



# UNIVERSITY OF NIŠ

**Course Unit Descriptor**

**Faculty**

Faculty of Mechanical Engineering

## GENERAL INFORMATION

Study Program	<b>Mechanical Engineering</b>		
Study Module (if applicable)	-		
Course Title	Computer design of power engineering systems		
Level of Study	<input checked="" type="checkbox"/> Bachelor	<input 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	III		
Number of ECTS Allocated	6		
Name of Lecturer/Lecturers	Živojin M. Stamenković		
Teaching Mode	<input checked="" type="checkbox"/> Lectures	<input type="checkbox"/> Group tutorials	<input type="checkbox"/> Individual tutorials
	<input checked="" type="checkbox"/> Laboratory work	<input type="checkbox"/> Project work	<input type="checkbox"/> Seminar
	<input type="checkbox"/> Distance learning	<input type="checkbox"/> Blended learning	<input type="checkbox"/> Other

## Purpose and Overview (max. 5 sentences)

The aim of the course is to introduce all students to the methods and software, which are used for design of power engineering systems and their elements. The course is targeting both the theoretical and practical aspects of the power engineering systems design.

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

1) The software for power engineering systems design. 2) Software for design and generation of technical documentation 3) Software for engineering calculations 4) Software for numerical simulation of fluid flow. 5) Review of engineering software: AutoCAD, SolidWorks, ANSYS, Excel, Mathcad, Matlab, AFT FATHOM. 6) The methods used in the software, examples of calculation. 7) Basic elements in power engineering systems. The standards and calculation procedures. 8) Calculation of flow, pressure and losses in the pipeline distribution systems and elements used in power systems (valves, branches, elbows, orifices, venturi tubes, nozzles ...) 9) Pumps in the pipeline and a closed circulation circuit. 9) Software for numerical simulation of fluid flow and heat transfer - ANSYS-CFX

## 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
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Lecture (participation) + Homework	5 + 5	Written Examination	0* (50)
Laboratory	10	Oral Examination	Max. 30
Two midterm exams	50	Overall Sum	100
* Refers to students who have already gained points by completing pre-exam requirements			