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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Technology, Leskovac |
| **GENERAL INFORMATION** |
| Study program  | **FOOD TECHNOLOGY AND BIOTECHNOLOGY, CHEMICAL TECHNOLOGIES**  |
| Study Module (if applicable) | FOOD TECHNOLOGY MODULE, BIOTECHNOLOGY MODULE, PHARMACEUTICAL AND COSMETIC ENGINEERING MODULE, ORGANIC CHEMICAL TECHNOLOGY AND POLYMER ENGINEERING MODULE, ECOLOGICAL ENGINEERING |
| Course title | Processing equipment |
| Level of study | [x] Bachelor [ ]  Master’s [ ]  Doctoral |
| Type of course | [x]  Obligatory [ ]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | III |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Predrag Rašković |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| The course covers principles of operation and characteristics of processing equipment as a necessary prerequisite for design and analysis of industrial plants. Processing equipment is classified and described according to the basic unit operations, including heat transfer operations, fluid transport, evaporation, etc.. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Topics covered: Overview of main characteristics and operations in process industry, Energy carriers in process industry, Fluids and fluid flow processes, Fluid transport equipment (Piping, Control valves, Pumps, Compressors, Fans), Fluidization and pneumatic transport, Heat exchangers (Types and classification, TEMA standard, Shell and tube heat exchangers, Plate heat exchangers), Drying (Drying principles, Types and classification of dryers, Thermodynamic properties of air-water mixtures, Energy analysis of drying process, Energy savings strategies for industrial dryers), Evaporation (Types of evaporators, Energy analysis of single-effect and multiply-effect evaporators) |
| **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** | **10** | **Written examination** | **20** |
| **Practical teaching** |  | **Oral examination** | **50** |
| **Teaching colloquia** |  |  |  |
| **Seminar papers** | **20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |