



### RTU Course "Computer Networks"

12216 Department of Computer Networks and Systems Technology

#### General data

Code	DOP319
Course title	Computer Networks
Course status in the programme	Compulsory/Courses of Limited Choice
Course level	Undergraduate Studies
Course type	Academic
Field of study	Computer Science
Responsible instructor	Valerijs Zagurskis
Academic staff	Igors Ščukins Andrejs Grigorjevs Romāns Taranovs Aigars Riekstiņš Dmitrijs Bļizņuks Gundars Miežītis
Volume of the course: parts and credits points	1 part, 3.0 Credit Points, 4.5 ECTS credits
Language of instruction	LV, EN, DE
Annotation	Computer networks and computer technology. ISO OSI model. Local networks and their communication. Organization of network working places, communication channels, modems. Basic network services. Electronic mailing systems. Addressing in electronic mailing systems, office management on the basis of electronic mail. Design of network working place.
Goals and objectives of the course in terms of competences and skills	To train specialists, who can implement, develop, and analyse solutions based on computer network technologies to enhance the development of various processes
Structure and tasks of independent studies	Requirements for students to prepare for practical classes: Before conducting laboratory assignments a student must write the theoretical part of the laboratory report with the notes regarding results. Before the next lecture it is recommended repeating material from a previous lecture to be able to actively participate in classroom discussions.
Recommended literature	1. V.Zagurskis.RTU, Datorzinātnes u informācijas tehnoloģijas fakultāte (DITF), Datoru tīklu un sistēmu katedra (DTS TK). Mācību un pārbaudīšanas līdzekļi Datoru tīklii, 2005. ESF projekts Nr.0125/VPDI/ESF/PIAA/04/APK3.3.3.3./0062/0007.
Course prerequisites	Introductory courses to computer science

#### Course outline

Theme	Hours
Open system interconnection reference model	3
Internetworking basics	3
Network routing basics	2
Network management basics	2
Introduction to local network protocols	4
Fiber distributed data interface	2
Introduction to global network technologies	2
Global and group addressing	4
Internet protocols	4
Asynchronous transfer mode (ATM)	2
Transparent network integration	2
Integration of different media	2
Introduction to network management	4
Types of wireless networks	4
Virtual private networks	4
Client-server technologies	4

#### Learning outcomes and assessment

Learning outcomes	Assessment methods
Able to discuss the basic principles of computer networks, their main advantages and limitations, to demonstrate the understanding of infrastructure elements and technology life cycles.	Positively assessed written examination that includes both theoretical questions and case studies
Able to access the necessity for network implementation (non-implementation) depending on the type of production (business) process.	Positively assessed practical (laboratory) assignment.
By means of corresponding tools, a student is able to use ready-made methods and models to choose the methods relevant to the aims set.	Positively assessed practical (laboratory) assignment.

**Study subject structure**

Part	CP	Hours per Week			Tests		
		Lectures	Practical	Lab.	Test	Exam	Work
1.	3.0	2.0	0.0	1.0		*	