Subject code	Credits
INF5022	6

Course title in Lithuanian

PASKIRSTYTI SKAIČIAVIMAI IR DEBESŲ KOMPIUTERIJA

Course title in English

DISTRIBUTED AND CLOUD COMPUTING

Short course annotation in Lithuanian (up to 500 characters)

Kurso tikslas supažindinti su paskirstytų skaičiavimų ir debesų kompiuterijos idėjomis ir technologijomis. Pristatoma techninė įranga, duomenų centrų architektūra. Nagrinėjami programavimo modeliai skirti paskirstytų duomenų apdorojimui: duomenų padalinimas, saugojimo schemos, lygiagretūs ir paskirstyti algoritmai.

Short course annotation in English (up to 500 characters)

The objectives of the course are to indoctrinate ideas and technologies of distributed and cloud computing. Provides understanding of hardware, data centre architecture. Distributed data processing technologies are analysed as well as parallel and distributed algorithms. Student will get able critically evaluate if a given task can be distributed efficiently, to use clouds, will have basic knowledge about distributed systems, will get encouragement critically judge about parallel and distributed solutions offered by others.

Prerequisites for entering the course

Fundamentals of Programming, Analysis of Algorithm, Computer Architecture

Course aim

To indoctrinate ideas and technologies of distributed and cloud computing.

Content

No	Content (topics)
1.	Introduction to distributed and Cloud computing
2.	Parallel computer architecture and efficiency
3.	Grid computing: grids and grid technologies
4.	Cloud computing
5.	Cloud Platform Architectures
6.	Map reduce programming model
7.	Distributed file system
8.	Parallel and distributed algorithms
9.	Peer-to-peer systems
10.	Big Data
11.	Distributed and Cloud computing success stories

Distribution of workload for students (contact and independent work hours)

Lectures	**45 hours**
Laboratory work	**15 hours**
Individual students work	**100 hours**
Total:	**160 hours**

Structure of cumulative score and value of its constituent parts

Final written exam (50%), mid-term written exam (17%), and assessments of laboratory (practical) work (33%).

Recommended reference materials

No.	Publication year	Authors of publication and title	Publishing house	Number of copies in		
				University library	*Self-study rooms*	*Other libraries*
Basic materials						
1.	2011	Distributed and Cloud Computing. From Parallel Processing to the Internet of Things	Morgan Kaufmann			1
2.	2005	R. Čiegis Lygiagretieji algoritmai ir tinklinės technologijos	Technika	Unlimited online content biblioteka.vdu.lt		

Supplementary materials				
1.	2012	Smoot, Stephen R., Private cloud computing consolidation, virtualization, and service-oriented infrastructure	Morgan Kaufmann	Unlimited online content in ScienceDirect
2.	2011	D. Sitaram and G. Manjunath, Moving To The Cloud Developing Apps in the New World of Cloud Computing	Elsevier	Unlimited online content in ScienceDirect

Course programme designed by

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