Module	Artificial Life					
MA-INF 4201			T			
Workload	Credit points	Duration	Freque	=		
180 h	6 CP	1 semester	every y	ear		
Module	Prof. Dr. Sven	Behnke				
coordinator						
Lecturer(s)	Prof. Dr. Sven Behnke, Dr. Nils Goerke					
Classification	Programme	a .	Mode	Semest		
	M. Sc. Compu		Optiona			,
Technical skills	Detailed understanding of the most important approaches and					
	principles of artificial life. Knowledge and understanding of the					
	current state of research in the field of artificial life					
Soft skills	Capability to identify the state of the art in artificial life, and to					
	present and defend the found solutions within the exercises in					
	front of a group of students. Critical discussion of the results of					
	the homework.					
Contents	Foundations of artificial life, cellular automata, Conway's "Game					
	of Life"; mechanisms for structural development; foundations of					
	nonlinear dynamical systems, Lindenmeyer-systems,					
	evolutionary methods and genetic algorithms, reinforcement learning, artificial immune systems, adaptive behaviour,					
	self-organising criticality, multi-agent systems, and swarm					
	intelligence, particle swarm optimization.					
Prerequisites	none	Turcie swarm	оринига			
Trerequisites	Teaching forma	t Gro	oup size	h/week	Workload[h]	CP
Format	Lecture		60	$\frac{\mathbf{n}}{2}$	30 T / 45 S	2.5
Tormat	Exercises		30	2	30 T / 75 S	$\begin{vmatrix} 2.5 \\ 3.5 \end{vmatrix}$
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Exam achievements	Written exam (graded Successful exercise participation (not graded					aea)
Study achievements			4:			
	Successful exer			: : C	(not gra	ded)
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