UNIVERSITY OF NIŠ

Course Unit Descriptor	Faculty	Faculty of Mechanical Engineering

GENERAL INFORMATION	
Study Program	Mechanical Engineering
Study Module (if applicable)	-
Course Title	Knowledge modeling
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	Dragan Mišić
Teaching Mode	☒ Lectures ☐ Group tutorials ☐ Individual tutorials ☒ Laboratory work ☒ Project work ☒ Seminar ☐ Distance learning ☐ Blended learning ☐ Other

Purpose and Overview (max. 5 sentences)

The goal of this course is to methodologically enable students to conduct independent researches in the areas of knowledge modelling and knowledge reasoning. Students will be able to develop specific-domain knowledge models in accordance to the scientific research methods, using both general and specific methods and formalisms. They will also be capable of implementing reasoning mechanisms based on used knowledge models.

Syllabus (brief outline and summary of topics, max. 10 sentences)

Universal modelling paradigms: OOP (Object oriented programming), UML (Unified Modelling Language), E&R (Entity & Relationship), Description Logic, RDF, RDF(S) and OWL languages for knowledge modelling. Languages for knowledge manipulation: SPARQL. General and meta ontologies: DOLCE, SUMO, SKOS. Protege (tool for developing ontologies). Structure and architecture of sematic software 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		Written Examination	30

Practical Teaching		**Oral Examination**	
Teaching Colloquia	**70**	**Overall Sum**	**100**
***Final examination mark is formed in accordance with the Institutional documents**			