Study program	Level of the study program		Second cycle	
	Name of the study program		Physics Education	
Course name	PHYSICS EDUCATION III			
Course ID	Semester	Course status	ECTS credits	L+E
PED9611	**I**	**MANDATORY**	**6**	**3+2**
Lecturer	**Prof. dr. Vanes Mešić**			
Aims and intended learning outcomes	The aim of this course is to further develop students' understanding about didactical specifics of learning and teaching mechanics and thermodynamics at the level of primary and secondary school. Intended learning outcomes: 1. Describe common students' difficulties in learning mechanics and thermodynamics. 2. Identify potential sources of students' difficulties in learning mechanics and thermodynamics. 3. Identify and/or create approaches to overcoming students' difficulties in learning mechanics and thermodynamics. 4. Solve challenging (conceptual and quantitative) physics problems.			

Course content

Learning and teaching about kinematics of one-dimensional motion. Learning and teaching about kinematics of two-dimensional motion. Learning and teaching about the concept of force and Newton's laws of motion. Learning and teaching about applications of Newton's laws of motion. Learning and teaching about circular motion and the concept of gravity. Learning and teaching about rotational motion, static equilibrium and elasticity. Learning and teaching about momentum. Learning and teaching about energy, work and power. Learning and teaching about the energy concept in various contexts. Learning and teaching about heat phenomena. Learning and teaching about fluids. Learning and teaching about the concept of oscillation. Learning and teaching about the wave concept. Learning and teaching about superposition of waves and standing waves.

Student workload (hours)		Grading	
Lectures and Exercises	75	Assessment method	Points
Exam preparation	50	Partial exam	40
Assignments	20	Seminar paper	20
Other	5	Final exam	40
Total	150		
		Total	100

Literature

1. Muratović, H., Mešić, V. (2009*). Didaktičko-metodički prilozi nastavi fizike*. Sarajevo: Prirodno-matematički fakultet.
2. Arons, A. B. (1997). Teaching Introductory Physics. New York: John Wiley & Sons, Inc.
3. Knight, R. (2004). Five Easy Lessons: Strategies for Successful Physics Teaching. San Francisco: Addison-Wesley.
4. Selected articles from physics education journals.

Remarks