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 turbomachines		
Level of Study	☐Bachelor	☐ Master's	☒ Doctoral
Type of Course	☐ Obligatory	☒ Elective	
Semester	☐ Autumn	☒ Spring	
Year of Study	I		
Number of ECTS Allocated	10		
Name of Lecturer/Lecturers	dr Dragica Milenković		
Teaching Mode	☒ Lectures	☐ Group tutorials	☐ Individual tutorials
	☐ Laboratory work	☒ Project work	☒ Seminar
	☐ Distance learning	☐ Blended learning	☐ Other

Purpose and Overview (max. 5 sentences)

Students should acquire knowledge in theory of flow in turbomachinery, acquiring skills in design methodology, and determination of the flow characteristics of axial, radial and radial-axial turbomachinery.
The main aim is enabling students to formulate equations of motion of fluid flow through turbomachinery, to model turbomachinery components and determine their performance.

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

1) The equations of motion for liquids and gases. 2) Turbomachinery operating principles. 3) One-dimensional theory. 4) Two-dimensional theory. 5) Three-dimensional flow in turbomachinery. 6) Turbomachinery modeling. 7) Energy losses in turbomachinery. 8) Unsteady fluid flow in turbomachinery. 9) Operating characteristics of axial, radial and radial-axial turbomachinery. 10) Turbomachinery designing methods.

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**			