

<b>Subject code</b>	<b>Credits</b>
INF3001	6

**Course title in Lithuanian**

**KOMPIUTERIŲ TINKLAI**

**Course title in English**

**COMPUTER NETWORKS**

**Short course annotation in Lithuanian (up to 500 characters)**

Kurse supažindinama su pagrindinėmis kompiuterių tinklų sąvokomis, taikymo sritimis, klasifikavimu, architektūra ir protokolais, kompiuterių tinklų projektavimo metodais, diegimo ir palaikymo principais, duomenų perdavimo aplinkomis bei technologijomis, tinklų saugumo užtikrinimu bei valdymu, komunikacinių tinklų vystymosi perspektyvomis.

**Short course annotation in English (up to 500 characters)**

Course introduces main concepts of networking; application areas; classification; network architecture and protocols; computer network design methods, implementation and maintenance principles; data transmission environments and technologies; network security and management; communication networks development perspectives.

**Prerequisites for entering the course**

Computer Architecture and Operating Systems

**Course aim**

The course aim is to provide basic knowledge on computer networks, their design, implementation and operation principles and to develop practical skills working with Riverbed Modeler Academic Edition package and network equipment.

**Content**

No	Content (topics)
1.	Computer networks description, main concepts, application areas, classification
2.	Computer networks architecture, protocols, standards, service types and functions
3.	Computer networks design methods, implementation and maintenance principles
4.	Data transmission environments and technologies, network devices and their characteristics
5.	IP protocol. Addressing and routing in the Internet
6.	UDP and TCP protocols; reliable data transmission, flow and congestion control
7.	Network applications and protocols
8.	Computer networks security
9.	Computer networks management
10.	Communication networks development perspectives

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

<b>Lectures</b>	<b>45 hours</b>
<b>Laboratory work</b>	<b>30 hours</b>
<b>Individual students work</b>	<b>85 hours</b>
<b>Total:</b>	<b>160 hours</b>

**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
<i>Basic materials</i>						
1.	2008	James F. Kurose, Keith W. Ross. Computer Networking: A Top-Down Approach. (4 edition); 6 edition – 2013.	Addison-Wesley		1 (2008)	
2.	2007	Larry L. Peterson, Bruce S. Davie. Computer Networks: A Systems Approach (4 edition)	Morgan Kaufmann Publishers		1	
3.	2011	E.Smirnova,	D-Link		1	

		A.Proletarsky, I.Baskakov, R.Fedotov. Switching Technologies in Modern Ethernet Networks	Academy			
4.	2013	Ivan Marsic. Computer Networks. Performance and Quality of Service	Rutgers University, New Jersey	<a href="http://www.ece.rutgers.edu/~marsic/books/CN/book-CN_marsic.pdf">http://www.ece.rutgers.edu/~marsic/books/CN/book-CN_marsic.pdf</a>		
5.	2002	Andrew S. Tanenbaum. Computer Networks, 4th ed. (5th ed. – 2010)	Prentice Hall PTR		1	
6.	2007	R.Valterytė. Kompiuterių tinklai	VDU	10		
7.	2005	Charles M. Kozierok. TCP/IP guide: a comprehensive, illustrated internet protocols reference	No Starch Press	<a href="http://www.tcpipguide.com/free/index.htm">http://www.tcpipguide.com/free/index.htm</a>		
<b><i>Supplementary materials</i></b>						
1.	2013	Networking Fundamentals	Microsoft Virtual Academy	<a href="https://mva.microsoft.com/en-US/training-courses/networking-fundamentals-8249?l=zcmNgKKy_1704984382">https://mva.microsoft.com/en-US/training-courses/networking-fundamentals-8249?l=zcmNgKKy_1704984382</a>		

**Course programme designed by**

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