

Specification for the book of courses

Study program		Electrical Engineering and Computer Science		
Module		Electronics		
Type and level of studies		Undergraduate Academic Studies		
The name of the course		Mathematics 3		
Lecturer (for lectures)		Milošević M. Dušan, Marjanović M. Zvezdan, Ranđelović M. Branislav		
Lecturer/associate (for exercises)		Jovančić S. Vladan, Marjanović M. Zvezdan, Ranđelović M. Branislav		
Lecturer/associate (for OFE)				
Number of ECTS	6	Course status (obligatory/elective)	Obligatory	
Prerequisites				
Course	Mastering basic mathematical knowledge from theory and applying them through examples.			
Course outcomes	Acquiring theoretical knowledge and practical skills. Handling of mathematical methods and applying in problem solution.			
Course outline				
Theoretical teaching	Series. Numerical series. Positive and alternative series. Functional series. Potential and Fourier series. Ordinary differential equations. First order differential equations. Differential equation that separates variables. Homogeneous, linear and Bernoulli's differential equation. Second order differential equations. Incomplete and linear differential equation of second order. Multivariable functions. Limiting values and continuity, Partial derivatives and differentials of first and higher orders. Tangent plane. Taylor's formula. Directional derivatives and gradient. Local and conditional extrema. Integrals. Double, triple and curvilinear integrals. Complex analysis. Complex variable functions. Cauchy-riemann conditions. Complex integration. Residue theorem. Laplace transformation. Definition and main properties of the transformation. Inverse transformation.			
Practical teaching (exercises, OFE, study and research)	Exercises follow the lectures.			
Textbooks/references				
1	D. M. Milošević, M. S. Petković, Selected chapters from higher mathematics (in Serbian), University of Niš, Faculty of Electronic Engineering, 2008.			
2	Lj. Kocić, Multivariable functions (in Serbian), University of Niš, Faculty of Electronic Engineering, 2008.			
3	L. Stefanović, Mathematics for students of technical faculties - Vector analysis; Integrals; curvilinear, double, triple, surface; Vector field theory (in Serbian), Prosveta, Niš, 1997.			
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
3	2	0	0	0
Teaching methods	Lectures, exercises auditive, consultation.			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam		Points
Activity during lectures	10	Written exam		30
Exercises		Oral exam		30
Colloquia	30			
Projects				