



# UNIVERSITY OF NIŠ

**Course Unit Descriptor**

**Faculty**

Faculty of Mechanical Engineering

## GENERAL INFORMATION

Study Program	Traffic engineering, transport and logistics		
Study Module (if applicable)	-		
Course Title	Pipe transportation		
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 checked="" type="checkbox"/> Autumn	<input type="checkbox"/> Spring	
Year of Study	I		
Number of ECTS Allocated	6		
Name of Lecturer/Lecturers	Saša Milanović, Jasmina B. Bogdanović-Jovanović		
Teaching Mode	<input checked="" type="checkbox"/> Lectures	<input type="checkbox"/> Group tutorials	<input type="checkbox"/> Individual tutorials
	<input 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 principles of work and theoretical bases of calculation of the different types of pipe transportation. Understanding the characteristics of work and mastering of calculation methods of different types of pipe transportation.

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

1) Water supply systems, classification. 2) Operation regimes of water supply system, pipelines, pressure loss and pressure drop in pipelines. 3) Pump operating regimes in water supply systems. 4) Hydraulic calculation of main water pipeline system with reservoirs. 5) Oil pipelines - technology of oil transportation in pipelines and systems of oil heating. 6) Hydraulic calculation of pipeline for isothermal flow; Temperature drop along the oil pipelines and hydraulic calculation of pipeline in non-isothermal flow. 7) Gas pipelines - classification and elements. 8) Differential equation of gas flow. Pressure drop for isothermal gas flow. 9) Transportation of solid materials in the fluid flow - hydraulic and pneumatic conveying. 10) Physical properties of mixtures; The basic theory and parameters of transportation of inhomogeneous mixture in the fluid flow;

## Language of Instruction

- Serbian (complete course)       English (complete course)       Other \_\_\_\_\_ (complete course)
- Serbian with English mentoring       Serbian with other mentoring \_\_\_\_\_

## Assessment Methods and Criteria

<b>Pre exam Duties</b>	<b>Points</b>	<b>Final Exam</b>	<b>Points</b>
<b>Activity During Lectures</b>	<b>5</b>	<b>Written Examination</b>	<b>Max 40, depending on Teaching Colloquia</b>
<b>Practical Teaching</b>	<b>5</b>	<b>Oral Examination</b>	<b>50</b>
<b>Teaching Colloquia</b>	<b>40</b>	<b>Overall Sum</b>	<b>100</b>

**\*Final examination mark is formed in accordance with the Institutional documents**