



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Organoboron Chemistry							
Course Code		KİM627		Couese Level		Third Cycle (Doctorate Degree)			
ECTS Credit	8	Workload	201 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The objective of this course is the examination of organoboron compounds as well as their reactions with mechanism. Also understand the simiarities with other fonctional groups and improve multi-step chemical synthesis capabilities.							
Course Content		The examination of reactions and properties of organoboron compounds							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	28
Final Examination	1	60
Assignment	4	12

Recommended or Required Reading

1	Houben-Weyl, Method of molecular Transformation, volume 6, Thieme, 2005.
2	Spectroscopic identification of Organic Compounds, sixth edition by R. M. Silverstein, F. X. Webster, Wiley, 1998.

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to boron compounds
2	Theoretical	Three coordinate organoboron compounds
3	Theoretical	Organoboron-Hydrogen compounds
4	Theoretical	Organoboron -halogene compounds
5	Theoretical	Organoboron -Oxygene compounds
6	Theoretical	Organoboron -Sulphur and Selenium compounds
7	Theoretical	Organoboron -Nitrogen compounds
8	Theoretical	Organoboron -Phosphorus and Arsenic compounds
9	Intermediate Exam	Midterm exam
10	Theoretical	Organoboron -3A and 4A groups compounds
11	Theoretical	Organoboron - ?-metal compounds
12	Theoretical	Four coordinate Organoboron compounds
13	Theoretical	Four and five coordinate Organoboron compounds
14	Theoretical	Rearrangement compounds of Organoboron
15	Theoretical	Spectroscopic analysis of organoboron compounds
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	4	56
Assignment	4	0	15	60
Reading	14	0	3	42
Midterm Examination	1	10	1.5	11.5
Final Examination	1	30	1.5	31.5
Total Workload (Hours)				201
[Total Workload (Hours) / 25*] = ECTS				8

*25 hour workload is accepted as 1 ECTS



Learning Outcomes

1	Understanding of basic knowledge of the chemical behavior of a multi-step synthesis of organoboron compounds.
2	Improve the capabilities of the synthesis of organoboron compounds
3	Reactivity of boron compounds can be predicted
4	Spectroscopic data, assessment of organoboron compounds
5	Examines articles on organoboron compounds

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
P1	5	4	5	3	4
P2	5	4	5	5	5
P3	5	5	4	5	4
P4	4	5	5	5	5
P5	5	4	5	5	5
P6	3	3	3	3	
P7	3	3	3	3	
P8	5	5	5	3	
P9	3	3	3	3	

