ORGANIC CHEMISTRY I									
1	Course Title:	ORGAN	IC CHEMISTRY I						
2	Course Code:	KIM2011							
3	Type of Course:	Compuls	sory						
4	Level of Course:	First Cyc	le						
5	Year of Study:	2							
6	Semester:	3							
7	ECTS Credits Allocated:	5.00							
8	Theoretical (hour/week):	4.00							
9	Practice (hour/week):	0.00	0.00						
10	Laboratory (hour/week):	0							
11	Prerequisites:	-							
12	Language:	Turkish							
13	Mode of Delivery:	Face to f	face						
14	Course Coordinator:	Prof. Dr.	MUSTAFA TAVASLI						
15	Course Lecturers:	Prof. Dr. Mustafa TAVASLI Doç. Dr. Nevin ARIKAN ÖLMEZ							
16	Contact information of the Course Coordinator:	coskun@uludag.edu.tr +90 224 29 41 725 Uludağ Üniversitesi, Fen-Edebiyat Fakültesi, Kimya Bölümü, 16059 Görükle / BURSA, TÜRKİYE							
17	Website:								
18	Objective of the Course:	The aim of the course is to make sure students understand the basic organic terms, properties of organic compounds, structure and 3-D nature of molecules, the relationship among organic functional groups.							
19	Contribution of the Course to Professional Development:								
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 comment on the problems about organic chemistry and getting skills for solving the problems.						
		7							
		8							
		9							
		10							
21	Course Content:								
		Co	ourse Content:						
Week	Theoretical		Practice						

	Carbon Compounds and Chemical Bonds • Chemical Bonds: Ionic and covalent bonds ? Writing Lewis Structure ? Octet Rule and exceptions of the rule ? Formal Charge ? Resonance • Molecular Orbital Theory ? Atomic Orbitals (s, p) ? Molecular Orbitals (?,?*, ?, ?*) ? sp3 , sp2 and sp Hybridization ? Molecular Geometry • Presentations of Molecular Formula ? Closed, ? Structural, ? Condensed, ? Line, ? Three dimensional formulas At the end of the course problem solving			
2	Functional Groups • Polar/apolar covalent bonds • Intermolecular forces • Unctional Groups: ? Alkanes, Alkenes and Alkynes ? Aromatic Compounds ? Alkyl Halides ? Alcohols and Ethers ? Amines ? Aldehide and Ketons ? Carboxylic Acids, Acid chlorides, Acid			
Activit	ies	Number	Duration (hour)	Total Work Load (hour)
		4.4	4 00	56.00
Theore	icalook rule	14		
Theore Practic	icalook rule als/Labs	0	0.00	0.00
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Theore Practic Self stu Homew Project Field S Midterr Others Final E	Prevention of Actory and Basicity Prevention Preventio	14 0 14 0 0 0 1 3 1	0.00 2.00 0.00 0.00 0.00 24.00 4.00 30.00	0.00 28.00 0.00 0.00 24.00 12.00 30.00
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5	Alkanes: Nomenclature and Conformation • Straight and branched Alkanes: ? Nomenclature ? Structural Isomery ? Intermolecular Forces ? Conformational Analysis: Newman Projects / Sawtooth ? Ethane, propane and butane analyses	
6	 Cycloalkanes: One cyclo, two cyclo and policyclo alkanes Nomenclature cis-/trans Isomery Ring stretching Conformational Analysis: Chair / Boat Cyclohexane, monosubstituted cyclohexane and di-substitutedcyclohexane analyses 	
7	Stereochemistry • Chiral Molecules: ? Tetrahedral carbon and chirality ? N-containing compounds and chirality ? Substituted cyclohexane and chirality	
8	? Determining the (R/S) Configuration? Optical Activity? Specific turning angle	
9	 Enantiomers: Racemic Mixture Enantiomeric excess (e.e) Diastereoisomery: Diastereomeric excess (d.e.) Meso Compounds Fisher Projection Formulas Determining the (R/S) Configuration 	
10	Reactions of Alkanes • Radical Reactions: ? Homolytic Bond Breaking ? Radical Formation and Stability ? Reaction Mecanism ? Initiators, Growing and Termination • Examples: ? Radicalic chlorination of methane ? Radicalic Addition of Hydrogen bromide to Alkanes ? Radicalic Polimerization of alkanes	
11	Reactions of Alkyl Halides • Nucleophilic Substitution (SN1/SN2) Reactions: ? Nucleophile, Electrophile and Leaving Groups ? Heterolytic bond breaking • SN2 Reaction: ? Reaction Kinetics ? Non-steady state (Walden Inversion) ? Stereochemistry ? Factors effecting the reaction rate ? The effects of Nucleophile, Electrophile, Leaving Group and Solvent	

12	 SN1 Reaction: Reaction Kinetics Non-steady state (Carbocation For Stereochemistry Factors effecting the reaction rate The effects of Nucleophile, Electrop Leaving Group and Solvent 	mation) ohile,					
13	 Elimination Reactions (E1/E2) Base, Acid and leaving group E2 Reaction Reaction Kinetics Non-steady state (antiperiplanar ar alkene formation) Stereochemistry E1 Reaction Reaction Kinetics Non-steady state (Carbocation and alkene formation) Stereochemistry 	nd E/Z I steady					
14	Alcohols • Classification-Primer, seconder and alcohols • Physical Properties and H-Bond • Nomenclature • Reactions: ? Transformation to alcoxylates with ? Transformation to alkyl halides with ? Transformation to alkyl halides with ? Transformation to alkyl chlorides w POCI3, PCI5 ve SOCI2 ? Transformation to alkyl tosylates,m and thriphlates with TsCl, MsCl ve Tf ? SN1/SN2 and E1/E2 reactions ? Oxidation reactions	l tertier base n HX n PBr3 ith esylates CI					
22	Textbooks, References and/or Other Materials:		 G. Solomons ve C. Fryhle (Çev. Ed. G. Okay ve Y. Yıldırır), Organik Kimya, Literatür Yayınları, 2002. J. McMurry, Organic Chemistry, Brooks/Cole Publishing Comp., 1992. P. Y. Bruice, Organic Chemistry, Prentice Hall, 2001. R. J. Fessenden ve J. S. Fessenden (Çev. Ed. T. Uyar), Organik Kimya, Güneş Kitabevi, 1992. 				
23	Assesment						
	LEARNING AUTIVITIES	R	WEIGHT				
Midterr	n Exam	1	25.00				
Quiz	uark project	3	25.00				
Home V	work-project	0	50.00				
Total	Λαιτι	5	100.00				
Contribution of Term (Year) Learning Activities to Success Grade			50.00				
Contribution of Final Exam to Success Grade			50.00				
Total			100.00				
Measurement and Evaluation Techniques Used in the Course							
24	ECTS / WORK LOAD TABLE						

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16
ÖK1	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	5	4	5	0	0	0	0	0	0	0	0	0	0	0
ÖK3	5	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	5	5	5	0	0	0	0	0	0	0	0	0	0	0
ÖK5	5	5	0	5	5	0	0	0	0	0	0	0	0	0	0	0
ÖK6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib ution Level:	b 1 very low 2 :		2 low		3	Medi	dium		4 High		5 Very High					