X**			
3	Calculates and processes chemical information and data.			**X**		
4	Applies her/his knowledge and understanding of chemistry to the solution of unconventional qualitative and quantitative problems.				**X**	
5	Defines and comprehends chemical concepts and theories in Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Analytical Chemistry, Biochemistry.				**X**	
6	Can conduct research in the light of scientific data on any subject in the field of chemistry.					**X**
7	Writes, presents, discusses scientific material, and presents it orally to a knowledgeable audience.			**X**		

8	Brings a chemical approach to the solution of environmental problems, makes environmental analyzes and reports.		**X**			
9	Knows a foreign language at a level to read and understand the basic terms and processes of the chemist profession.			**X**		
10	Can use computer software and information and communication technologies at the level required by the field.				**X**	
11	Adapts and transfers the knowledge gained in the field to secondary education.			**X**		
12	Apart from the field of chemistry, she/he gains knowledge in different branches of science that she feels close to.				**X**	
13	Carries out a study independently, makes group work and gains the awareness of taking responsibility.				**X**	
14	They can develop a positive attitude towards lifelong learning and constantly renew their professional knowledge and skills.				**X**	
15	Have sufficient awareness of the universality of social rights, social justice, quality culture and protection of cultural values, environmental protection, occupational health and safety.			**X**		