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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  |  |
| **GENERAL INFORMATION** |
| Study program  | **Applied Chemistry** |
| Study Module (if applicable) | Applied chemistry |
| Course title | Industrial chemistry 1 |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [x]  Obligatory [ ]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | First |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Aleksandar Bojic |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [x] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Acquiring theoretical and practical knowledge in the rate control in chemical process, the principles of homogeneous and heterogeneous processes and reactors, the principles of mass exchange and heat transfer, modelling and choice of chemical reactors, the principles of the catalytic process and reactor, the crystallization process and the principles of the specific chemical processes. Developing the ability to solve problems in chemical engineering processes.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **The kinetics of chemical process technology. Factors of rate of chemical process technology. Principles of homogeneous chemical process technologies. Principles of heterogeneous chemical process technologies. Principles of mass exchange in chemical process technology. Principles of heat transfer in chemical process technology. Models of chemical reactors. Selectivity of reactors. Reactors for homogeneous and heterogeneous chemical process technology. Principles of catalytic chemical process technology. The principles of plasma chemical and photochemical chemical process technology. The principles of stoichiometric and non-stoichiometric interaction solid reactants with liquid and gaseous phases. The principles and the relationship between redox and corrosion process, between the processes of oxidation, burning and detonation; principles of converting chemical energy into electrical energy.**  |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [ ]  English (complete course) [ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)[ ] Serbian with English mentoring [ ] Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points** | **Final exam** | **points** |
| **Activity during lectures** | **5** | **Written examination** | **30** |
| **Practical teaching** | **25** | **Oral examination** |  |
| **Teaching colloquia** | **40** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |