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:	**Operating Systems**
Level:	**Bachelor**
Course Status:	**Obligatory**
Year of studies:	**II, Semester III**
Number of hours per week:	**3**
Value of Credits - ECTS:	**5**
Time / location:	
Course lecturer:	
Contact details:	
Course Description:	*The aim of the Classic and modern OS course is to provide students with the basic knowledge of operating systems and files, to develop an integrated view of software and hardware connections including emerging software compatibility issues. The students develop cognitive abilities to understand new technologies theoretically, to perform data search, to use databases and other resources. During the practice the students consolidate practical skills in solving the problems with the selection of operating systems (Windows, UNIX, RTOS, etc.) and its maintenance, administration, systematic and applied processes and memory control objectives, the organization of input-output data and the security of information systems.*
Objectives of the course:	*The purpose of this course is to provide students with the knowledge of architecture of computer operating systems, organization fundamentals of file systems, to develop an integrated view of software and hardware connections including software compatibility and security issues.*
Expected learning outcomes:	*Upon successful completion of this course, student will be able to:* • *Know and explain the basic concepts associated with the OS.* • *Have ability to list classic, contemporary, modern, mobile and virtual OS and is able to explain the essential differences between them.* • *Install and configure the operating system.* • *Identify the OS fault and eliminate them.* • *Have ability to work in a team, and to interact and communicate with other IT professionals.*
Prerequisites:	*Basic knowledge of operating systems and files.*
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 two tests and the Project* *2. Form 2: Evaluation of the final exam.* ***Form 1:*** *In the first form of assessment "Assessment with two tests and project" the student is assessed in four activities that are carried out during the lectures:* *1. Test 1 (30%), individual assessment* *2. Test 2 (30%), individual assessment* *3. Class activity (10%), individual assessment* *4. Project (30%), group assessment.* ***Additional clarification:*** *If the student in each activity above reaches the maximum points, then he will be evaluated with 100 points.* *Students who pass the exam according to Form 1 of the assessment, are released from the obligation to take the final exam. Only if the student is not satisfied with the grade*

	achieved according to form 1, then he can undergo the final exam to obtain a higher grade. ***Form 2:*** *In the second form of evaluation, "Evaluation with the final exam", the student will undergo the exam which will be held after the end of the course lectures and is organized in the exam deadlines, determined by the University Senate.* *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 30% points must be completed through group work on the Project, an activity carried out during the lectures.* *In Test 1, Test 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 objective and subjective questions through which the student's learning outcomes will be evaluated:* • *The objective questions will be of the following types: (1) Multiple choice questions, (2) True/False, (3) Completion, and (4) Composition/Matching; questions that will be used to assess the student's abilities to recall and recognize the concepts and material of the course.* • *The subjective questions will be of the Essay/written task type that will be used to assess the student's understanding and abilities to apply the knowledge gained in the analysis, synthesis, and evaluation of the problem, from the answers prepared by the student to the question of submitting.* *Activity in the class means the student's engagement in dealing with the issues discussed in the class, during the lectures* *Project (30%), group assessment: it is an activity in which students apply the acquired knowledge in a concrete project. It is carried out in groups of 2 or 3 students who are obliged to carry out the activity, document it, and present it to the subject professor.* *For the form of realism and documentation of the activity, all members of the group will be evaluated with the same point (20%), while the evaluation of the presentation skills of the activity is individual and includes 10%.*

	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. *Abraham Silberschatz, Peter Baer Galvin dhe Greg Gagne, (2018), "Operating System Concepts", 10th Edition*
Additional Literature:	2. *Andrew S. Tanenbaum, Herbert Bos. (2015) Modern Operating Systems: 4th Edition, Prentice Hall.*
Designed learning plan	
Week:	**Lectures and exercises to be held**
Week one:	*Review of Classic Operating Systems.*
Week two:	*Process interaction and addressing.*
Week three:	*Process interaction and addressing (continued)*
Week four:	*Process status and distribution.*
Week five:	*Classic OS resource management.*
Week six:	*Classic OS resource management (continued)*
Week seven:	*Test 1*
Week eight:	*Modern Operating System elements.*
Week nine:	*Modern Operating System elements (continued).*
Week ten:	*Mobile Operating Systems.*
Week eleven:	*Mobile Operating Systems (continued).*
Week twelve:	*Virtual Operating Systems.*
Week thirteen:	*Virtual Operating Systems (continued).*
Week fourteen:	*Modern Operating Systems.*
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.	