

COURSE DESCRIPTION (syllabus)

1. Course name: SURFACTANTS		2. ECTS
		1
		3. ECTS code
		S/N1ChemKOS-O-ZPCZYN-V
4. Field of study: Cosmetic chemistry		5. Major: -
6. Semester: V		7. Cycle: first cycle study
8. Study form: full-time/ part-time		9. Language: English/ Polish as supporting language
10. Course status: mandatory		11. Assessment: pass
12. Group: mandatory course in the field of directional education		
13. Form of classes:	14. Didactic methods	15. Methods of running classes
lecture	lecture with multimedia presentation/ recitation classes	in classrooms
16. Course targets and tasks: 1. Discussion: structure of surfactants, classification of surfactants, qualification for various types of applications on the basis of physicochemical properties. 2. To acquaint students with the role of surfactants in the production and technology of cosmetic preparations.		
17. Formal requirements: 1. Active participation in classes.		
18. Prerequisites: 1. None.		
19. Curriculum:		
No.	W – Lecture:	
W1	Introduction to the module: fundamental terminology, division of surfactants [according to the class and functional properties].	
W2	Theory of surfactants.	
W3	Chemical structure and functions of surfactants. Classification of surfactants based on chemical structure.	
W4	Non-ionic surfactants. Raw material base. Methods of obtaining. Directions of application.	
W5	Ionic surfactants. Raw material base. Methods of obtaining. Directions of application.	
W6	Biosurfactants. Raw material base. Methods of obtaining. Directions of application.	
W7	Physicochemical properties of surfactants.	
W8	Hydrophilic-lipophilic balance in various classes of surfactants.	
W9	Analytical techniques used in the determination of surfactants.	
W10	Area and scope of application of surfactants in cosmetic industry.	
20. Assumed learning outcomes:		
Knowledge: <i>set of descriptions, facts, principles, theories and practices, acquired in the learning process that refer to the field of study or professional activity</i>		

No.	Learning outcome – KNOWLEDGE			
	The student who passed the course:			
01	has elementary knowledge of the structure, functions and classification of surfactants used in the cosmetics industry.			
02	knows the possibility of using surfactants in various branches of the cosmetic industry.			
Skills: <i>the ability to perform tasks and solve problems specific to the field of study or professional activity</i>				
No.	Learning outcome – SKILLS			
	The student who passed the course:			
03	is able to independently draw knowledge, from various available sources, about the directions of use of surfactants in the cosmetics industry.			
Social competences: <i>the ability to shape one's own development and autonomous and responsible participation in professional and social life, taking into account the ethical context of one's own conduct</i>				
No.	Learning outcome – COMPETENCES			
	The student who passed the course:			
04	is able to apply the acquired knowledge and skills to strengthen his/her position on the labour market.			
20a. Referencing the course learning outcomes to the directional learning outcomes:				
Number of the course outcome		Symbol of directional learning outcomes:		
01		ChK1P_W06		
02		ChK1P_W06		
03		ChK1P_U25		
04		ChK1P_K08		
21. Assessment methods:				
F – formative: F5-oral answer		P – summary: P4 – pass with a grade		
22. Manner of verification of learning outcomes:				
Outcome number	Curriculum	Assessment methods		
01	W1-W10	F5, P4		
02	W1-W10	F5, P4		
03	W1-W10	F5, P4		
04	W1-W10	F5, P4		
23. Prerequisite to pass the course:				
A positive final grade depends on obtaining a positive grade from the oral answer during lectures [active participation in classes] and a positive grade from the written test. Grades are awarded as per the following scale:				
Satisfactory	Satisfactory plus	Good	Good plus	Very good
50-59%	60-69%	70-79%	80-89%	90-100%
24. Overall work input of a student needed to achieve the learning outcomes in hours and ECTS credits:				
Total full-time		Total part-time		
25 h		25 h		ECTS 1
– including number of ECTS credits for contact hours with direct participation of an academic teacher			ECTS 0.8	ECTS 0.48
– including number of ECTS credits for self-study hours			ECTS 0.2	ECTS 0.52
25. Primary references (for use during classes and self-study by the student):				
1. Anastasiu S., Jelescu E., Substanțe powierzchniowo czynne, Warszawa 1973.				
2. Ogonowski J., Tomaszewicz-Potępa A., Związki powierzchniowo czynne, Kraków 1999.				
3. Zieliński R., Surfaktanty: budowa, właściwości i zastosowanie, Poznań 2017.				
26. Secondary references:				
1. Zieliński R., Surfaktanty – towaroznawcze i ekologiczne aspekty ich zastosowań, Poznań 2000.				
2. Przondo J., Związki powierzchniowo czynne i ich zastosowanie w produktach chemii gospodarczej, Radom 2007.				
3. Rhein L. D., Schlossman M., O' Lenick A., Somasundaran P., Surfactants in Personal Care Products and Decorative Cosmetics, 2020.				