



# MEĐIMURSKO VELEUČILIŠTE U ČAKOVCU

## MEĐIMURJE UNIVERSITY OF APPLIED SCIENCES IN ČAKOVEC

### COURSE SYLLABUS

ACADEMIC YEAR: 2025/2026

#### 1. GENERAL COURSE INFORMATION

<b>1.1 Course name</b>	<b>Computer networks administration</b>			
<b>1.2 Study program/s</b>	Professional undergraduate study in Computer Engineering			
<b>1.3 Course status (O,E)</b>	E	<b>1.6 Mode of instruction (number of hours)</b>	<b>Lectures</b>	15
<b>1.4 Course code</b>			<b>Exercises</b>	45
<b>1.5 Course abbreviation</b>			<b>Seminars</b>	
<b>1.6 Semester</b>	V		<b>E-learning</b>	Merlin
<b>1.7 ECTS</b>	5	<b>1.7 Place and time of instruction</b>	The premises of the Međimurje University of Applied Sciences in Čakovec, according to the schedule published on the website	

#### 2. TEACHING STAFF

<b>2.1 Course leader/s-title</b>	Jurica Trstenjak, senior lecturer	<b>contact</b>	jtrstenjak@mev.hr
		<b>contact</b>	
<b>2.2 Assistant/s- title</b>		<b>contact</b>	
		<b>contact</b>	
<b>2.3 Instruction held by- title</b>	Jurica Trstenjak, senior lecturer	<b>contact</b>	jtrstenjak@mev.hr
<b>2.4 Course leader/s-title</b>		<b>contact</b>	

#### 3. COURSE DESCRIPTION

<b>3.1. Course goals</b>	The goal of the course is to master the concepts of administration and management of moderately complex computer networks.								
<b>3.2 Prerequisites</b>	There are no prerequisites for enrolling or finishing the course.								
<b>3.3 Course outcomes</b>	After successfully completing the course, students will be able to: I1 - Apply the use of CLI to configure the router I2 - Apply the use of CLI to configure the switch I3 - Compare the advantages and disadvantages of using VLANs I4 - Explain how are DHCP and DNS protocols used I5 - List the advantages and disadvantages of static and dynamic routing								
<b>3.4 Contribution of the course to the study program</b>	<b>IS10</b> Distinguish types and communication protocols of computer networks <b>IS18</b> Apply standards, methods, and techniques to analyse security threats and defend against them <b>IS19</b> Use tools and methods for planning, building, and maintaining computer networks based on wired or wireless communication media <b>IS20</b> Install, configure, and manage specific operating systems and network services in complex network environments								
<b>3.5 Course content</b>	The course prepares students to work on moderately complex computer networks using advanced device administration methods and moderately complex network topologies.								
<b>3.6 Types of coursework</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center;">x</td> <td style="width: 25%; text-align: center;">Lectures</td> <td style="width: 25%; text-align: center;">x</td> <td style="width: 25%; text-align: center;">Exercises</td> <td style="width: 25%; text-align: center;">Blended e-learning</td> <td style="width: 25%; text-align: center;">x</td> <td style="width: 25%; text-align: center;">Individual activities</td> <td style="width: 25%; text-align: center;">Laboratory</td> </tr> </table>	x	Lectures	x	Exercises	Blended e-learning	x	Individual activities	Laboratory
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		Seminars and workshops	x	Distant learning		Field classes		Multimedia and network		Mentorship																																																	
		Other																																																									
<b>3.7 Language of instruction</b>	Croatian																																																										
<b>3.8 Monitoring students' work (enter the number of ECTS credits for each activity so that the total number of ECTS credits is equal to the total ECTS value of the course, 1 ECTS = 30 hours)</b>	2,0	Class attendance		Seminars		Research																																																					
	1,0	Midterm exams/written exam		Project		Essay																																																					
		Oral exam	2,0	Practical task																																																							
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<b>3.9 Specific features related to taking the course</b>	<p>For a student to pass the course, he/she must earn a minimum of 50% of the points available for that learning outcome for EACH learning outcome. The final grade is obtained on the exam period and is the sum of points earned during classes. Students who did not complete the midterm exam must attend the oral exam where all learning outcomes are checked.</p>																																																										
<b>3.10 Students obligations</b>	<ul style="list-style-type: none"> <li>a full-time student has the right to sit for the exam if he attends classes for a minimum of 70% of the total prescribed number of hours</li> <li>a full-time student who attends classes from 50 to 70% of the total prescribed number of hours can exercise the right to take the exam by completing additional teaching activities in agreement with the course teacher</li> <li>a full-time student who attends a certain course for less than 50% of the prescribed number of hours enrolls in the course the following academic year</li> <li>a part-time student has the right to sit for the exam if he/she attends classes for a minimum of 30% of the total prescribed number of hours</li> <li>a part-time student who attends classes for 20 to 30% of the total prescribed number of hours can exercise the right to sit for the exam</li> </ul>																																																										

		<p>by completing additional teaching activities in agreement with the course teacher</p> <ul style="list-style-type: none"> <li>a part-time student who attends the classes of a certain course for less than 20% of the prescribed number of hours re-enrolls in the course the following academic year</li> </ul>
<b>3.11 Written assignments</b>		
<b>3.12 Required reading</b>	1	Računalne mreže, O. Jukić, I. Heđi, Visoke škole za menadžment u turizmu i informatici u Virovitici (2012)
<b>3.13 Additional reading</b>	1	Wendell Odom: CCNA 200-301 Official Cert Guide, Volume 1 (2019.)

#### 4. ADDITIONAL INFORMATION ABOUT THE COURSE

<b>4.1 Quality control</b>	The quality of the program, teaching process, teaching skills and level of mastery of the material will be established by conducting a written evaluation based on questionnaires, and in other standardised ways and in accordance with the by-laws of the Međimurje University of Applied Sciences in Čakovec.
<b>4.2 Contact the teacher</b>	Students can contact the teacher during the office hours and during classes. All other methods of communication are arranged with the teacher. It is also possible to ask questions by e-mail, which will be answered in 48 hours at the latest. It is desirable for students to come as often as possible for any possible questions during the teacher's office hours.
<b>4.3 Information about the course</b>	It is the obligation of each student to be regularly informed about the course. All notifications about the classes or possible postponement of classes will be posted on the bulletin board and on the website of the University at least 24 hours in advance.

#### 5. ELABORATION OF THEMATIC UNITS

Week	Topic	Course outcome
1.	Introduction to course and software tools used	O1
2.	Introduction to CLI	O1
3.	Overview of basic commands	O1
4.	Basic configuration of router	O1
5.	Assigning IP addresses and static routes	O1
6.	Introduction to VLANs	O2
7.	VLAN on switches	O2
8.	VLAN on routers	O2
9.	VLAN in complex network	O2
10.	Introduction to DHCP	O3
11.	Configuration of DHCP server	O3
12.	Introduction to dynamic routing protocols	O4
13.	OSPF protocol	O4
14.	Preparation for the midterm exam	
15.	Midterm exam	