AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Heterocyclic Compounds								
Course Code	KİM626		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	8	Workload	204 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	The objective of this course is to give the student a broad understanding of the classes of heterocyclic compounds. Specifically, the student will learn structure, stereochemical, spectrochemical properties of the heterocycles. Also their synthesis and reactivity will be learned.								
Course Content	The examination of reactions and properties of heterocyclic 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	20
Final Examination	1	60
Assignment	4	20

Recommended or Required Reading	
1	J. A. Joule and K. Mills, Heterocyclic Chemistry, 2000, Chapman and Hall, Cambridge
2	Raj K. Bansal, Heterocyclic Chemistry, 1999, New age int., New Delhi

Week	Weekly Detailed Course Contents	
1	Theoretical	Systematic Nomenclature of Heterocyclic Compounds
2	Theoretical	Three and Four -Membered Heterocycles
3	Theoretical	Five and six-Membered Heterocycles
4	Theoretical	Aromatic heterocycles
5	Theoretical	Aromatic Nitrogen and Oxygen containing heterocycles
6	Theoretical	Sulphur and other heteroatoms containing heterocycles
7	Theoretical	Bicyclic compounds
8	Theoretical	Nitrogen and Oxygen containing aromatic and aliphatic Bicyclic compounds
9	Intermediate Exam	Midterm Exam
10	Theoretical	Spectroscopic properties of heterocylic compounds
11	Theoretical	Spectroscopic properties of heterocylic compounds
12	Theoretical	Spectroscopic properties of heterocylic compounds
13	Theoretical	Structural analysis of heterocyclic compounds
14	Theoretical	Multinuclear NMR spectroscopy
15	Theoretical	Multinuclear NMR spectroscopy
16	Final Exam	Final Exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Assignment	4	0	14	56
Reading	14	0	3	42
Midterm Examination	1	30	2	32

Final Examination	1	30	2	32
			Total Workload (Hours)	204
			[Total Workload (Hours) / 25*] = **ECTS**	8
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	The students shall obtain knowledge about importance of N, O and S elements in organic chemistry
2	The students should have an understanding of the general methods for the synthesis of heterocycles
3	The students can explain spectroscopic data about heterocyclic compounds
4	The Students should know structural analysis methods about heterocycles
5	Understanding the difference between carbocyclic and heterocylic structures.

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	5	5	5	5
P2	5	5	5	5	5
P3	5	5	4	5	4
P4	4	5	4	5	4
P5	5	4	5	5	5
P8	5	5	5	5	