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| **UNIVERSITY OF NIŠ** | | | | | | | | |
| **Course Unit Descriptor** | | | **Faculty** | | Faculty of Mechanical Engineering | | | |
| **GENERAL INFORMATION** | | | | | | | | |
| Study Program | **Manufacturing & Information Technologies** | | | | | | | |
| Study Module (if applicable) | - | | | | | | | |
| Course Title | Modeling and optimization of machining processes | | | | | | | |
| Level of Study | ☐Bachelor | | | ☒ Master’s | | | | ☐ Doctoral |
| Type of Course | ☐ Obligatory | | | ☒ Elective | | | | |
| Semester | ☐ Autumn | | | ☒ Spring | | | | |
| Year of Study | I | | | | | | | |
| Number of ECTS Allocated | 6 | | | | | | | |
| Name of Lecturer/Lecturers | Miroslav R. Radovanović | | | | | | | |
| Teaching Mode | ☒ Lectures | | | ☐ Group tutorials | | | | ☐ Individual tutorials |
| ☒ Laboratory work | | | ☒ Project work | | | | ☐ Seminar |
| ☐ Distance learning | | | ☐ Blended learning | | | | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** | | | | | | | | |
| Introduce students to the basics of mathematical modeling and optimization of machining processes. The course is targeting both the theoretical and practical aspects of mathematical modeling and optimization of machining processes. | | | | | | | | |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** | | | | | | | | |
| 1) General introduction to mathematical modeling and optimization of machining processes, 2) Analysis of machining process. Factors and performances. Selection of factors and performances, 3) Selection of mathematical model. Mathematical modeling of machining process, 4) Adequacy and reliability of mathematical model, 5) Mathematical model of optimization of machining process. 6) Goal, criteria and constraints, 7) Optimization methods, 8) Examples of modeling and optimization of machining processes | | | | | | | | |
| **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** | | **5** | **Written Examination** | | | **30** | | |
| **Practical Teaching** | | **5** | **Oral Examination** | | | **30** | | |
| **Teaching Colloquia** | | **30** | **Overall Sum** | | | **100** | | |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | | | |