

## ORGANIC CHEMISTRY II

1	Course Title:	ORGANIC CHEMISTRY II
2	Course Code:	KIM2012
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	2
6	Semester:	4
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	4.00
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:	Prof. Dr. MUSTAFA TAVASLI
15	Course Lecturers:	Prof. Dr. NECDET COŞKUN
16	Contact information of the Course Coordinator:	mtavasli@uludag.edu.tr +90 224 29 41 732 Uludağ Üniversitesi, Fen-Edebiyat Fakültesi, Kimya Bölümü, 16059 Görükle / BURSA, TÜRKİYE
17	Website:	
18	Objective of the Course:	To introduce some fundamental organic molecules and to discuss their synthesis and reactions.
19	Contribution of the Course to Professional Development:	To apply some fundamental knowledge in industry and production facilities.
20	Learning Outcomes:	
	1	Learning the basic organic chemistry terms
	2	Realizing the general properties of organic compounds
	3	Learning the risks about organic compounds (personal and environmental) and using the chemicals carefully
	4	Learning the reactions of some main organic functional groups.
	5	Understanding and being able to comment on the reaction mechanisms.
	6	Being able to plan some series reactions.
	7	-Being able to comment on the problems about organic chemistry and getting skills for solving the problems.
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21	Course Content:	
	<b>Course Content:</b>	
Week	Theoretical	Practice

1	Ethers and Epoxides • Classification-Symmetric and Asymmetric • Physical properties and Dipole-Dipole Interactions • Nomenclature • Syntheses ? Dehydration of Alcohols ? Williamson Ether Synthesis ? Addition of alcoxymcury-mercury elimination to alkenes ? Hydroxyboration of alkenes oxidation • Reactions: Breaking up with HI			
2	Epoxides ? Nomenclature ? Syntheses ? Reactions Alkenes I: Properties and Preparation • Nomenclature with (E)/(Z) System • Relative Stability of Alkenes Sycloalkenes			
3	• Syntheses of Alkenes: Elimination reactions over (E1/E2). ? From alkylhalides ? From alcohols Stability of carbocation and Molecular Rearrangements			
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	? Addition of sulphuric acid ? Addition of water	14	4.00	56.00
Practicals/Labs		0	0.00	0.00
Self study	? Formation of Halohydrin ? Hydroboration	14	5.00	70.00
Homeworks		0	0.00	0.00
Projects	? Carben Addition ? Oxidation	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams	Alkenes	1	0.00	0.00
Others		0	0.00	0.00
Final Exam	Electrophilicity	1	0.00	0.00
Total Work Load				126.00
Total work load (hr)				4.20
ECTS Credit of the Course				4.00
	? HgSO4 catalised Hydration ? Hydroboration ? Reduction ? Oxidation			
7	Nuclear Magnetic Resonance Spectrometer ? Nuclear Spin: The source of the signal (Shielding / Deshielding) ? Chemical shift (Equivalent / Nonequivalent Protons) ? Signal Splitting (Spin-Spin Coupling) Proton NMR Spektrums and Rate İşlemleri			
8	Benzene and Aromaticity ? Nomenclature of benzene derivatives ? The structure and stability of benzene			

<b>9</b>	? Aromaticity and Hückel Rule ? Aromatic Ions ? Benzenoid Aromatic Compounds ? Heterocyclic Aromatic Compounds	
<b>10</b>	Electrophilic Aromatic Substitution Reactions • General Mechanism: Arenium Ions ? Halogenation of Benzene ? Nitration of Benzene	
<b>11</b>	? Sulphonation of Benzene ? Alkylation of Benzene - Friedel-Crafts ? Acylation of Benzene - Friedel-Crafts	
<b>12</b>	Aldehydes and Ketones: Nucleophilic Addition Reactions to Carbonyl Group • Nomenclature • Physical Properties • Syntheses ? From oxidation of Alcohols ? From breaking up alkenes with ozone	
<b>13</b>	? Reactions: Nucleophilic Addition Reactions to Carbonyl Group ? Addition of Alcohols ? Addition of Ammonia and Derivatives ? Addition of Hydrogencyanide	
<b>14</b>	? Addition of Ylides (Wittig Reaction) ? Addition of Organometallic Reagents (Reformatsky Reaction) ? Reduction ? Oxidation	

<b>22</b>	Textbooks, References and/or Other Materials:	
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<b>23</b>	Assessment	
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TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		written, multiple choice and short quiz

<b>24</b>	<b>ECTS / WORK LOAD TABLE</b>
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<b>25</b>	<b>CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS</b>															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
<b>ÖK1</b>	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>ÖK2</b>	0	0	0	0	4	0	0	0	3	0	0	0	0	0	0	0

ÖK3	5	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0
ÖK4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
ÖK6	0	0	0	0	0	0	0	4	5	0	0	0	0	0	0	0
ÖK7	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
LO: Learning Objectives    PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			