

# ADVANCED REACTION MECHANISMS ON TEXTILE TREATMENT

1	Course Title:	ADVANCED REACTION MECHANISMS ON TEXTILE TREATMENT	
2	Course Code:	TEK6020	
3	Type of Course:	Optional	
4	Level of Course:	Third Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. MEHMET ORHAN	
15	Course Lecturers:	Yok	
16	Contact information of the Course Coordinator:	morhan@uludag.edu.tr Tel. +90.0.224.294 20 64 Adres: Bursa Uludağ Üniversitesi Mühendislik Fakültesi Tekstil Mühendisliği Bölümü 16059 Nilüfer Bursa, Türkiye.	
17	Website:		
18	Objective of the Course:	The general objective in this course is to give knowledge about the basic principles, applications, and uses of the basic principles of reaction mechanisms between textile fibers and chemicals in textile treatments.	
19	Contribution of the Course to Professional Development:	Students will learn about chemical reaction mechanisms in textile processes.	
20	Learning Outcomes:		
		1	The student will be able to define and explain the basic principles, approaches, and concepts of the Organic Chemistry.
		2	The student will be able to define and explain the polymer and fiber structures, their properties, and their relations with each other's.
		3	The student will be able to explain the reaction mechanisms occurring between textile fibers and chemicals.
		4	To be able to make connections between organic functional groups and textile fibers.
		5	The student will be able to select the appropriate reaction mechanism for any textile fiber.
		6	The student will be able to describe and explain the risks related to organic compounds (personal and environmental).
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21	Course Content:				
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Week	Theoretical		Practice		
1	Classification of Polymers and Properties of Textile Polymers				
2	Investigation of Some Fibers Produced from Different Polymers				
3	Carbon Compounds and Chemical Bonds				
4	Alkanes, Alcohols and Ethers, Amines, Aldehydes and Ketones				
5	Carboxylic Acids and Esters, Amides, Alkenes				
6	Aromatic Compounds: Aromaticity Benzenoid Aromatic Compounds Heterocyclic Aromatic Compounds Ortho / Meta- / Para-Positions				
7	Functional Group Transformations: Determination of Oxidation Step Electronegativity (C, H, O, Cl, Br)				
8	Reduction Reaction: Reduction Reagents Oxidation Reaction: Oxidation Reagents				
9	Acid-Base Reaction: Acid and Base Definition Weak Acids Strong Acids Buffer solutions				
10	Functional Groups, Intermolecular Forces				
11	Ionic Reactions, Nucleophilic Displacement and Separation Reactions				
Activites			Number	Duration (hour)	Total Work Load (hour)
Theoretical	14		Reactions of Aromatic Compounds	3.00	42.00
Practicals/Labs			0	0.00	0.00
22	Self-study and preparation		1	6.00	84.00
Textbooks, References and/or Other Materials:			2	6.00	Characterization of Polymers, Volume 1
Homeworks			1	14.00	14.00
Projects			3	0.00	0.00
Field Studies			0	0.00	0.00
Midterm exams			5	20.00	20.00
Others			0	0.00	0.00
Final Exams			1	20.00	20.00
Total Work Load					180.00
Total work load/ 30 hr			6	6.00	6.00
ECTS Credit of the Course					6.00
			9. Crieche W.J., Ellis G.P., Spectral and Chemical Characterization of Organic Compounds, 3. ed. John Wiley and Sons 1990. 10. G. Solomons ve C. Fryhle (Çev. Ed. G. Okay ve Y. Yıldırım), Organik Kimya, Literatür Yayınları, 2002. 11. J. McMurry, Organic Chemistry, Brooks/Cole Publishing Comp., 1992. 12. P. Y. Bruice, Organic Chemistry, Prentice Hall, 2001. 13. R. J. Fessenden ve J. S. Fessenden (Çev. Ed. T. Uyar), Organik Kimya, Güneş Kitabevi, 1992.		
23	Assesment				
TERM LEARNING ACTIVITIES			NUMBE R	WEIGHT	
Midterm Exam			1	30.00	
Quiz			0	0.00	
Home work-project			1	10.00	

