

## Specification for the book of courses

<b>Study program</b>		Electrical Engineering and Computer Science		
<b>Module</b>		Electron Devices and Microsystems		
<b>Type and level of studies</b>		Undergraduate Academic Studies		
<b>The name of the course</b>		Numerical Mathematics		
<b>Lecturer (for lectures)</b>		Matejić M. Marjan		
<b>Lecturer/associate (for exercises)</b>		Stankov D. Stefan		
<b>Lecturer/associate (for OFE)</b>				
<b>Number of ECTS</b>	6	<b>Course status (obligatory/elective)</b>	Elective	
<b>Prerequisites</b>				
<b>Course objectives</b>	Mastering the basic principles of numerical mathematics, methods of selecting the appropriate method depending on the nature of the problem and the applications in practice.			
<b>Course outcomes</b>	Students' ability to select and apply numerical methods for solving problems in professional activities and practice.			
<b>Course outline</b>				
<b>Theoretical teaching</b>	Error analysis. Iterative processes. Solving nonlinear equations and systems of nonlinear equations. Numerical solving of a system of linear equations. Inversion of the matrix. Eigenvalues and eigenvectors of matrices. Interpolation and approximation of functions. Numerical differentiation. Numerical integration.			
<b>Practical teaching (exercises, OFE, study and research)</b>	Solving tasks in which the principles of modeling, method selection and application of the methods presented through theoretical instruction apply. Examples of implementation in software packages for symbolic and numerical calculations.			
<b>Textbooks/references</b>				
1	Gradimir V. Milovanović: Numerical analysis I part. Naučna knjiga, Beograd, 1991. (in Serbian)			
2	Gradimir V. Milovanović: Numerical analysis II part . Naučna knjiga, Beograd, 1991. (in Serbian)			
3	A.C. Faul, A Concise Introduction to Numerical Analysis, Taylor & Francis Group, New York, 2016.			
4	Marko D. Petković, Algorithms of numerical analysis, Faculty of Sciences, University of Niš, Niš, 2010. (in Serbian)			
5				
<b>Number of classes of active education per week during semester/trimester/year</b>				
<b>Lectures</b>	<b>Exercises</b>	<b>OFE</b>	<b>Study and research work</b>	<b>Other classes</b>
2	2	0	0	0
<b>Teaching methods</b>	Teaching, Consultations.			
<b>Grade (maximum number of points 100)</b>				
<b>Pre-exam duties</b>	<b>Points</b>	<b>Final exam</b>	<b>Points</b>	
<b>Activity during lectures</b>	10	<b>Written exam</b>	30	
<b>Exercises</b>		<b>Oral exam</b>	20	
<b>Colloquia</b>	40			
<b>Projects</b>				