

Study programme(s) Mathematics (MA), Applied Mathematics (MB), Master in Mathematics Teaching (MP)			
Level: master			
Course title: Equations of Mathematical Physics (MB-10)			
Lecturer: Marko Ž. Nedeljkov			
Status: obligatory for MB, module Techno-mathematics, elective for MA and MP			
ECTS: 5			
Requirements: PDEs			
Learning objectives Demonstration of PDE use in physics.			
Learning outcomes Students should understand a modelling procedure and be able to contribute in finding the relevant solutions to some simple problems from the point of view of Physics.			
Syllabus <i>Theoretical instruction</i> Introduction – models from fluid dynamics and then a choice from: compressible models (gas dynamics), non-compressible models (Navier-Stokes), hyperbolic waves (Klein-Gordon, Schroedinger equation), some biology and chemistry models involving PDEs. <i>Practical instruction</i> Examples and student trainings.			
Literature 1. G. B. Whitham, Linear and Nonlinear Waves, II ed. Wiley Interscience, 1999. 2. M. Nedeljkov, Introduction to Nonlinear Wave Models, Szeged-Novi Sad 2011.			
Weekly teaching load			Other: 0
Lectures: 3	Exercises: 1	Other forms of teaching: 0	Student research: 0
Teaching methodology Presentation on blackboard.			
Grading (maximum number of points 100)			
Pre-exam obligations	points	Final exam	points
Colloquia	50	Oral exam	50