Course name	Surface Active Substances			
Course code	**Course status**	**Semester**	**Hours of instruction**	**ECTS**
2C16HEM034	elective	I	2+2	5
Teacher(s)	**Prof. Pero Dugić, PhD**			

Prerequisite course(s)	**Entry requrements**
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Course goals

To enable the student to be able to describe the basic chemical structures of surfactants (PAM) and explain the processes of their production, the quality of raw materials, process conditions and catalysts. Also, the student is trained to master the mechanisms of action of surfactants in various areas of their application, as well as testing methods.

Learning outcomes

The student can present the basic chemical structures of surfactants and master the basic processes of obtaining typical surfactants. The student explains the mechanisms of action of surfactants in application, formulates detergents and cleaners and prepares the material balance of finished products. The student performs basic analytical tests of raw materials and products.

Course content

1. Chemical classification of surface-active agents.
2. Chemical structure of surfactants.
3. Production of main surfactant groups.
4. Adsorption properties of surfactants.
5. Surfactants in solution (wetting, foaming, emulsifying, ...).
6. Application of surfactants.
7. Formulation of selected products.
8. Analytical tests of surfactants.

Teaching methods

Lectures, video presentations, preparation of a seminar paper with a presentation, laboratory exercises with colloquia, visits to industrial plants and testing laboratories.

Books and other learning materials

1. Dimitrije Dzokic; Surface active substances, Naucna knjiga, Belgrade, 1985. (on serbian)
2. Uri Zoller; Handbook of Detergents, Part F: Production, CRC Press, Boca Raton, London, New York, 2009.
3. V.Aleksić, P.Dugić, D.Lukić, Selected processes of chemical technologies, Faculty of Technology Zvornik, 2019. (on serbian)

Course activities and grading method

Colloquiums from laboratory exercises, seminar paper and presentation, oral exam. The results of knowledge tests are included in the final grade only if they exceed 50% of the points provided for a given form of examination during the semester.

Seminary work	**20**	**Final exam**	**60**
Laboratory exercises	**20**		

Additional course notes

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Name of the teacher who prepared this form	Pero Dugić