



MODULE DESCRIPTION

Module title	Module code
Computer Networks for Professionals II	

Lecturer(s)	Department where the module is delivered
Coordinator: Eduardas Kutka Other lecturers:	Department of Computer Science II Faculty of Mathematics and Informatics Vilnius University

Cycle	Type of the module
First	Optional

Mode of delivery	Semester or period when the module is delivered	Language of instruction
Face-to-face	7th semester	Lithuanian and English

Prerequisites
Prerequisites: Computer networks for Professionals I

Number of credits allocated	Student's workload	Contact hours	Self-study hours
5	130	66	64

Purpose of the module: programme competences to be developed		
Purpose of the module – to increase knowledge of computer networks. Learn to design and maintain switching in a complex computer network and to solve problems. Generic competences: <ul style="list-style-type: none"> • Communication and collaboration (<i>GK1</i>). • Life-long learning (<i>GK2</i>). Specific competences: <ul style="list-style-type: none"> • Knowledge and skills of underlying conceptual basis (<i>SK4</i>). • Technological and methodological knowledge and skills, professional competence (<i>SK6</i>). 		
Learning outcomes of the module: students will be able to	Teaching and learning methods	Assessment methods
An ability to present, information, ideas, problems, and suggested solutions about complex computer network switching convincingly in official and second (foreign) language for specialists and non-specialists in written and verbal form.	Literature reading, Analysis of examples, Consulting Preparation of project, Preparation of presentation, Problem solving	Defense of Project, Tests, Topic Presentation, Final exam.
Recognition of the need for, and engagement in life-long learning using literature and other information sources.		
An ability independently to acquire new knowledge, methodologies, and tools and to apply them in practice.		
An ability to apply computer science theory, and algorithmic principles in development of complex computer networks.		
An ability to combine theory and practice in designing, maintaining and troubleshooting of a complex computer networks, evaluating the technological, economic, social and legal context.		
Ability to use existing computer network hardware and software, identify, understand and apply the newest technologies in planning, designing and implementing complex computer networks.		

Content: breakdown of the topics	Contact hours						Self-study work: time and assignments		
	Lectures	Tutorials	Seminars	Practice	Laboratory work (LW)	Tutorial during LW	Contact hours	Self-study hours	Assignments
Analyzing the Cisco Enterprise Campus Architecture	2				2		4	2	
Implementing VLANs and STP in a Campus Network	5				4	2	9	5	
Inter-VLAN Routing and Multilayer Switching Implementing High Availability and Redundancy in a Campus Network	5				4		9	5	
Implementing Security in the Enterprise Network Preparing the Campus Infrastructure for Advanced Service	3,5				3,5		7	4	
Planning Maintenance for Complex Networks Troubleshooting Processes for Complex Enterprise Networks Using Maintenance & Troubleshooting Tools and Applications	3,5				3,5	2	7	4	
Maintaining and Troubleshooting Campus Switched Solutions Maintaining and Troubleshooting Routing Solutions	5				4		9	5	
Troubleshooting Addressing Services Troubleshooting Network Performance Issues Troubleshooting Converged Networks	4				3		7	4	
Maintaining and Troubleshooting Network Security Implementations Review and Preparation for Troubleshooting Complex Enterprise Networks	4				3	2	7	4	
Project					5	3	5	31	
Taking Final exam							2		
Total	32				32	9	66	64	

Assessment strategy	Weight %	Deadline	Assessment criteria
3 Tests (virtual learning environment)	25%	8 th , 12 th , 15 th week of the semester	Tests in virtual learning environment. Complete or partial correctness of responses.
Project	30%	During the semester	Compliance with the requirements, the ability to argue decisions, answering questions, make minor changes. Middle sized project can be made by one student; large project can be made by 2-4 student groups.
Topic presentation	10%	During the semester	Ability to prepare slides, fluent language, answering questions
Final exam	35%	During exam session	Tests in virtual learning environment. Complete or partial correctness of responses

Author	Publishing year	Title	Number or volume	Publisher or URL
Required reading				
Wendell Odom, David Hucaby, Kevin Wallace	2010	CCNP Routing and Switching Official Certification Library		Cisco Press
Recommended reading				
Andrew S. Tanenbaum, David J. Wetherall.	2011	Computer networks	5th ed.	Pearson, 2011
D.Teare, R.Froom, B.Sivasubramanian, E.Frahim, A.Ranjbar.	2010	CCNP Routing and Switching Foundation Learning Library		Cisco Press