

Study programme: Master academic studies - Physics Teaching			
Course title: The thematic approach to physics teaching			
Course status: obligatory			
ECTS: 8			
Requirements: none			
Course objective Course objective is a thematic approach to physics teaching and introduction of scientific methods in the classroom. Selected topics will be treated based on the classic experiments combined with simple experiments in order to better understand the role of experiment in process of discovery.			
Course outcomes Upon completion of the course, students should have developed: - <i>General skills:</i> using scientific literature, scientific terminology and experiments related to physics content taught in the individual sciences and in an interdisciplinary approach. - <i>Subject-specific skills:</i> ability to demonstrate physical phenomena and laws related to kinematics, dynamics, heat, optics, sound, electricity, electrical current and magnetism. Understand the role of the experiment, evidence and creative thought in the development of scientific ideas.			
Course description <i>Theoretical classes</i> The thematic approach to physics teaching. Introduction of scientific method in physics teaching. The role of experiment in physics teaching. Implementation of simple experiments in physics teaching. Experiments - a thematic approach (water, air, light, heat, motion, electricity, electrical current, magnetism). Active teaching methods and simple experiments. Integrated approach to teaching physics and natural sciences (chemistry, biology, medicine). <i>Practical classes</i> Experiments suitable to treat topics in mechanics, fluid statics and dynamics, heat, waves and oscillations, sound, optics, electricity and electrical current, magnetism.			
Literature Literature is based on articles in the international and national journals, relevant book chapters, articles prepared especially for this purpose and materials from international and national conferences.			
Number of active classes:		Theoretical classes:	Practical classes:
Teaching methods Scientific method, Monologue – dialogical, Experimental.			
Grading (maximum score 100)			
Pre-exam obligations		Final exam	
points		points	
Activity during lectures		Seminars	60
Practical classes		Oral exam	10