|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **UNIVERSITY OF NIŠ** | | | | | | | | | |
| **Course Unit Descriptor** | | | **Faculty** | | | Faculty of Mechanical Engineering | | | |
| **GENERAL INFORMATION** | | | | | | | | | |
| Study Program | **Mechanical Engineering** | | | | | | | | |
| Study Module (if applicable) | - | | | | | | | | |
| Course Title | Stochastic Processes in Mechanical Systems | | | | | | | | |
| Level of Study | ☐Bachelor | | | | ☐ Master’s | | | | ☒ Doctoral |
| Type of Course | ☐ Obligatory | | | | ☒ Elective | | | | |
| Semester | ☒ Autumn | | | | ☐ Spring | | | | |
| Year of Study | II | | | | | | | | |
| Number of ECTS Allocated | 10 | | | | | | | | |
| Name of Lecturer/Lecturers | Predrag Kozić, | | | | | | | | |
| Teaching Mode | ☒ Lectures | | | ☐ Group tutorials | | | | | ☒ Individual tutorials |
| ☐ Laboratory work | | | ☒ Project work | | | | | ☒ Seminar |
| ☐ Distance learning | | | ☐ Blended learning | | | | | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** | | | | | | | | | |
| To introduce students to the basics of the theory of random fluctuations and processes in mechanical systems. The acquisition of knowledge in the theory of random fluctuations. Prepare students for research in their doctoral dissertation. | | | | | | | | | |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** | | | | | | | | | |
| The axioms of probability. Characteristics of a random variable. Examples of distribution functions and probability density.  Reliability of mechanical systems exposed to random effects. Common features of two or more random variables. Reliability of mechanical systems exposed to more random variables. Basic theory of random functions. Random fluctuations of discrete mechanical systems. Random fluctuations of continuous mechanical 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** | | **0** | **Written Examination** | | | | **80** | | |
| **Practical Teaching** | | **80** | **Oral Examination** | | | | **Max. 20** | | |
| **Teaching Colloquia** | | **40** | **Overall Sum** | | | | **100** | | |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | | | | |