

# DESIGN OF MOLECULE IN ORGANIC

<b>1</b>	Course Title:	DESIGN OF MOLECULE IN ORGANIC	
<b>2</b>	Course Code:	KIM6005	
<b>3</b>	Type of Course:	Optional	
<b>4</b>	Level of Course:	Third Cycle	
<b>5</b>	Year of Study:	2	
<b>6</b>	Semester:	3	
<b>7</b>	ECTS Credits Allocated:	6.00	
<b>8</b>	Theoretical (hour/week):	3.00	
<b>9</b>	Practice (hour/week):	0.00	
<b>10</b>	Laboratory (hour/week):	0	
<b>11</b>	Prerequisites:	To complete Organic Chemistry I and II courses	
<b>12</b>	Language:	Turkish	
<b>13</b>	Mode of Delivery:	Face to face	
<b>14</b>	Course Coordinator:	Prof. Dr. MUSTAFA TAVASLI	
<b>15</b>	Course Lecturers:		
<b>16</b>	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	
<b>17</b>	Website:		
<b>18</b>	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.	
<b>19</b>	Contribution of the Course to Professional Development:	To desing new molecules and to be able to sythesise them to meet commercial needs.	
<b>20</b>	Learning Outcomes:		
		<b>1</b>	Learning and understanding the strategy of retrosynthetic approach
		<b>2</b>	Learning the synthetic approaches that are used for syntheses of some organic molecules having physiological effects
		<b>3</b>	Getting used to develop organic synthesis by their own
		<b>4</b>	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.
		<b>5</b>	To reach the most current data in the literature on the working subject
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<b>21</b>	Course Content:		
		<b>Course Content:</b>	
Week	Theoretical	Practice	

1	Basic Approaches of Retrosynthetic Analysis Target Molecule Retrosynthetic Analysis, 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	0	0.00	0.00
10	Self study and preparation	0	0.00	0.00
Homeworks		5	3.00	15.00
Projects	Group N-Benzylsuccinylserine- Protected amine	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm Exams	Capto diamine-Sedative medicine	1	60.00	60.00
Others		0	0.00	0.00
Final Exams	Benzaldehyde dimethylacetal-Perfume	1	64.00	64.00
Total Work Load				181.00
12	Two groups C-X disconnection-B Total work load/ 30 hr 2-(3-chloropropyl)-2-methyl-1,3-dioxolane-			6.03
ECTS Credit of the Course				6.00
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.		

<b>23</b>	Assesment	
<b>TERM LEARNING ACTIVITIES</b>	<b>NUMBER</b>	<b>WEIGHT</b>
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 exam, homework, literature search, presentation

**24 ECTS / WORK LOAD TABLE**

<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
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
<b>LO: Learning Objectives    PQ: Program Qualifications</b>																
<b>Contribution Level:</b>	<b>1 very low</b>			<b>2 low</b>			<b>3 Medium</b>			<b>4 High</b>			<b>5 Very High</b>			