



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Stereochemistry							
Course Code		KİM625		Couse Level		Third Cycle (Doctorate Degree)			
ECTS Credit	10	Workload	245 (Hours)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The objective of this course is to give the students understanding of three-dimensional structures of the cyclic and acyclic molecules, the concept of chirality and their application of organic chemistry. Also They learned stereochemistry in heteroatom include structures.							
Course Content		Chirality and stereochemistry in carbon and heteroatom include structures.							
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	7	20

Recommended or Required Reading

1	Stereochemisrty, David G. Morris, David Morris, Royal Society of Chemistry, 2002.
2	Organic Stereochemistry, Michael J. T. Robinson, Oxford Science Publications, 2000

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to stereochemistry, Informations about conformation and configuration isomers
2	Theoretical	Introduction to stereochemistry, Informations about conformation and configuration isomers
3	Theoretical	Optical activity; chirality and enantiomers; racemic compounds
4	Theoretical	Absolute configuration and enantiomeric excess
5	Theoretical	molecules with two (or more) stereogenic centres; diastereoizomers and meso compounds
6	Theoretical	Enantiomeric separation methods; structure characterization
7	Theoretical	Molecules without stereogenic centre and determination of absolute configurations
8	Theoretical	Molecules without stereogenic centre and determination of absolute configurations
9	Intermediate Exam	Midterm exam
10	Theoretical	Stereoisomerism in cyclic structures
11	Theoretical	Stereoisomerism in cyclic structures
12	Theoretical	Chirality without stereogenic Carbon
13	Theoretical	Importance of chiral molecules and chiral drugs
14	Theoretical	Stereoisomerizm in heteroatom structure
15	Theoretical	Synthesis of enantiomeric compounds
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Assignment	7	0	15	105
Reading	14	0	3	42
Midterm Examination	1	26	2	28
Final Examination	1	26	2	28
Total Workload (Hours)				245
[Total Workload (Hours) / 25*] = ECTS				10

*25 hour workload is accepted as 1 ECTS



Learning Outcomes

1	Understanding of chirality, diastereomer and enantiomer concept
2	Understanding of stereochemistry in heteroatom structure
3	Understanding of chirality and their importance in biology
4	Understanding of enantiomeric synthesis and enantiomer separation
5	Understanding the difference between isomers.

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

