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| **Study program** Applied chemistry with the management basics |
| **Course title** Industrial chemistry 2 (H251C) |
| **Name of lecturer/lecturers** Milena N. Miljković |
| **Type of course** Obligatory |
| **Number of ECTS allocated** 5 |
| **Course objectives**Acquaintance of students with industrial production processes of selected inorganic and organic products compounds, as well as by-products, which may occur during these technologies. |
| **Course outcomes**Training students for the application of knowledge in the field of production of inorganic and organic compounds, processing and reuse of secondary products and creation of new technological methods of production. Acquiring concrete knowledge through laboratory exercises on the practical application of the studied industrially important compounds. |
| **SYLLABUS***Lectures*Sulfuric acid technology. Fixed nitrogen technology. Nitric acid technology. Technology of nitrogen fertilizers. Technology of phosphorus fertilizers. Phosphoric acid technology. Technology of soda ash according to Solvay's ammonia procedure. Electrochemical processes of caustic soda production. Electrochemical process of obtaining hydrogen. Production of hydrochloric acid. Technology of peroxosulfate and hydrogen peroxide. Chemical technology of solid fuels. Chemical technology of gaseous and liquid fuels. Production technology - synthesis of important organic compounds. Introduction to technology of macromolecular compounds.*Laboratory work*Use of hydrogen peroxide in bleaching of different materials. Application of sodium hypochlorite in bleaching of different materials. Anti-creasing treatment of cotton fabric. Refinement of cellulose fibers chemical technology (mercerization). Refinement of macromolecular compounds by the process of coloring. Determination of the critical micellar concentration of sodium dodecyl sulfate by the measurement of electrical conductivity. Getting soap. Hydrolysis of cellulose. Synthesis of polystyrene. |
| **References**1. Purenović M. M., Miljković N. M., Odabrana poglavlja neorganske i organske hemijske tehnologije, Prirodno-matematički fakultet, Niš, 2005.2. Purenović M., Bojić A., Osnovni principi i procesi u industrijskoj hemiji, Prirodno-matematički fakultet, Niš, 2006. 3. Vitorović D., Hemijska tehnologija, Naučna knjiga, Beograd, 1980.4. Ristić M., Principi nauke o materijalima, Srpska akademija nauka i umetnosti, Beograd, 1993.5. Aleksandar bojić, Aleksandra Zarubica, Praktikum za vežbe iz industrijske hemije, Prirodno-matematički fakultet, Niš, 2007. |
| **Active teaching classes** | **Lectures** 45 | **Laboratory work** 30 |
| **Teaching mode**Lectures, laboratory exercises, seminars, consultations. |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| **Pre exam duties** | **Points** | **Final exam**  | **Points** |
| Activity during lectures | 5 | Written examination | 50 |
| Practical teaching | 10 | Oral examination | 20 |
| Teaching colloquia | 10 |  |  |
| Seminar | 5 |  |  |