

Study Programme: Mechanization And Construction Engineering			
Course Unit Title: Practicum in modeling and simulation of motor vehicles			
Course Unit Code: M2515			
Name of Lecturer(s): Stojić Boris, Ružić Dragan			
Type and Level of Studies: Master Academic Degree			
Course Status (compulsory/elective): elective			
Semester (winter/ summer): winter			
Language of instruction: english			
Mode of course unit delivery (face-to-face/distance learning): face-to-face			
Number of ECTS Allocated: 4			
Prerequisites: none			
Course Aims: Training students to use software tools for modeling and simulating motor vehicles			
Learning Outcomes: The ability of the student to use the software tools for advanced design and analysis of the properties of motor vehicles independently and within the team.			
Syllabus. Basic principles of the dynamics of the rigid body system. Mobility, connections. Geometric and mass parameters. The user interface of MSC Adams-View and Adams-Car. Standard Library Libraries. Methods of setting an external action. Creating Elements and Models. Model structure. Getting information about objects. Modifying objects. File formats. Setting the simulation parameters. Postprocessing results. Working with mathematical functions. Creating Measures. Working with constructive variables. Optimization procedures. Vehicle models and simulations of characteristic maneuvers.			
Required Reading: Michael Blundell, Damian Harty Multibody Systems Approach to Vehicle Dynamics			
Weekly Contact Hours: 2	Lectures: 2	Practical work: 1	
Teaching Methods: Lectures, computer classes, consultations.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Attendance			
Computer exercises			
Tests (4x)			

