Study program: Information Technology, Engineering Management, Technics and Informatics

Type and level of studies: Undergraduate studies

Course title: Mathematics 1

Name of lecturer/lecturers: Lazarević D. Vera, **Damljanović Ž. Nada**

Language of instruction: English

ETCS: 6

Prerequisites: -

Semester: Winter

Course unit objective

Enabling students to develop abstract thinking and acquire fundamental knowledge of linear algebra and mathematical analysis, as well as their applications in engineering, computer science, management, etc.

Learning outcomes of Course unit

At the end of the course, students would master basic mathematical ideas, concepts and results, and they would be able to apply practically their knowledge within the same or within some other scientific fields and subjects.

Course unit contents

Theoretical classes

Language of mathematics, notions, notations, formulas and techniques of proving, sets, relations, functions, field of real numbers, field of complex numbers, matrices, determinants, systems of linear equations, vectors and analytical geometry, sequences, limits, functions of one variable, continuity, derivatives, integrals and applications.

Practical classes

Solving concrete problems, examples and exercises based on exposed theoretical concepts and principles.

Literature

[1] G. Strang, Calculus, Massachusetts Institute of Technology, Wellesey-Cambridge Press, https://ocw.mit.edu/ans7870/resources/Strang/Edited/Calculus/Calculus.pdf

[2] T. M. Apostol, Calculus, Vol. 1: One-Variable Calculus with an Introduction to Linear Algebra (2nd ed.), Wiley, 1967.

[3] P. Miličić, M. Uščumlić, Problems in higher mathematics 1, Nauka, Beograd, 1993 (in Serbian).

Number of active teaching hours				Other classes
Lectures: 3	Practice: 3	Other forms of classes:	Independent work:	

Teaching methods

The lectures are performed using classical methods of teaching in combination with video projector and active interaction with students. Knowledge of students is tested by homework, colloquium, and final exam (written and oral). At the final, a comprehensive understanding of the exposed material is checked.

Examination methods (maximum 100 points)

Exam prerequisites:	**No. of points:**	**Final exam:**	**No. of points:**
Student's activity during lectures	6	oral examination	25
Practical classes/tests	30	written examination	35
Seminars/homework	4	……	
Project			
Other			

Grading system

Grade	**No. of points**	**Description**
10	91-100	Excellent
9	81-90	Exceptionally good
8	71-80	Very good
7	61-70	Good
6	51-60	Passing
5	Less than 50	Failing