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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Occupational Safety in Niš |
| **GENERAL INFORMATION** |
| Study program  | Environmental Protection |
| Study Module (if applicable) |  / |
| Course title | Industrial Ecology |
| Level of study | ☑ Bachelor ☐ Master’s ☐ Doctoral |
| Type of course | ☑ Obligatory ☐ Elective |
| Semester  | ☑ Autumn ☐Spring |
| Year of study  | IV |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Srdjan Glisovic |
| Teaching mode |  ☑Lectures ☑Group tutorials ☐ Individual tutorials ☐Laboratory work ☑ Project work ☐ Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Acquiring knowledge on possibilities to achieve integration of industrial systems according to postulates of sustainable development. Acquiring skills to assess environmental friendliness of industrial products. Development of life cycle management skills and capacities to recognize possibilities for directing waste flows toward complementary processes and cycles. Fostering perception of material and energy flow through industrial systems and sectors. Application of theory and methods for quantitative analysis, waste exchange network design and greening supply chains.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Industrial systems and principles of sustainability. Environmental consequences of industrial development and internalizing externalities. IPAT formula and Master equation, consumerism. Metabolism of anthropogenic systems. Material flow and input/output analysis. Extended producer responsibility. Life‐cycle assessment. Eco‐design, eco-labelling, dematerialization. Eco-industrial symbiosis and networks, Kalundborg model. Eco efficiency, circular economy and cleaner production. |
| **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** | **20** |
| **Practical teaching** | **20** | **Oral examination** | **20** |
| **Teaching colloquia** | **30** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |