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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | |  | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | TECHNOLOGICAL ENGINEERING | | |
| Study Module (if applicable) | | | |  | | |
| Course title | | | | |  | | --- | | Advances in reactors theory | | | |
| Level of study | | | | ☐Bachelor ☐ Master’s ☒ Doctoral | | |
| Type of course | | | | ☐ Obligatory☒ Elective | | |
| Semester | | | | ☒ Autumn ☒Spring | | |
| Year of study | | | | 2 | | |
| Number of ECTS allocated | | | | 8 | | |
| Name of lecturer/lecturers | | | | Ivana Banković-Ilić | | |
| Teaching mode | | | | ☒Lectures ☐Group tutorials ☐ Individual tutorials  ☐Laboratory work ☐ Project work ☐ Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| The analysis and design of the different types of ideal chemical reactors under steady-state conditions and homogeneous and heterogeneous systems. Modeling reactor. The students are qualifying for individual work in engineering approach of practical and theoretically problems referred to various industrial processes. | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| The analysis of ideal chemical reactors operation. The stability and control of steady-state in continuous stirred tank reactor. The optimization of plug flow reactor. Heterogeneous reaction systems, catalysis. The significance of physical and hemi-sorption for catalytic processes. Non-ideal chemical reactors. Types for non-ideal reactor models. Residence-time distribution function. | | | | | | |
| **LANGUAGE OF INSTRUCTION** | | | | | | |
| ☒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** | **10** | | **Written examination** | | |  |
| **Practical teaching** |  | | **Oral examination** | | | **50** |
| **Teaching colloquia** | **40** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |