|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **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 | | | | Energy Processes and the Environment | | |
| Level of study | | | | ☒Bachelor ☐ Master’s ☐ Doctoral | | |
| Type of course | | | | ☒ Obligatory ☐ Elective | | |
| Semester | | | | ☒ Autumn ☐Spring | | |
| Year of study | | | | Third year | | |
| Number of ECTS allocated | | | | 6 | | |
| Name of lecturer/lecturers | | | | Ljiljana Živković, Miomir Raos | | |
| Teaching mode | | | | ☒Lectures ☒Group tutorials ☐ Individual tutorials  ☐Laboratory work ☒ Project work ☐ Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| *Students will acquire sufficient engineering knowledge about the role and place of energy in the development of technology and standards of humanity and about its effect on the occupational and living environment; students will also develop criteria for sustainable use of energy and monitoring of energy efficiency.* | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| Energy – the term and types of energy; energy sources; energy resources; energy context of development; occupational and living environmental context. Energy transformations and balances – energy transformations and natural environment; application of the principle of conservation of energy to the formation of energy balances; energy micro- and macro-balances. Ecological aspect of energy conversion and usage – natural cycles, closed and open cycles; waste heat, thermal pressure on the atmosphere and water courses; electromagnetic pollution of the environment; radioactive radiation and nuclear waste. Norms and standards. Fundamentals of sustainable energy planning and development. Renewable energy sources in the concept of energy management. Condition and critical evaluation of technology used to exploit renewable energy sources. Energy efficiency. Energy efficiency enhancement measures. Specific measures of energy policy – national level, industry, and transport. | | | | | | |
| **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** | **35** | | **Oral examination** | | | **40** |
| **Teaching colloquia** | **15** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |