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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 | CNC Manufacturing Systems |
| Level of Study | ☐ Bachelor | ☒ Master’s | ☐ Doctoral |
| Type of Course | ☒ Obligatory | ☐ Elective |
| Semester | ☒ Autumn | ☐ Spring |
| Year of Study | I |
| Number of ECTS Allocated | 7 |
| Name of Lecturer/Lecturers | Miodrag T. Manić, |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☒ Laboratory work | ☒ Project work | ☒ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| *Introduction to structures, components and operation of numerically controlled machining system - (CNC) for different purposes, measuring machines, industrial robots and manipulators. Introduction to flexible manufacturing systems and computer integrated manufacturing.* |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| 1) Basic concepts of CNC, 2) Components of CNC system, CNC machining systems for different purposes and structures, 3) Industrial sensors and controllers, 4) Industrial systems for various purposes with the CNC control units, 5) Industrial Robots, 6) The application of robots and manipulators in the manufacturing, assembly, and process control, 7) Software support CNC system, 8) CIM systems. Flexible manufacturing systems, and factories of the future, 9) Intelligent Manufacturing Systems, 10) Expert systems and artificial intelligence. |
| **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** | **10** | **Oral Examination** | **20**  |
| **Teaching Colloquia** | **40** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |