

## Specification for the book of courses

<b>Study program</b>		Electrical Engineering and Computer Science		
<b>Module</b>		Common		
<b>Type and level of studies</b>		Doctoral studies		
<b>The name of the course</b>		Electric Circuits Theory		
<b>Lecturer (for lectures)</b>		Cvetković Ž. Zlata, Vučković N. Ana		
<b>Lecturer/associate (for exercises)</b>				
<b>Lecturer/associate (for OFE)</b>				
<b>Number of ECTS</b>	10	<b>Course status (obligatory/elective)</b>	Elective	
<b>Prerequisites</b>				
<b>Course objectives</b>	Applying the analytical, numerical, and software tools to solve practical problems in the analysis and synthesis of electric circuits.			
<b>Course outcomes</b>	Students are trained to solve practical problems related to the analysis and synthesis of electric circuits using analytical, numerical, and software tools.			
<b>Course outline</b>				
<b>Theoretical teaching</b>	Topological electric circuit analysis. Analysis in time and frequency domain. Analogue circuits with losses. Circuits with distributed parameters. Discrete circuits. Graph theory. Computer aided circuit analysis.			
<b>Practical teaching (exercises, OFE, study and research)</b>	Reference collecting. Study the selected chapters. Analysis of a real problem. Independent research work.			
<b>Textbooks/references</b>				
1	Z. Cvetković: "Electrical circuits" (in Serbian), Faculty of Electronic Engineering of Niš, 2016, ISBN 978-86-6125-167-2.			
2	Z. Cvetković, A. Vučković: "Collection of solved problems from Electrical circuits" (in Serbian), Faculty of Electronic Engineering of Niš, 2013, ISBN 978-86-6125-079-8.			
3	M. Potrebić, D. Tošić: "Collection of solved problems from Electrical circuits theory" (in Serbian), 2012, Akademska misao, Belgrade.			
4	S. Karris: "Circuit Analysis I with MATLAB Applications", Orchard Publications, Fremont, California, 2004.			
5	S. Karris: "Circuit Analysis II with MATLAB Applications", Orchard Publications, Fremont, California, 2003.			
<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>
3	0	0	0	0
<b>Teaching methods</b>	Lectures, consultations, semestral work.			
<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>			<b>Written exam</b>	
<b>Exercises</b>			<b>Oral exam</b>	50
<b>Colloquia</b>				
<b>Projects</b>		50		