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| **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Mechanical Engineering in Nis |
| **GENERAL INFORMATION** |
| Study Program | **Mechanical Engineering** |
| Study Module (if applicable) | - |
| Course Title | Integration and interoperability |
| Level of Study |  Bachelor | ☐ Master’s | x Doctoral |
| Type of Course | ☐ Obligatory | ☒ Elective |
| Semester | ☐ Autumn | ☒ Spring |
| Year of Study | I |
| Number of ECTS Allocated | 10 |
| Name of Lecturer/Lecturers | Miroslav D. Trajanovic |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☒ Laboratory work | x Project work | x Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| To enable students to perform the independent, methodologically founded research in the field of systems integration and interoperability. |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| * Basic concepts of systems integration and interoperability
* Enterprise models and architectures: Zachman framework, TOGAF (The Open Group Architecture Framework), DoDAF (DoD Architecture Framework), ISO 15704, EN/ISO I9439, IEEE 1471
* Architectures and frameworks for enterprise interoperability: LISI (Levels of Information Systems Interoperability), IDEAS interoperability framework, ATHENA interoperability framework, EUML (Enterprise Unified Modeling Language), INTEROP NoE interoperability framework
* Semantic interoperability
* Technologies for enabling systems interoperability: Software agents, Ontology interoperability, Model Driven Engineering, Service Oriented Computing
* Integration and interoperability in ubiquitous computing

Non-functional aspects of integration and interoperability: security, trust, Quality of Service, etc. |
| **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** |  | **Written Examination** |  |
| **Practical Teaching** | **70** | **Oral Examination** | **30** |
| **Teaching Colloquia** |  | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |