AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Advanced Organometallics Chemistry								
Course Code	KİM628		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	10	Workload	252 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	To be able to identify and nomenclature of organometallic compounds, to explain the binding models in such compounds, to gain the ability to understand the mechanism of catalysis reactions, and to have knowledge about the organometallics main groups and transition metals organometallics.								
Course Content	The binding models in organometallic compounds and 18-electron rule, oxidation reactions (hydrogenation reactions, hydrosilylation reactions, and hydroboration reactions) and coupling reactions (carbon-carbon-bond forming reactions, carbon-heteroatom bond forming reactions, carbonylation reactions, and carbon-hydrogen bond activation reactions), and to apply organometallic catalysis to organic synthesis.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Problem Solving								
Name of Lecturer(s)	Prof. Yüksel ŞAHİN								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	60
Quiz	4	10
Assignment	4	10

Recommended or Required Reading	
1	P.W.N.M. van Leeuwen, Homogeneous Catalysis, Kluwer Academic Publishers, Dordrecht 2004.
2	N. Miyaura, Cross-Coupling Reactions, Springer 2002.

Week	Weekly Detailed Course Contents	
1	Theoretical	
2	Theoretical	
3	Theoretical	
4	Theoretical	
5	Theoretical	
6	Theoretical	
7	Theoretical	
8	Theoretical	
9	Theoretical	
10	Intermediate Exam	
11	Theoretical	
12	Theoretical	
13	Theoretical	
14	Theoretical	
15	Final Exam	
16	Final Exam	

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Assignment	7	10	0	70
Reading	1	0	40	40
Quiz	4	8	1	36

Midterm Examination	1	20	2	22
Final Examination	1	40	2	42
			Total Workload (Hours)	252
			[Total Workload (Hours) / 25*] = **ECTS**	10
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	
2	
3	
4	
5	
6	
7	

Programme Outcomes *(Chemistry Doctorate)*	
1	Depending on the master degree competences, develops, insights and innovates current and advanced knowledge and/or research in proficiency level.
2	Gains high skill levels in using research methods in the field of his/her study.
3	Comprehends the interaction between disciplines related to his/her field. Reaches to original results using his/her expertise in order to analyze, synthesize and evaluate new and complicated ideas.
4	Enlarges the boundaries of his/her field of knowledge by publishing at least one research paper in national and/or international peer-reviewed journals.
5	Defends his/her original opinions related to his/her field before authority and communicates effectively illustrating his/her competence.
6	May communicate and debate written, orally and visually in European Language Portfolio level C1.
7	Follows the developments in computer software and information and communication technologies developed for his/her research area and uses these in order to solve research problems.
8	Collaborates for scientific research with national and international research teams.
9	Contributes to the course of creation and maintenance of knowledge based society and by introducing the scientific, social and cultural developments to the society he/she is living in.

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5	L6	L7
P1	4	5	4	5	4	5	4
P2	4	5	4	5	4	5	4
P3	4	5	4	5	4	5	4
P4	4	5	4	5	4	5	4
P5	4	5	4	5	4	5	4