Sylabusy - Centrum Informatyczne UG



	KAPITAŁ LUDZKI Narodowa strategia spójności	Europejskie	nansowany prz ijską w ramach ego Funduszu ecznego	ez UNIA EUROPEJSKA EUROPEJSKI FUNDUSZ SPOŁECZNY	
Course title			E	CTS code	
Surfactants and biosurfactants			13.3.0422		
Name of unit admini	strating study				
Faculty of Chemistr	γ				
Studies					
faculty	field of study	type	pierwszego stor	onia	
Wydział Chemii	Chemia		form stacjonarne		
			specialty chemia kosmetyków		
		specialization	WSZYSTKIE		
eaching staff					
dr Iwona Dabkowsł	<ul><li>ka; dr hab. Beata Grobelna,</li></ul>	profesor uczelni:	prof. dr hab. ir	iż. Tadeusz Ossowski	
Forms of classes, the realization and number of hours				CTS credits	
Forms of classes				3	
Laboratory classes, Lecture				classes - 45 h	
The realization of activities				tutorial classes – 5 h	
				student's own work – 25 h	
classroom instruction Number of hours					
				Total: 75 h - 3 ECTS	
	Laboratory classes: 30 hour	ΓS			
The academic cycle					
2024/2025 winter s	emester				
Type of course			Language of instruction		
obligatory		F = -	polish		
Teaching methods			Form and method of assessment and basic criteria for eveluation or examination requirements		
<ul> <li>conducting experiments</li> <li>multimedia-based lecture</li> </ul>			Final evaluation		
		Grade	Graded credit		
			Assessment methods		
			- written exam with open questions - written exam (test)		
			- graded course credit based on individual grades obtained during the		
		-	ester	it based on individual grades obtained during the	
			- written test - open test and questions		
			ic criteria for		
			• obtaining 51% of points from the test consisting of 10-15 open questions (50%) and		
		-		covering issues mentioned in the program of the lecture	
lethod of verifying	required learning outcom	•			
	nd introductory requireme				
A. Formal requirement completed a course ir	<b>its</b> n general chemistry, analytical o	chemistry and phys	ical chemistry,		
B. Prerequisites					
	basics of general, inorganic an	d organic chemistry	/		
Aims of education					
<ul> <li>familiarization with the second s</li></ul>	he structure and physical prope	erties of surfactants	and biosurfactan	its,	

- familiarization with the application of industry surfactants and biosurfactants,
- familiarization with adsorption mechanisms and adsorption capacity of surfactants and biosurfactants.
- · Presentation of the influence of the structure of surfactants on surface properties of adsorbents.

## **Course contents**

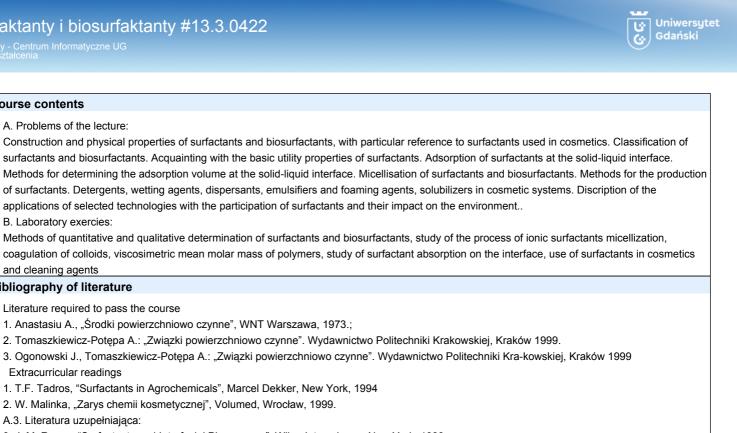
A. Problems of the lecture:

B. Laboratory exercies:

and cleaning agents **Bibliography of literature** 

Extracurricular readings

A.3. Literatura uzupełniająca:



3. J. M. Rosen, "Surfactants and Interfacial Phenomena", Wiley-Interscience, New York, 1989

The learning outcomes (for the field of study and	Knowledge		
specialization)	<ol> <li>describes the properties of surfactants and the technology of their production.</li> <li>describes the stages of creating industrial processes and technical preparation o production with the participation of surfactants.</li> <li>lists and describes selected uses of surfactants and their impact on humans and the environment.</li> <li>Explains the concepts of free enthalpy, enthalpy and entropy of adsorption in surfactants.</li> </ol>		
	Skills		
	<ol> <li>Classifies and differentiates surfactants based on their chemical structure.</li> <li>Interprets the phenomena occurring with the participation of surfactants.</li> <li>Predicts the role of surfactants and biosurfactants in cosmetics, medicine, chemical and technological processes.</li> </ol>		
	Social competence		
	<ol> <li>Improves skills in the use of measurement methods and techniques.</li> <li>Effectively communicates in a group and uses the experience of other people.</li> <li>It is guided by the principle of saving materials and resources.</li> <li>The student understands the need for further education, information retrieval in literature and critical interpretation of experiments.</li> </ol>		
Contact	· · · ·		

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