

Study program	Level of studies		Third cycle	
	Title of the study program		Doctoral studies in physics	
Course title	ACCELERATOR PHYSICS I			
Course ID	Semester	Course status	ECTS credits	Teaching hours
PAP7051	I /II	Elective	10	30
Course aims and expected learning outcomes	The course is aimed to introduce students to the principles and applications of accelerator physics. The course covers the basic concepts of particle acceleration and beam dynamics, and the design and operation of various types of accelerators, including linear and circular accelerators.			
COURSE CONTENT				
Lecture 1: Introduction to Accelerator Physics Lecture 2: Electromagnetism and Relativity Lecture 3: Transverse Motion of Particles Lecture 4: Longitudinal Motion of Particles Lecture 5: Linear Accelerators Lecture 6: Circular Accelerators Lecture 7: Storage Rings Lecture 8: Colliders Lecture 9: High-Intensity Beams Lecture 10: Accelerator Components Lecture 11: Accelerator Diagnostics Lecture 12: Radiation Protection Lecture 13: Applications of Accelerators Lecture 14: Future Developments in Accelerator Technology				
LITERATURE			ASSESSMENT OF LEARNING	
1.Pierre M._ Septier, Albert L. Linear Accelerators 2. Wille, Klaus - The physics of particle accelerators an introduction 3. Michiko G. Minty, Frank Zimmermann (auth.) - Measurement and Control of Charged Particle Beams			Assessment Method	Points
			Practice/Project	20
			Seminar paper	30
			Presentation	50
			Total	100
Remarks				