
		UNIVERSITY OF EAST SARAJEVO					
		Faculty of Technology Zvornik					
		Study programme: Chemical Engineering and Technology					
		Cycle I		Year IV			
Course title		TECHNOLOGY OF TENSIDES AND TENSIDE-BASED PRODUCTS					
Department		Department for Chemical Technologies– Faculty of Technology Zvornik					
Course code		Course status		Semester		ECTS	
04-2-065-8		Elective		VIII		4	
Teacher		Zoran Petrović, PhD, Associate Professor					
Teaching assistant		Nebojša Vasiljević, MSc, Senior Teaching Assistant					
Number of hours/ teaching workload (per week)			Individual student workload (in hours per semester)			Student workload coefficient S ₀	
Lectures	Auditory exercises	Laboratory exercises	Lectures	Auditory exercises	Laboratory exercises	S ₀	
2	0	2	30	0	30	1.00	
2*15+0*15+2*15=60 hours			(2*15*1+0*15*1+2*15*1)=60 hours				
Total course workload 60 + 60 = 60 hours per semester							
Learning outcomes		<p>After finishing the course, students will be able to:</p> <ol style="list-style-type: none"> 1. demonstrate and utilize theoretical knowledge about production technology, characteristics, and behavior when applying surface-active substances (surfactants/tensides) 2. demonstrate and utilize knowledge about types of surfactants and washing agents (soaps, detergents) 3. demonstrate and utilize knowledge about procedures for obtaining soaps and detergents, and their characterization 4. calculate the material and energy balance. 					
Prerequisites							
Teaching methods		Lectures, auditory exercises, experimental exercises, industrial visits.					
Syllabus outline per week		<ol style="list-style-type: none"> 1. Surfactants (tensides). Significance, classification, characteristics, application. 2. Structure of surfactants. Micelles. Solubilization. 3. Emulsifiers and emulsification. 4. Foaming and antifoaming agents. Wetting agents. 5. Raw materials for the production of surfactants. 6. Technological procedures for obtaining surfactants. 7. Anionic surfactants. Cationic surfactants. 8. Non-ionic surfactants. Amphoteric surfactants 9. Soap technology. Raw materials for production. Characteristics of soap. 10. Soap production processes (cooking process, semi-cooking process, cold process and continuous process). 11. Detergents. Raw materials for production. 12. Powder detergents. Liquid detergents. 13. Production of powder detergents. Characteristics of the finished product. 14. Production of liquid detergents. Characteristics of the finished product. 15. The impact of detergents on the environment. Legal regulation. 					
Obligatory reading							
Author		Title, publisher		Year	Pages		
Sadadinović, J.		Organska tehnologija, Ars grafika, Tuzla		2008	212-298		
Ilišković, N.		Organska hemijska tehnologija, Svjetlost, Sarajevo		1992	417-452		
Petrović, Z., Dugić, P. Aleksić, V.		Fizičko-hemijska ispitivanja u procesima organske industrije, Univerzitet u Istočnom Sarajevu, Tehnološki fakultet Zvornik, Zvornik		2011	15-158		
Additional reading							
Author		Title, publisher		Year	Pages		
Džokić, D.		Površinski aktivne materije (tenzidi), Naučna knjiga, Beograd		1985			
Farn, J.R.		Chemistry and Technology of Surfactants, Blackwell Publishing Ltd, Oxford		2006			

Obligations, assessment methods and grading system	Type of student evaluation	Grade points	Percentage	
	Pre-exam obligations			
	Attendance	6	6 %	
	Mid-term test (Colloquium) 1	20	20 %	
	Mid-term test (Colloquium) 2	24	24 %	
	Laboratory exercises	20	20 %	
	Final examination			
	Final examination (oral)	30	30 %	
Total	100	100 %		
Web page	www.tfzv.ues.rs.ba			
Date	2023			