

Specification for the book of courses

Study program		Electrical Engineering and Computer Science		
Module		Computing and Informatics		
Type and level of studies		Undergraduate Academic Studies		
The name of the course		Numerical Algorithms		
Lecturer (for lectures)		Kovačević A. Milan, Marjanović M. Zvezdan		
Lecturer/associate (for exercises)		Milošević D. Predrag		
Lecturer/associate (for OFE)				
Number of ECTS	3	Course status (obligatory/elective)	Elective	
Prerequisites				
Course Mastering the concepts of numerical mathematics.				
Course outcomes Students learn to use numerical algorithms for solving corresponding problems.				
Course outline				
Theoretical teaching	Arithmetic of finite length and numerical processes. Nonlinear equations and systems. Newton method. Secant method. Bisection method. Algebraic equations solving. Newton-Kantorovich method for systems of nonlinear equations. Approximation of functions. Lagrange and Hermite interpolation. Least-square approximation. Numerical differentiation and integration. Symbolic computation and algorithms. Introduction to software packages Mathematica.			
Practical teaching (exercises, OFE, study and research)	Practical teaching (realized through solving problems which covered the content of lectures with the aim that the student previously exposed to theoretical considerations into their own functional knowledge).			
Textbooks/references				
1	G.V. Milovanović: Numerical Analysis I, Naučna Knjiga, Belgrade, 1991. (Serbian)			
2	G.V. Milovanović: Numerical Analysis II, Naučna Knjiga, Belgrade, 1991. (Serbian)			
3	G.V. Milovanović, M.A. Kovačević, M. Spalević: A Collection of Solutions for Problems in Numerical Analysis, Faculty of Electronic Engineering, Niš, 2003. (Serbian)			
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
2	1	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	5	Written exam	20	
Exercises	15	Oral exam	20	
Colloquia	40			
Projects				