

Study program	Level of the study program		First cycle	
	Name of the study program		Physics	
Course name	PHYSICS EDUCATION I			
Course ID	Semester	Course status	ECTS credits	L+E
PED5611	VII	ELECTIVE	6	4+2
Lecturer	Prof. dr. Vanes Mešić			
Aims and intended learning outcomes	<p>The aim of this course is to develop in students understanding about learning and teaching physics, as well as the attitudes and values that are important for the physics teacher profession.</p> <p>Intended learning outcomes:</p> <ol style="list-style-type: none"> 1. Analyse the cycle of scientific inquiry and explains the concept of physical model. 2. Discuss the aim of learning physics at different educational levels and describe the most important features of physics curricula. 3. Apply the fundamental ideas of cognitive psychology in discussing various aspects of physics teaching and interpret the most important didactic principles. 4. Describe the implementation of selected teaching moves, methods and formats, and analyse various assessment techniques. 5. Compare the didactic potentials of various educational technologies and describe the strategies of implementing experiments and solving problems in physics classrooms. 6. Describe the strategies of planning for physics teaching. 			
Course content				
<p>Didactics and methodics.</p> <p>Quality of education. Trends in education at the local and international level.</p> <p>Knowledge of physics: contents and processes. Evolution of physics. Physics and other disciplines.</p> <p>Nature of physics. Cycle of scientific inquiry. Methods of scientific inquiry in physical sciences.</p> <p>The aim of learning physics. The curriculum concept. Features of a physics curriculum. School-family-community partnership.</p> <p>The psychological foundations of learning and teaching physics. Didactic principles.</p> <p>Language of physics. Development of physics concepts. Preconceptions and misconceptions.</p> <p>Teaching moves, methods and formats.</p> <p>Educational technologies. Facilitating learning through experiments. Facilitating learning through solving problems.</p> <p>Assessing learning outcomes in physics classes.</p> <p>Planning and evaluation of physics teaching.</p> <p>Action research.</p>				
Student workload (hours)		Grading		
Lectures and Exercises	90	Assessment method	Points	
Exam preparation	45	Classroom activities	20	
Assignments	10	Seminar paper	15	
Other	5	Partial exam	25	
Total	150	Final exam	40	
		Total	100	
Literature				
<ol style="list-style-type: none"> 1. Muratović, H., Mešić, V. (2009). <i>Didaktičko-metodički prilozi nastavi fizike</i>. Sarajevo: Prirodno-matematički fakultet. 2. Mešić, V. (2015). <i>Uvod u didaktiku fizike</i>. Sarajevo: Prirodno-matematički fakultet. 3. Bransford, J., Brown, A. L., Cocking, R.R. (2000). <i>How People Learn: Brain, Mind, Experience, and School</i>. Washington: NAP. 				
Remarks				