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| **Study program:** Chemistry (PhD) |
| **Course title: Surface-active substances (H340C)** |
| **Name of lecturer/lecturers: Milena N. Miljković** |
| **Type of course: elective** |
| **Number of ECTS allocated 10** |
| **Course objectives****Students acquire appropriate competencies and doctoral academic skills for the development and application of scientific and achievements related to surface-active substances. Students are trained to be independent scientific work related to the research of new surfactants and their application in different areas of industrial production** |
| **Course outcomes****The acquired knowledge is the basis for understanding the processes that define the chemical application of surfactants matter in various areas of industrial production.** |
| **SYLLABUS***Lectures**Chemical structure of surfactants. Chemical classification of surfactants matter. Cationic surfactants. Nonionic and amphoteric surfactants. Adsorption properties of surface-active substances. Micelle formation and micellar criticality concentration. Solubilization. Wetting and foaming. Emulsification. Wash Detergents –detergents. Application of surface-active substances in the textile industry. Superficially active substances as auxiliary means in the finishing of textiles and in the production of chemical fibers. Water in the chemical finish. Chemical processing of cellulose fibers.* |
| **References**1. М. Новаковић, Д. Џокић, С. Ђорђевић, Теорија и технологија оплемењивања текстила хемијском дорадом, БМГ, Београд, 1998. 2. Д. Џокић, Теорија и технологија бојења текстилног материјала, ТМФ, Београд 1989. 3. Serija elektronskih nastavnih materijala razvijenih u okviru ERASMUS+ NETCHEM projekta (http://mdl.netchem.ac.rs/course/view.php?id=73 ) |
| **Active teaching classes** | **Lectures 105** | **Laboratory work** |
| **Teaching mode: Interactive lectures, homework, seminar work, panel discussions** |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| activity during the lecture - 5 points; seminar work – 25 points; written exam 50 points; oral exam - 45 points |