

Study program		Level of studies	Third cycle			
		Title of the study program		Science and mathematics education		
<b>COURSE</b>						
Course title		<b>Selected chapters of analysis</b>				
Course ID	Semester	Course status	ECTS credits	Contact hours		
PMAT 604	I	Elective	7	60		
Lecturers	Lecturer in charge					
	Other lecturers					
Course aims						
<b>CONTENT</b>						
#	Teaching units	Contact hours				
		L	E/S	C		
	The content of the teaching process for this module is not fixedly formed, but the teacher together with students who choose this module with the aim of deepening their knowledge in the field of "Analysis" selects topics from disciplines for which students express a special interest. Possible disciplines include harmonic analysis (Fourier and wavelet analysis), functional analysis, abstract operators analysis, differential geometry, topological groups and modules, p-adic analysis, special functions, algebraic theory of numbers and other disciplines.	30	30			
<b>LITERATURE</b>			<b>ASSESSMENT OF LEARNING</b>			
<p>The exact choice of literature depends on the choice of topics that students selected for study in consultation with the Teacher. Indicatively, among the recommended literature the following headings are:</p> <p>[1] H. Helson: "Harmonic analysis", 2<sup>nd</sup> ed., 1995</p> <p>[2] Y. Katznelson: "An introduction to harmonic analysis", 3<sup>rd</sup> ed., Cambridge University Press, 2004</p> <p>[3] E. M. Stein, R. Shakarchi: "Fourier analysis. An introduction", Princeton University Press, 2003</p> <p>[4] E. Hernández, G. Weiss: "A first course on wavelets", CRPC, 1996</p> <p>[5] H. Siddiqi: "Applied Functional Analysis", CRC, 2004</p> <p>[6] S. Fučík, J. Nečas, J. Souček, V. Souček: "Spectral Analysis of Nonlinear Operators", Springer, 1973</p> <p>7. B. O'Neill: "Elementary differential geometry", 2<sup>nd</sup> ed., Academic Press 1997</p> <p>[7] J. A. Thorpe: "Elementary topics in differential geometry", Springer 2000</p> <p>[8] Fernando Quadros Gouvea: "p-adic Numbers: An Introduction", 2<sup>nd</sup> ed., Springer 2003</p> <p>[9] D. S. Mitrinović: "Specijalne funkcije"</p> <p>[10] I.N. Stewart, D. O. Tall: "Algebraic Number Theory", 2<sup>nd</sup> ed., Chapman and Hall/CRC Press, 1987</p>			Assessment method	Points	Threshold	
			1.	Partial exams	25	15
			2.	Seminar papers	25	10
			3	Final exam	50	30
			4.			
Total		100	55			