



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 and technology development		
Level of Study	<input type="checkbox"/> Bachelor	<input type="checkbox"/> Master's	<input checked="" type="checkbox"/> Doctoral
Type of Course	<input type="checkbox"/> Obligatory	<input checked="" type="checkbox"/> Elective	
Semester	<input type="checkbox"/> Autumn	<input checked="" type="checkbox"/> Spring	
Year of Study	I		
Number of ECTS Allocated	10		
Name of Lecturer/Lecturers	Miodrag T. Manić		
Teaching Mode	<input type="checkbox"/> Lectures	<input type="checkbox"/> Group tutorials	<input checked="" type="checkbox"/> Individual tutorials
	<input checked="" type="checkbox"/> Laboratory work	<input checked="" type="checkbox"/> Project work	<input checked="" type="checkbox"/> Seminar
	<input type="checkbox"/> Distance learning	<input type="checkbox"/> Blended learning	<input type="checkbox"/> Other

Purpose and Overview (max. 5 sentences)

Transfer knowledge to students about the necessary information infrastructure in virtual product and technology development, and work with relevant software packages on specific problems. To enable students to independently apply scientific principles to the virtual product and technology development.

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

1) Concepts of virtual product development. The application of CAD and CAx. Constraints and future virtual product and technology development. 2) Types of geometric models. Parametric models. Current use of CAD. Associative modeling, 3) Feature based design. Neutral data exchange formats: SAT, STEP, IGES, VDAFS., 4) Computer supported team work, 5) Product Lifecycle Management (PLM), 6) Development of technologies. The life cycle of technology. Technological innovation. Manufacturing information systems, 7) Computer aided manufacturing (CAM). Application, 8) Types of knowledge. Knowledge acquisition methods. Knowledge representation. Reasoning. Rule based systems, 9) The life cycle of knowledge systems. Software packages for knowledge systems, 10) Research work

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
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Activity During Lectures	5	Written Examination	50
Practical Teaching	10	Oral Examination	Max. 35 (depending on Teaching Colloquia)
Teaching Colloquia	35	Overall Sum	100
*Final examination mark is formed in accordance with the Institutional documents			