

Course Unit Descriptor

Study Programme: MB-Applied mathematics, MA-Matematics			
Course Unit Title: Graph Theory			
Course Unit Code: MA12			
Name of Lecturer(s): Vojislav Petrović			
Type and Level of Studies: Master Academic Degree			
Course Status (compulsory/elective): elective			
Semester (winter/summer): Summer			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 5			
Prerequisites: None			
Course Aims: Basic concepts and proof techniques. Graph algorithms and applications.			
Learning Outcomes: Students are expected to be able to prove most of standard theorems in Graph Theory and to solve related problems.			
Syllabus: <i>Theory</i> Terminology and basic concepts. Trees. Eulerian and Hamiltonian graphs. Matchings. Planar graphs. Graph colorings. Digraphs. <i>Practice</i> Solving various problems using theoretical results.			
Required Reading: 1. J. A. Bondy and U.S.R. Murty, <i>Graph Theory</i> , Series: Graduate Texts in Mathematics, Vol. 244, Springer, 2008. 2. I. Bošnjak, D. Mašulović, V. Petrović, R. Tošić, <i>Zbirka zadataka iz teorije grafova</i> , Univerzitet u Novom Sadu, 2005. 3. G. Chartrand, L. Lesniak, <i>Graphs & Digraphs</i> , Chapman & Hall, London 2005. 4. D. West, <i>Introduction to Graph Theory</i> , Second Edition, Prentice Hall, 2001. 5. V. Petrović, <i>Teorija grafova</i> , Univerzitet u Novom Sadu, 1998.			
Weekly Contact Hours: 4	Lectures: 2		Practical work: 2
Teaching Methods: Classical teaching supported by Powerpoint presentations. Exercises consists of analyzing and solving typical problems. Two written colloquia and final verbal exam.			
Knowledge Assessment (maximum of 100 points): 100			
Pre-exam obligations	points	Final exam	points

Active class participation		written exam	
Colloquia	50	oral exam	50
Preliminary exam(s)		
Seminar(s)			
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			