Program		Type of studies (cycle)		Third c	Third cycle			
		Name of the program		SEE D	SEE Doctoral Studies in Mathematical			
				Science	Sciences			
Course								
Course title Topole			ogical dynamical systems					
Course code Semester		Course status		S	ECTS c	redits	Con	tact hours
AMAT 605								30
Teaching staff	Teacher	Prof. Dr. Ser	nada l	ada Kalabušić				
0	Other staff	Doc. Dr. Esmir Pilav					1 • 1	
Course goals The goal of the		le course is to give to the students a basic knowledge about topological						
Course content/tonics								
Discrete dynamical systems Difference equations Population growth model								
Linear dynamical systems								
Maps. Arnold's ca	t map. Baker's m	ap. Circle map. Her	ion m	ap. Horsesho	e map.			
Logistic map. Duf	fing map. Compl	lex quadratic map.			•p,			
Fixed (Equilibrium) points. Periodic points. Graphical iteration and stability. Fixed points for oudaratic family								
Limit sets. <i>a</i> -limit	t set. ω–limit set.	Nonwandering poi	nt. In	variant set	J 1		1	,
Invariant Cantor s	ets for the quadr	atic family.						
Conjugacy and str	uctural stability.	5						
Homeomorphism	s of the circle. Ro	otation number. Exa	mple	s.				
The period doubling 2-cycles 2^2 -cycles Beyond $\mu\infty$								
The period doubli	ng. 2–cycles. 22–	-cycles. Beyond $\mu \infty$						
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