

Program	Level of studies		Second cycle	
	Program name		Physics	
Course name	INTERACTION OF RADIATION WITH SOLIDS			
Course ID	Semester	Course status	ECTS credits	L+E
PCM9651	I	ELECTIVE	6	2+1
Lecturer	Doc.dr. Maja Đekić			
Aims and intended learning outcomes	<p>Course objective is to familiarize students with interactions of different types of radiation (ionic and electron beams) with solids.</p> <p>Learning outcomes:</p> <ol style="list-style-type: none"> <li>1. Knows and understands interaction of ionic beams with solids</li> <li>2. Understands interaction of electron beams with solids</li> <li>3. Knows how to apply this knowledge to independently solve problems from this field</li> </ol>			
Course content				
<p>Interaction of ionic radiation with solids. Loss of energy and stopping power. Scattering on metallic surface. Neutralization of ions on metallic surface (possible emission of secondary electrons). Modification of materials with ionic beams. Technologies of ionic implantation. Interaction of electrons with solids. Interaction of photons with solids.</p>				
Student workload (hours)		Grading		
Lectures and Exercises	45	Assessment method	Points	
Exam preparation	50	Test	40	
Assignments	45	Paper	40	
Other	10	Final Exam	20	
Total	150			
		Total	100	
Literature				
<ol style="list-style-type: none"> <li>1. M. Nastasi, J.W. Mayer and J.K. Hirvonen Ion-Solid Interactions Cambridge U. Press 1996</li> <li>2. H. Nikjoo, S.Uehara, D. Emfietzoglou: Interaction of radiation with matter, Taylor ,Frqansis group, Boca Raton, 2012</li> <li>3. Ed.: J.W. Rabalais. Low Energy Ion-Solid Interactions Wiley Interscience 1994</li> <li>4. D.P. Woodruff and T.A. Delchar Modern Techniques of Surface Science, Second Edition Cambridge U. Press 1994</li> </ol>				