

NAME OF THE COURSE		Distributed systems				
Code	PMIC50	Year of study				
Course teacher	prof.dr. sc. Marko Rosić dr. sc. Tonči Dadić	Credits (ECTS)	5,0			
Associate teachers	Marin Aglič Čuvić mag. educ. inf.	Type of instruction (number of hours)	L	S	E	F
			30		30	
Status of the course		Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	Acquiring fundamental knowledge about distributed computing and related systems. Mastery of fundamental principles related to the application, validation and modelling of distributed systems.					
Course enrolment requirements and entry competences required for the course	None					
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	<ol style="list-style-type: none"> 1. Enumerate the characteristics, advantages and shortcoming of distributed systems 2. Comprehend the software particularities of distributed systems 3. Understand various communication algorithms for distributed systems 4. Understand logical, vector and matrix clocks, along with the motivation behind them 5. Enumerate and comprehend ways for sharing resources and achieving mutual exclusion using various algorithms in a distributed system 6. Describe the peer-to-peer model 					
Course content broken down in detail by weekly class schedule (syllabus)	Lecture on Introduction to distributed systems (2h), definition of distributed systems, advantages and shortcomings of distributed systems (2h), characteristics of distributed systems (2h), resource sharing (2h), hardware settings of distributed systems (3h), operating systems in distributed systems (3h), middleware programs (2h), communication in distributed systems (4h), logical, vector and matrix clocks (4h), mutual exclusion (2h), client-server model (2h), Peer-to-peer networks (2h). Laboratory exercises accompany the lecture topics with the same number of work hours.					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input checked="" type="checkbox"/> exercises <input type="checkbox"/> on line in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work	<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> homework assignments				
Student responsibilities	Lecture and laboratory exercises attendance in accordance with the regulations on studying. The implementation of given laboratory exercises					

Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)	Name	Ects	Name	Ects	Name	Ects
	Class attendance	0.5	Research		Experimental work	
	Oral exam	1	Report		Homework assignments	
	Seminar essay		Essay			
	Tests		Practical training	1.5		
	Written exam	2	Project			
Grading and evaluating student work in class and at the final exam	Class attendance (10%). Written/oral exam (by choice) (90%)					
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	M. Van Steen, A. Tannebaum, Distributed Systems: Principles and Paradigms, Prentice Hall			0		
Optional literature (at the time of submission of study programme proposal)	R. Orfali, D. Harkley, J. Edwards: The Essential Distributed Object Survival Guide, John Wiley					
Quality assurance methods that ensure the acquisition of exit competences	Student consultations, anonymous student survey, exam success, self-analysis					
Other (as the proposer wishes to add)						