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| **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Mechanical Engineering |
| **GENERAL INFORMATION** |
| Study Program | **Mechanical Engineering** |
| Study Module (if applicable) | – |
| Course Title | Virtual Product Development |
| Level of Study | ☐ Bachelor | ☐ Master’s | ☒ Doctoral |
| Type of Course | ☐ Obligatory | ☒ Elective |
| Semester | ☐ Autumn | ☒ Spring |
| Year of Study | I |
| Number of ECTS Allocated | 10 |
| Name of Lecturer/Lecturers | Milčić S. Dragan, Mijajlović M. Miroslav |
| 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 advanced contents in field of virtual product development. To enable the students to independently and based on scientific principles perform product development by usage of virtual product development methods and tools.* |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| Industrial Product Development. Virtual Product Development. Product models. Virtual Product Development Tools. Digital Mock-Up (DMU). Finite Elements Method (FEM), Computational Fluid Dynamics (CFD). Multi-Body Simulation (MBS). Virtual Reality. Product technical documentation. Rapid prototyping (RPT). Numerical Control/Robot Control/Measure Control (NC/RC/MC). Planning of manufacturing and control. Product data management. Concepts of team work on product development (Concurrent Design, Simultaneous Engineering) |
| **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** | **–** |
| **Practical Teaching** | **45** | **Oral Examination** | **50** |
| **Teaching Colloquia** | **–** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |