

## 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>		Boundary Element Method in Electromagnetics		
<b>Lecturer (for lectures)</b>		Raičević B. Nebojša, 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>	None			
<b>Course objectives</b>	The aim of the subject is to acquaint the student in detail with the fundamentals of electromagnetic field analysis using boundary elements method and hybrid boundary element method. Also, the student learns to apply some of the leading software for modeling and analyzing practical problems in the Electromagnetics.			
<b>Course outcomes</b>	The student is capable to analyze the electromagnetic systems using boundary elements method and hybrid boundary element method and to present the obtained results.			
<b>Course outline</b>				
<b>Theoretical teaching</b>	<ul style="list-style-type: none"> <li>• Numerical methods in Electromagnetics – introduction. □</li> <li>• Boundary element method (integral equations formulation, boundary elements discretization, sources modeling within the analysis domain, linear and square elements). Examples.</li> <li>• Hybrid boundary element method (theoretical background, system modeling, 2D and 3D problems analysis). Examples.</li> <li>• Modern software for electromagnetic fields analysis. □</li> </ul>			
<b>Practical teaching (exercises, OFE, study and research)</b>				
<b>Textbooks/references</b>				
1	Matthew Sadiku, „Numerical techniques in Electromagnetics“, CRC Press, 2001.			
2	Dragan Poljak, C. A. Brebbia, "Boundary Element Methods for Electrical Engineers", WIT Press, 2005.			
3	C. A. Brebbia, J. Dominguej, "Boundary Element Methods, An Introduction Course", McGraw Hill, 1989.			
4	Dragan Poljak, "Advanced Modeling in Computational Electromagnetic Compatibility", Wiley & Sons, 2007.			
5	Nebojsa B. Raicevic, Slavoljub R. Aleksic, "One method for electric field determination in the vicinity of infinitely thin electrode shells", Engineering Analysis with Boundary Elements, ELSEVIER, Vol. 34, Issue (No.) 2, pp. 97-104, 2010			
<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 and auditory classes. Besides boardwork, multimedia presentations, photographs and video clips are presented. Obligatory consultations with lecturers help successful course material adoption.			
<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>		20
<b>Exercises</b>		<b>Oral exam</b>		20
<b>Colloquia</b>				
<b>Projects</b>	60			