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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | FACULTY OF TECHNOLOGY LESKOVAC |
| **GENERAL INFORMATION** |
| Study program  | Material and energy flow management |
| Study Module (if applicable) |  |
| Course title | **Industrial ecology and zero emission** |
| Level of study | ☐Bachelor X Master’s ☐ Doctoral |
| Type of course | X Obligatory ☐ Elective |
| Semester  | X Autumn ☐Spring |
| Year of study  | I |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Dragiša Savić, Bojana Danilović |
| Teaching mode | X Lectures ☐Group tutorials ☐ Individual tutorials☐ Laboratory work ☐ Project work X Seminar☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Students gain a theoretical basis and practical introduction to Industrial Ecology and deepen the understanding of material and energy flow analysis tools as basic tools for the assessment of products and processes sustainability, explore Industrial metabolism of Industrial and developing countries in comparison, learn additionaly of nature-integrated technologies, and new production lines on basis of renewable materials. Students reflect on best practice analysis of country specific case studies in Circular Economy and Zero Emission* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Theoretical foundation and nature based principles of Industrial Ecology, Industrial metabolism, Tools for analysis of Material Flows, International Case Studies and National Approaches of Eco-Industrial symbiosis and projects, Biorefinery and Renewable Material Production, Industrial Ecology Management, History and Definition of Zero Emissions, Approaches and Circular Economy (CE) , Renewable Energy Law, Closed loop and recycling law, land use strategies, sustainable development policy, Case studies on national climate protection projects, Overview of the environmental administration, environmental problems and policies in key countries like USA, Japan, China and Europe, Different national approaches on sustainable development in EU, National strategies in Serbia.** |
| **LANGUAGE OF INSTRUCTION** |
| ☐ Serbian (complete course) X 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** | **20** | **Written examination** |  |
| **Practical teaching** |  | **Oral examination** | **40** |
| **Teaching colloquia** | **40** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |