

ORGANIC CHEMISTRY

1	Course Title:	ORGANIC CHEMISTRY
2	Course Code:	KIM1080
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	-
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Arş.Gör. AYHAN YIDIRIM
15	Course Lecturers:	Prof. Dr. Necdet Coşkun Doç. Dr. Mustafa Tavaslı Doç. Dr. Nevin Arıkan Ölmez
16	Contact information of the Course Coordinator:	nbesirli@uludag.edu.tr Tel: 0 (224) 294 1721 Uludağ Üniversitesi Fen-Edebiyat Fakültesi Kimya Bölümü, Görükle/BURSA 16059
17	Website:	
18	Objective of the Course:	The aim of the course is to teach the biologically important organic molecules contain functional groups, structural frame and tri-dimensional structural of organic molecules.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	Knowing of the Organic Chemistry and being aware of the importance in Biology.
	2	Learning of the basic Organic Chemistry terms.
	3	Learning the reactions of some basic Organic functional groups.
	4	Learning the physical and chemical properties of some organic compounds that being Biological important.
	5	Learning the bio-effectiveness and/or the bio-harmfulness of some organic compounds and using these with this consciousness
	6	Being knowledgeable about the applications of some organic compounds existed in nature.
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice

1	Alkanes: - Molecular geometry and Bond angle - Closed, Opened, Compressed and Linear Formula - Straight chained Alkanes (Methane....Decan)			
2	Alkyl Groups: -General Formula -Methyl, ethyl, n-propyl, n-butyl, n-pentyl, n-hexyl...n-decyl -isopropyl, sec-butyl, ter-butyl, sec-pentyl, neopentyl			
3	Branched alkanes: -Structural isomerism -Systematic nomenclature			
4	Alcohols and Ethers: -Water molecule -Molecular geometry and Bond angle Alcohols: -Closed, Opened, Compressed and Linear Formula -Primary, secondary and tertiary alcohols -Mono and poly alcohols, Systematic nomenclature -Forces that holding the molecules together (H-Bond) Ethers: -Closed, Opened, Compressed and Linear Formula			
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	Ammonia molecule	14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study	Formula preparation	2	5.00	10.00
Homeworks		1	18.00	18.00
Projects	Structural isomerism	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm Exams	Forces that holding the molecules together (H Bond and Dipole-dipole interaction)	1	20.00	20.00
Others		0	0.00	0.00
Final Exam	Carbonyl group	1	30.00	30.00
Total Work Load				120.00
Total work load	Closed, Opened, Compressed and Linear			4.00
ECTS Credit of the Course				4.00
	Ketones: -Closed, Opened, Compressed and Linear Formula -Systematic nomenclature -Structural isomerism -Forces that holding the molecules together (Dipole-dipole interaction) -Aldose and Ketose sugars			

7	<p>Carboxylic acids and Esters:</p> <ul style="list-style-type: none"> -Carbonyl, Hydroxyl and Alcoxy groups -Molecular geometry and Bond angle <p>Carboxylic acids:</p> <ul style="list-style-type: none"> -Closed, Opened, Compressed and Lineer Formula -Systematic nomenclature -Mono and polycarboxylic acids -Forces that holding the molecules together (H-Bond) <p>Esters:</p> <ul style="list-style-type: none"> -Closed, Opened, Compressed and Lineer Formula -Systematic nomenclature -Forces that holding the molecules together (Dipole-dipole interaction) -Vegetable and animal oils and Waxes 	
8	<p>Amides:</p> <ul style="list-style-type: none"> -Carbonyl, Hydroxyl and Amide groups -Molecular geometry and Bond angle -Closed, Opened, Compressed and Lineer Formula -Systematic nomenclature -Forces that holding the molecules together (H-Bond or Dipole-dipole interaction) -Aminoacids, Proteins and Peptide bonds 	
9	<p>Alkenes:</p> <ul style="list-style-type: none"> -Molecular geometry and Bond angle -Closed, Opened, Compressed and Lineer Formula -Systematic nomenclature -Geometrical isomerism (Cis-Trans isomerism) -Forces that holding the molecules together (Van der Waals interaction) -Vegetable fatty acids 	
10	<p>Aromatic compounds:</p> <ul style="list-style-type: none"> -Aromaticity -Benzenoid Aromatic compounds -Heterocyclic Aromatic compounds -Ortho-/meta-/ para- positions 	
11	<p>Functional group converisons:</p> <ul style="list-style-type: none"> -Determination of oxidation step -Electronegativity (C, H, O, Cl, Br) 	
12	<p>Reduction Reaction:</p> <ul style="list-style-type: none"> -Reductive reagents 	
13	<p>Oxidation Reaction:</p> <ul style="list-style-type: none"> -Oxidative reagents 	
14	<p>Acid-base reaction:</p> <ul style="list-style-type: none"> -Description of acid and base -Poor acids -Strong acids -Buffer solutions 	
22	Textbooks, References and/or Other Materials:	i) G. Solomons ve C. Fryhle (Çev. Ed. G. Okay ve Y. Yıldırım), Organik Kimya, Literatür Yayınları, 2002. ii) R. J. Fessenden ve J. S. Fessenden (Çev. Ed. T. Uyar), Organik Kimya, Güneş Kitabevi, 1992. iii) J. McMurry, Organic Chemistry, Brooks/Cole Publishing Comp., 1992. iv) P. Y. Bruice, Organic Chemistry, Prentice Hall, 2001.
23	Assesment	
TERM LEARNING ACTIVITIES		NUMBE R
Midterm Exam		40.00

