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:	**Computer Network Security**
Level:	**Bachelor**
Course Status:	**Elective**
Year of studies:	**III, Semester V**
Number of hours per week:	**3**
Value of Credits - ECTS:	**5**
Time / location:	
Course lecturer:	
Contact details:	
Course Description:	*This course provides students with the knowledge of computer network security. The course provides an overview of the values and principles of safety, malicious attacks and the most commonly used authentication protocols. The relevant encryption technology and the use of the TCP / IP protocol violations and measures to ensure data security with VPN and IPsec protocols. Students are introduced to a variety of communication media and possible threats. The recommendations are learned which helps to prevent system malfunctions caused by technical failure or other unforeseen events.*
Objectives of the course:	*Aim of the course - to provide the knowledge and skills to guarantee safety of computer network. Students must be able to select the most appropriate telecommunication and computer network technology, and configure basic network settings.*
Expected learning outcomes:	*Upon successful completion of this course, student will be able to:* • *Configure, diagnose and eliminate network security breaches and failure.* • *Find a suitable command to configure network equipment.* • *Ensure the security of the VPN.* • *Ensure network security against information leaks and hacking.* • *Self-study using Netacad environment.*
Prerequisites:	*Basic knowledge of computer networks, computer security, TCP/IP network protocols, use of network equipment, and knowledge of the Netacad environment for practice.*

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. *A. Balchunas (2013) Cisco CCNA Study Guide. 304 p. Cisco material in NETACAD system.*
Additional Literature:	2. *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:	*Switching and Switches.*
Week three:	*Switching and Switches (continued).*
Week four:	*Spanning Tree Protocol (continued).*
Week five:	*Spanning Tree Protocol (continued).*
Week six:	*Spanning Tree Protocol (continued).*
Week seven:	*Laboratory work No. 1: Virtual LAN and VTP.*
Week eight:	*Network security.*
Week nine:	*Network security (continued).*
Week ten:	*Network security (continued).*
Week eleven:	*Network Address Translation.*
Week twelve:	*Network Address Translation (continued).*
Week thirteen:	*Network Address Translation (continued).*
Week fourteen:	*Network Address Translation (continued).*
Week fifteen:	*Laboratory work No. 2: Access Lists.*
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.