



# UNIVERSITY OF NIŠ

**Course Unit Descriptor****Faculty**

Faculty of Mechanical Engineering

**GENERAL INFORMATION**

Study Program	<b>Engineering Management</b>		
Study Module (if applicable)	Transport and logistics management		
Course Title	Discret (logistic's) simulation		
Level of Study	<input type="checkbox"/> Bachelor	<input checked="" 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	I		
Number of ECTS Allocated	6		
Name of Lecturer/Lecturers	Miomir LJ. Jovanović		
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)**

Introduction to the Theoretical and Practical knowledge of Discrete Logistics simulation.  
The Acquisition of knowledge and Experience to solve base problems of Logistics simulation in Transportation technology.

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

General of simulations: Real system, simulation model, process of simulation, analysis of simulation results. Types of simulation, principles and application areas. The creation of a simulation model. The study of the real system. Modeling of random variables. Statistics relations. Discrete random variables. Distributions of random size. Random generators. Assessment tests and distribution. Method of Monte Carlo simulations. Empirical and theoretical distribution. Servicing theory and Queuing theory. Discrete event simulation. The analysis of the simulation examples of continuous transport (Excel). The simulation systems. Overview of simulation software (Arena, AutoMod, Enterprise Dynamics, Witness). Practical realization: Modeling with AutoMod software. Procedures of the simulation analysis. Formulating goals and objectives. The establishment and verification of the model. Experiments with simulation models. Evaluation of simulation models. Analysis of the results of simulations.

**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	5	Written Examination	(Three Colloquiums) 60
Practical Teaching	5	Final (oral) Examination	Max. 30
Three (3) teaching Colloquia (projects)	60	Overall Sum	100