

DESIGN OF MOLECULE IN ORGANIC

1	Course Title:	DESIGN OF MOLECULE IN ORGANIC
2	Course Code:	KIM6005
3	Type of Course:	Optional
4	Level of Course:	Third Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	5.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	To complete Organic Chemistry I and II courses
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. MUSTAFA TAVASLI
15	Course Lecturers:	
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:	With this course, students will be able to learn how to disconnect target organic molecules and then design a viable route for the synthesis.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	Learning and understanding the strategy of retrosynthetic approach
	2	Learning the synthetic approaches that are used for syntheses of some organic molecules having physiological effects
	3	Getting used to develop organic synthesis by their own
	4	Increasing synthetic ability in designing different molecules (e.g. pharmaceutical, paint, pesticides, polymers, perfumes, detergents, sweeteners, such as pheromones) used in the academia or industry.
	5	To reach the most current data in the literature on the working subject
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice

1	Basic Approaches of Retrosynthetic Analysis Target Molecule Retrosynthetic Anaysis, Functional Group Transformation Retrosynthesis, Idealised Anionic / Cationic Components Reactive Compounds			
2	Synthesis of Aromatic Compounds-A Benzocaine-Local Anaesthetic 1-(4-methoxyphenyl)ethanone-Perfume Component			
3	Synthesis of Aromatic Compounds-B BHT-antioxidane Piperonal-Perfume Component			
4	Synthesis of Aromatic Compounds-C Trifluralin- Agricultural medicine Saccharine-Synthetic sweetening agent			
5	One group C-X disconnection-A Benzyl benzoate- Insect repeller and solvent Propanil-Pesticide for plants in rice field			
6	One group C-X disconnection-B 1-methoxy-4-methylbenzene-Perfume Component Izopentil benzil ether- Perfume Component			
Activites		Number	Duration (hour)	Total Work Load (hour)
8	Theoretical Cyclomethycaine- Anaesthetic	14	3.00	42.00
Practicals/Labs		0	0.00	0.00
9	Problem solving Self study and preparation	13	1.00	13.00
10	Chemoselectivity B			
Homeworks		5	3.00	15.00
Projects	Group N-Benzyl- α -carboxy- α -amino-Protected amine	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm Exams	Captoedamine-Sedative medicine	1	72.00	72.00
Others		0	0.00	0.00
Final Exam	Benzaldehyde dimethylacetal-Perfume	1	72.00	72.00
Total Work Load				214.00
12	Two groups C-X disconnection-B Total work load/ 30 hr 2-(3-Chloropropyl)-2-methyl-1,3-dioxolane-			7.13
ECTS Credit of the Course				5.00
	Alanin-Strecker amino Acid Synthesis			
13	Two groups C-X disconnection-C Methyldopa-Hypertension medicine 2,4-D-Agricultural medicine			
14	Chancing the Polarity Alachlor- Agricultural medicine Phenacyl chloride- Lachrymatory gase Salbutamol-Astma medicine			
22	Textbooks, References and/or Other Materials:	[1] Organic Synthesis: The Disconnection Approach, Stuart G. Warren, John Wiley & sons, New York, 1982 [2] Designing Organic Syhteses: A Programmed Introduction to the Synthon Approach, Stuart G. Warren, John Wiley & sons, New York, 1978.		

23	Assesment	
TERM LEARNING ACTIVITIES	NUMBE R	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		

24	ECTS / WORK LOAD TABLE
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25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	5	0	5	0	5	0	0	0	5	0	0	0	0	0	0	0
ÖK2	5	0	5	0	5	0	0	0	5	0	0	0	0	0	0	0
ÖK3	5	0	5	0	5	0	0	0	5	0	0	0	0	0	0	0
ÖK4	5	0	5	0	5	0	0	0	5	0	0	0	0	0	0	0
ÖK5	0	0	0	5	0	5	0	5	0	0	0	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							