



UNIVERSITY OF NIŠ

Course Unit Descriptor

Faculty

Faculty of Mechanical Engineering

GENERAL INFORMATION

Study Program	Mechanical Engineering		
Study Module (if applicable)	-		
Course Title	Theory of fluid flow transport		
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	10		
Name of Lecturer/Lecturers	dr Saša Milanović, dr Jasmina 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)

Students should acquire knowledge in the field of transport by fluid flow. The main aim is enabling students to independently and on scientific principles formulate the equations of transport by fluid flow, model the fluid flow transport and determine the system characteristics.

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

1) Basic Concepts: Pneumatic and hydraulic transport, review of development 2) Properties of transported materials. The basic parameters fluid flow transport. The forces of action and movement of transported materials. Acting forces
2) Movement of material particles (alluvion rate and levitation rate). Movement of non-homogeneous mixture of transported material and fluid. 3) Pneumatic transport of material. The types of pneumatic transport and elements of transport lines. 4) Pneumatic transport of materials in straight pipelines. Pneumatic transport of materials in bends. Low pressure pneumatic lines for material transport. Middle and high pressure pneumatic lines for material transport. 5) Relation of pressure drop and air flowrate (critical velocity, minimum work). 6) Hydraulic transport of materials. 7) Classification of hydraulic transport. Hydraulic transport devices. 8) Flow of suspension. Transport of suspensions. 9) Calculation of pressure drop 10) Method Duran-Kondoliao, Meothod Gorjunova. 11) Other methods and comparative analysis

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	Max 40, depending on Teaching Colloquia
Practical Teaching	5	Oral Examination	50
Teaching Colloquia	40	Overall Sum	100

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