UNIVERSITY OF NIŠ

Course Unit Descriptor	Faculty	Faculty of Mechanical Engineering

GENERAL INFORMATION			
Study Program	Engineering management		
Study Module (if applicable)	-		
Course Title	Mathematics in Engineering management		
Level of Study	☒Bachelor	☐ Master's	☐ Doctoral
Type of Course	☒ Obligatory	☐ Elective	
Semester	☒ Autumn	☐ Spring	
Year of Study	I		
Number of ECTS Allocated	8		
Name of Lecturer/Lecturers	Radović M. Ljiljana		
Teaching Mode	☒ Lectures	☒ Group tutorials	☐ Individual tutorials
	☐ Laboratory work	☐ Project work	☐ Seminar
	☐ Distance learning	☐ Blended learning	☒ Other

Purpose and Overview (max. 5 sentences)

Acquisition of general education in mathematics, training students to apply their knowledge in other subjects and acquire skills that allow the use of mathematical methods in research and tactical, operational and strategic business decisions.
Ability of analyzing and solving mathematical problems, application of mathematical methods in business analysis, market research, monitoring of production and trade and other studies that are necessary for making timely and optimal business decisions. Basic knowledge to higher mathematics and to enable students to apply their knowledge in other general and specialized subjects. Ability of a wider and deeper study of these and related disciplines.

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

Outline: After completing this course, students should have developed a clear understanding of the fundamental concepts of linear algebra, single variable calculus and applications in economy as well as a range of skills allowing them to work effectively with the concepts.
Summary of topics: 1) Elementary and rational functions. 2) Integer series. 3) Systems of linear equations and matrix algebra. 4) Linear optimization. 5) Real functions of one real variable – limit value; continuity; differential calculus and application. 6) Real functions of several real variables, differentiation calculus and application (unconstrained and constrained extreme values of functions of several variables). 7) Indefinite and definite integrals and application. 8) Economic functions, optimization of economic functions, elasticity of economic functions. 9) First order differential equations.

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. 60 (depending on Teaching Colloquia)**
Practical Teaching and Homework	**5+10**	**Oral Examination**	**20**
Teaching Colloquia	**60**	**Overall Sum**	**100**
***Final examination mark is formed in accordance with the Institutional documents**			