UNIVERSITY OF NIŠ

Course Unit Descriptor	Faculty	Faculty of Mechanical Engineering

GENERAL INFORMATION	
Study Program	Mechanical Engineering
Study Module (if applicable)	-
Course Title	Numerical mathematics and programming
Level of Study	☒Bachelor ☐ Master's ☐ Doctoral
Type of Course	☒ Obligatory ☐ Elective
Semester	☒ Autumn ☐ Spring
Year of Study	III
Number of ECTS Allocated	6
Name of Lecturer/Lecturers	Ljiljana Petković
Teaching Mode	☒ Lectures ☒ Group tutorials ☐ Individual tutorials ☒ Laboratory work ☐ Project work ☐ Seminar ☐ Distance learning ☐ Blended learning ☐ Other

Purpose and Overview (max. 5 sentences)

Students are acquainted with the basic techniques for solving mathematical problems that appear in engineering practice, and which cannot be solved by conventional analytical methods. Besides the use of specialized programming packages, such as Mathematica and Matlab, students are acquainted with numerical algorithms and the basics of programming which would provide them capability for solving more complex problems.

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

Students adopt basic numerical methods for solving various problems that appear most frequently in technical disciplines, such as solving systems of linear equations, nonlinear equations, approximations of functions, and differential equations. They are also trained to solve these problems by the use of some appropriate programming package, and get the basic programming skills (recursive calculation, iterations, manipulation with expressions and functions) for solving problems of more complex nature.

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		**Written Examination**	**50 (Depending on Teaching Colloquia)**
Practical Teaching		**Oral Examination**	**50**
Teaching Colloquia	**Max. 50**	**Overall Sum**	**100**
***Final examination mark is formed in accordance with the Institutional documents**			