



UNIVERSITY OF NIŠ

Course Unit Descriptor

Faculty

Faculty of Mechanical Engineering

GENERAL INFORMATION

Study Program	Mechanical Engineering		
Study Module (if applicable)	-		
Course Title	Design of mobile machines		
Level of Study	<input checked="" type="checkbox"/> Bachelor	<input type="checkbox"/> Master's	<input 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	IV		
Number of ECTS Allocated	6		
Name of Lecturer/Lecturers	Dragoslav B. Janošević		
Teaching Mode	<input checked="" type="checkbox"/> Lectures	<input type="checkbox"/> Group tutorials	<input 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)

Functional, structural and parametric analysis of mobile (construction, mining, transportation, agricultural and municipal) machines. Methodology development, mathematical modeling and design of mobile machines. Calculation and design of drive systems and kinematic chains of mobile machines.

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

1) General definition of mobile machines, 2) Process development and design of machines, 3) Parameters of environment, structure of functions and impact parameters of machines, 4) Concepts of machine kinematic chains, 5) The mathematical model of kinematic chain of machines, 6) Types and shapes mobile machines tools, 7) Modelling relations tools and objects of work 8) Kinematics and dynamics movement of mobile machines on caterpillars and tires, 9) Calculation of hydrodynamic and hydrostatic transmissions movement of mobile machines, 10) Synthesis of driving mechanisms manipulators machine, 11) Systems power assisted management, 12) Mechatronic control systems for mobile machinery.

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			