

REACTION MECHANISMS ON TEXTILE TREATMENT

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| 1 | Course Title: | REACTION MECHANISMS ON TEXTILE TREATMENT | |
| 2 | Course Code: | TEK5543 | |
| 3 | Type of Course: | Optional | |
| 4 | Level of Course: | Second Cycle | |
| 5 | Year of Study: | 1 | |
| 6 | Semester: | 1 | |
| 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: | None | |
| 16 | Contact information of the Course Coordinator: | Dr. Mehmet ORHAN morhan@uludag.edu.tr Tel. +90.0.224.294 20 64 Adres: Uludağ Üniversitesi Mühendislik-Mimarlık Fakültesi Tekstil Mühendisliği Bölümü 16059 Nilüfer Bursa, Türkiye. | |
| 17 | Website: | | |
| 18 | Objective of the Course: | The general objective of 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: | This course contributes to explain the basic principles, concepts and approaches of Organic Chemistry and the reaction mechanisms that occur between textile fibers and chemicals. | |
| 20 | Learning Outcomes: | | |
| | | 1 | The student will be able to define and explain the basic principles, approaches, and concepts of Organic Chemistry. |
| | | 2 | The student will be able to define and explain the basic principles, approaches, and concepts of Organic Chemistry. |
| | | 3 | The student will be able to explain the reaction mechanisms occurring between textile fibers and chemicals. |
| | | 4 | The student will 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. | | | |
| Activites | | Number | Duration (hour) | Total Work Load (hour) |
| Theoretical | | 14 | 3.00 | 42.00 |
| Practicals/Labs | | 0 | 0.00 | 0.00 |
| Self study and preperation | | 14 | 6.00 | 84.00 |
| Homeworks | | 1 | 34.00 | 34.00 |
| Projects | | 0 | 0.00 | 0.00 |
| Field Studies | | 0 | 0.00 | 0.00 |
| Midterm exams | | 4 | 0.00 | 0.00 |
| Others | | 0 | 0.00 | 0.00 |
| Final Exams | | 6 | 0.00 | 0.00 |
| Total Work Load | | | | 180.00 |
| Total work load/ 30 hr | | 7 | | 6.00 |
| ECTS Credit of the Course | | | | 6.00 |
| | | Organic Chemistry, 2008. 9.Criddle 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 | | 0 | 0.00 | |
| Quiz | | 0 | 0.00 | |

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| Home work-project | 1 | 40.00 |
| 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 | Exams and questions-answers communication in the class. | |

24 ECTS / WORK LOAD TABLE

| 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 | 4 | 3 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| ÖK2 | 4 | 3 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| ÖK3 | 3 | 3 | 2 | 2 | 2 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 0 | 4 |
| ÖK4 | 3 | 3 | 0 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| ÖK5 | 3 | 3 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 4 |
| ÖK6 | 4 | 4 | 0 | 2 | 3 | 3 | 0 | 0 | 0 | 0 | 3 | 2 | 3 | 3 | 0 | 4 |
| LO: Learning Objectives PQ: Program Qualifications | | | | | | | | | | | | | | | | |
| Contribution Level: | 1 very low | | 2 low | | 3 Medium | | 4 High | | 5 Very High | | | | | | | |