

## Specification for the book of courses

<b>Study program</b>		Electrical Engineering and Computer Science		
<b>Module</b>		Electronics - Multimedia technologies		
<b>Type and level of studies</b>		Undergraduate Academic Studies		
<b>The name of the course</b>		Virtual Reality		
<b>Lecturer (for lectures)</b>		Pavlović D. Vlastimir		
<b>Lecturer/associate (for exercises)</b>		Pavlović D. Vlastimir		
<b>Lecturer/associate (for OFE)</b>		Pavlović D. Vlastimir		
<b>Number of ECTS</b>	5	<b>Course status (obligatory/elective)</b>	Elective	
<b>Prerequisites</b>				
<b>Course objectives</b>	The aim of the course is to provide students with advanced knowledge in the field of virtual reality, and apply this knowledge in the development of applications.			
<b>Course outcomes</b>	Gaining the knowledge necessary for creating complex applications for use through virtual reality systems.			
<b>Course outline</b>				
<b>Theoretical teaching</b>	Introducing students to the latest research in the field of modeling and animation through a system of virtual reality. Models of the environment. 2D and 3D modeling. Computer animation. Computer visualization. Development and implementation of 2D and 3D models. Creating a virtual environment. Modeling games. VR and society. Education, Arts and presentation. VR application in the industrial production. Virtual prototypes. Application in science, education, business and other fields.			
<b>Practical teaching (exercises, OFE, study and research)</b>	3D modeling and animation. The forms of virtual objects. Visual appearance of objects. Objects positions. Hierarchy of objects. Optimizing the scene for virtual reality. Detection of contact and overlap. Programming. Haptic feedback. Making of the applications.			
<b>Textbooks/references</b>				
1	John Bucher, "Storytelling for Virtual Reality", Routledge, 2018			
2	John Vince, "Introduction to Virtual Reality", Springer, 2013			
3	Alan B. Craig, William R. Sherman, Jeffrey D. Will, "Developing Virtual Reality Applications: Foundations of Effective Design", Morgan Kaufmann, 2009			
4				
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	1	1	0	0
<b>Teaching methods</b>	Lectures, exercises, 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>	20	<b>Written exam</b>		
<b>Exercises</b>	20	<b>Oral exam</b>	40	
<b>Colloquia</b>				
<b>Projects</b>	20			