Basic data of the subject	
University:	**University of Applied Sciences in Ferizaj**
Academic unit:	**Faculty of Engineering and Informatics**
Program:	**Applied Informatics**
Title of the subject:	**Connecting Computer Networks**
Level:	**Bachelor**
Course Status:	**Elective**
Year of studies:	**III, Semester VI**
Number of hours per week:	**3**
Value of Credits - ECTS:	**5**
Time / location:	
Course lecturer:	
Contact details:	
Course Description:	*This course provides students with theoretical and practical knowledge configuring global networks. Delves into the internal LAN connection to the external WAN networks. Learning to configure PPP, Frame Relay, ANT, VPN. Different methods of NAT broadcasting are tested. Learning to troubleshoot Serial Links.*
Objectives of the course:	*Aim of the course – learn to troubleshoot links, configure PAP and CHAP, PPP, Frame Relay, find out principle of NAT, configure static and dynamic NAT and configure the VPN.*
Expected learning outcomes:	*Upon successful completion of this course, student will be able to:* • *Configure, diagnose and eliminate the problems of global networks.* • *Defines NAT methods of translation.* • *Configure VPN according to the requirements.* • *Find a suitable command to configure network equipment.* • *Use network monitoring methods.* • *Identifies network faults and removes it.* • *Self-study using Netacad environment.*
Prerequisites:	*Basic knowledge in the field of computer networks and network protocols. Students should have basic knowledge of configuring local area networks (LAN) and general knowledge of wide area networks (WAN). Knowledge of various network connection protocols such as PPP, Frame Relay, ANT, and VPN is also necessary. Understanding natural transmission (NAT) concepts and diagnosing serial connections are also important prerequisites to benefit from this course.*

Contribution to the student load (which must correspond with learning outcomes)			
Activity	**Hour**	**Day/Week**	**In total**

Lectures with numerical exercises	3	15	45
Internship			
Contacts with teacher / consultations			
Field exercises			
Midterm, seminars and projects.	3	2	6
Homework			
Self-learning time student (at the library or at home)	3	15	45
Final preparation for the exam	7	2	14
Time spent on evaluation (tests, quiz and final exam)			
Projects and presentations.	3	5	15
Total			**125**

Teaching methodology:	*The course takes 15 weeks with 1.5 hours of lectures and 1.5 hours weekly individual and group exercises.* *Exercises will be held in the form of individual and group work in which concrete examples will be discussed.* *Active participation is extremely important so students are encouraged to attend lectures and exercises regularly and contribute to the discussions that take place in lectures. Lectures, exercise, individual work, discussions and group work.*
Assessment methods:	*The student can choose to be assessed one of the two forms of assessment, given below:* *1. Form 1: Evaluation with colloquiums and project* *2. Form 2: Evaluation with the final exam.* ***Form 1:*** *In the first form of assessment "Assessment with colloquiums and project" the student is assessed in four activities that are carried out during the lectures:* *1. Colloquium 1 (35%), individual assessment* *2. Colloquium 2 (35%), individual assessment* *3. Class activity (10%), individual assessment* *4. Project (20%), group assessment.* *If the student is not satisfied with the assessment achieved according to form 1, then he can undergo the assessment according to form 2 to obtain a higher assessment.* ***Form 2:*** *Through the final exam, the student can achieve a maximum of 70% of the points from the total of 100 points.* *The rest of the 20% points must be completed by group work in the Project, an activity carried out during the lectures.*

	In Colloquium 1, Colloquium 2 and the final exam, the evaluation of the students will be done through an evaluation form, which must be completed individually by the student. The evaluation form will contain 5 tasks through which the student's learning outcomes will be evaluated. *Activity in the class means the student's engagement in dealing with the issues discussed in the class, during the lectures.* *Project (20%), group assessment: it is an activity in which students apply the acquired knowledge in a concrete project. It is carried out in groups of 3 or 4 students who are obliged to carry out the activity, document and present it to the subject professor.* ***Rating:*** *91-100 points – graded 10 (ten)* *81-90 points – graded 9 (nine)* *71-80 points – grade 8 (eight)* *61-70 points – grade 7 (seven)* *51-60 points – grade 6 (six)* *0-50 points – The student repeats the exam*
The ratio of theory and practice:	*70% theory with exercises and 30% laboratory work.*
Literature	
Basic Literature:	1. *Balchunas (2013) Cisco CCNA Study Guide. 304 p.* 2. *Cisco material in NETACAD system.*
Additional Literature:	A. *T. Lammle (2013) CCNA Routing and Switching Study Guide. 1178 p.*
Designed learning plan	
Week:	**Lectures and exercises to be held**
Week one:	*Introduction*
Week two:	*Global Networks.*
Week three:	*WAN Technology.*
Week four:	*Hierarchical Network Design.*
Week five:	*Connect to WAN.*
Week six:	*Point to point connection.*
Week seven:	*Test 1*
Week eight:	*Frame Retransmission.*
Week nine:	*The network address translation IPv4.*
Week ten:	*Broadband Solutions.*
Week eleven:	*Securing site to site links.*
Week twelve:	*Network Monitoring.*
Week thirteen:	*Network Troubleshooting.*
Week fourteen:	*Network Troubleshooting (continued).*
Week fifteen:	*Test 2*
Academic policies and rules of conduct	

Regular attendance of lectures and exercises is necessary, as well as active participation with discussion and solution of tasks. Not impeding the progress required for learning using mobile phones turned off or in silent mode.