

Specification for the book of courses

Study program		Electrical Engineering and Computer Science		
Module		Common		
Type and level of studies		Undergraduate Academic Studies		
The name of the course		Mathematics 1		
Lecturer (for lectures)		Marinković D. Slađana, Kovačević A. Milan, Rančić Z. Lidija, Džunić S. Jovana, Matejić M. Marjan		
Lecturer/associate (for exercises)		Marjanović M. Zvezdan, Matejić M. Marjan, Ranđelović M. Branislav, Jovančić S. Vladan, Milošević D. Predrag, Stankov D. Stefan		
Lecturer/associate (for OFE)				
Number of ECTS	7	Course status (obligatory/elective)	Obligatory	
Prerequisites				
Gaining basic knowledge of linear algebra, polynomial theory, applied linear algebra and analytic geometry. Developing the ability of analytical thinking and inductive and deductive reasoning.				
Course objectives				
Students' capability to apply gained knowledge in the practice, development of analytical thinking skills and development of propensity to observing general notions on the basis of particular cases.				
Course outcomes				
Course outline				
Theoretical teaching				
Algebraic structures. Fields of real and complex numbers. Geometry of complex numbers. Algebraic polynomials. Zeros of polynomials and factorization. Linear spaces. Linear independence, basis, dimension. Vectors and matrices. Norm, scalar product, orthogonality. Determinants. Inversion of matrices. Rank of matrix. Systems of linear equations. Linear operators. Matrix of linear operator. Spectral theory of operators and matrices. Analytic geometry in R^3 .				
Practical teaching (exercises, OFE, study and research)				
Practical teaching conducted through solving problems and tasks that are presented in theoretical lectures.				
Textbooks/references				
1	M.A Kovačević, G.V. Milovanović, R.Ž. Đorđević, Mathematics I (Linear Algebra, Polynomials, Analytic Geometry), SVEN, Niš, 2012.(Serbian)			
2	P. Miličić, M. Ušćumlić, Collection of tasks in higher mathematics I, Naučna knjiga, Beograd, 1988. (Serbian)			
3	e-collection of tasks https://moodle.elfak.ni.ac.rs/mod/folder/view.php?id=25			
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
3	3	0	0	0
Teaching methods				
Lectures, auditory exercises, consultations				
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam		Points
Activity during lectures	10	Written exam		20
Exercises	10	Oral exam		20
Colloquia	40			
Projects				