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| **Study program** Applied chemistry with the management basics |
| **Course title** Inorganic compounds in industry (H255C) |
| **Name of lecturer/lecturers** Maja N. Stanković |
| **Type of course** Elective |
| **Number of ECTS allocated** 6 |
| **Course objectives**Students expand their knowledge of inorganic materials used in the water industry, artificial fertilizers, ceramics, pigments, fibers, nuclear fuel and their properties, importance, and application. |
| **Course outcomes**After successful completion of this course, the student is able to connect the physico-chemical properties of inorganic materials with the possibility of their application in industry. |
| **SYLLABUS***Lectures*Water in industry. Artificial fertilizers (fertilizers based on phosphorus, nitrogen, and potassium). Industrial inorganic solid compounds. Construction materials. Inorganic fibers. Modern nanomaterials. Inorganic construction materials (cement phase diagrams). Ceramics. Metallic materials (phase diagrams of non-ferrous steels and alloys metal). Fillers and coatings. Inorganic pigments. Fuel cells. Nuclear fuels (importance, reactor types,production, nuclear waste disposal).*Laboratory work*Examination of artificial fertilizers. Examination of physical and chemical properties of steel. Examination of physical and chemical properties of alloys. Examination of the physical and chemical properties of cement. Examination of physical and chemical properties of pigments. Examination of physical and chemical properties of ceramic products. Examination of physical and chemical properties of glasses. |
| **References**1. Kostić-Gvozdenović, Lj., Ninković, R., Neorganska hemijska tehnologija, Tehnološko-metalurški fakultet, Beograd, 1997.2. Karl Heinz Büchel, Hans-Heinrich Moretto, Peter Woditsch, Industrial Inorganic Chemistry. Wiley-VCH Verlag GmbH, Weinheim, 2000. |
| **Active teaching classes** | **Lectures** 30 | **Laboratory work** 30 |
| **Teaching mode**Interactive lectures, homework, laboratory exercises, panel discussion. |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| **Pre exam duties** | **Points** | **Final exam**  | **Points** |
| Activity during lectures | 5 | Written examination | 30 |
| Practical teaching | 15 | Oral examination |  |
| Teaching colloquia | 50 |  |  |
| Seminar |  |  |  |