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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Occupational Safety in Niš |
| **GENERAL INFORMATION** |
| Study program  | Environmental Engineering |
| Study Module (if applicable) | / |
| Course title | Systems Risk Analysis |
| Level of study | ☐Bachelor ☐ Master’s ☒ Doctoral |
| Type of course | ☒ Obligatory ☐ Elective |
| Semester  |  ☒ Autumn ☐Spring |
| Year of study  | First year |
| Number of ECTS allocated | 10 |
| Name of lecturer/lecturers | Miomir Stanković |
| Teaching mode |  ☒Lectures ☐Group tutorials ☒ Individual tutorials ☐Laboratory work ☐ Project work ☐ Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Gaining knowledge about continuous and discrete processes in living and working environment, their analysis, modeling and simulation, as well as the risk management of these processes using the method of systems analysis.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Basic systems concepts. Systems analysis. Continuous and discrete processes. Stochastic processes. Modelling and simulation of processes. Functional and network modelling. Ambiguity and risk. Risk, vulnerability, resilience and robustness of the system. Risk and vulnerability management. Business risks. Environmental risks. Risks in emergency situations. Risk aggregation. Extension of methods of risk analysis by organizational, individual and social factors. Hybrid models for risk analysis in complex systems. Application of the methods of multicriteria analysis, optimization and decision making in the selection of risk reducing options. Risk assessment software. Decision support systems in managing risks in complex systems. |
| **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** | **30** | **Oral examination** | **40** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |