

Basic data of the subject			
Academic unit:	Faculty of Engineering and Informatics Applied Informatics		
Title of the subject:	Operating Systems		
Level:	Bachelor		
Course Status:	Obligatory		
Year of studies:	II		
Number of hours per week:	3		
Value of Credits - ECTS:	5		
Time / location:			
Course lecturer:	Prof.Ass.Dr.Fakije Zejnnullahu		
Contact details:	<a href="mailto:Fakije.zejnnullahu@ushaf.net">Fakije.zejnnullahu@ushaf.net</a>		
Course Description:	<p><i>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.</i></p>		
Objectives of the course:	<p><i>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.</i></p>		
Expected learning outcomes:	<p><i>Upon successful completion of this course, student will be able to:</i></p> <ul style="list-style-type: none"> <li>• <i>Know and explain the basic concepts associated with the OS.</i></li> <li>• <i>Have ability to list classic, contemporary, modern, mobile and virtual OS and is able to explain the essential differences between them.</i></li> <li>• <i>Install and configure the operating system.</i></li> <li>• <i>Identify the OS fault and eliminate them.</i></li> <li>• <i>Have ability to work in a team, and to interact and communicate with other IT professionals.</i></li> </ul>		
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
<b>Total</b>			<b>125</b>
<b>Teaching methodology:</b>	<p><i>The course takes 15 weeks with 2 hours of lectures and 2 hours weekly individual and group exercises.</i></p> <p><i>Exercises will be held in the form of individual and group work in which concrete examples will be discussed.</i></p> <p><i>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.</i></p>		
<b>Assessment methods:</b>	<p><i>Test 1, Test 2, Attendance and Activity.</i></p> <p><i>Final exam: 100%</i></p>		
<b>The ratio of theory and practice:</b>	<p><i>70% theory with exercises and 30% laboratory work.</i></p>		
<b>Literature</b>			
<b>Basic Literature:</b>	<p><i>1. Abraham Silberschatz, Peter Baer Galvin dhe Greg Gagne, (2018), "Operating System Concepts", 10th Edition</i></p>		
<b>Additional Literature:</b>	<p><i>2. Andrew S. Tanenbaum, Herbert Bos. (2015) Modern Operating Systems: 4th Edition, Prentice Hall.</i></p>		
<b>Designed learning plan</b>			
<b>Week:</b>	<b>Lectures and exercises to be held</b>		
<b>Week one:</b>	<i>Review of Classic Operating Systems.</i>		
<b>Week two:</b>	<i>Process interaction and addressing.</i>		
<b>Week three:</b>	<i>Process interaction and addressing (continued)</i>		
<b>Week four:</b>	<i>Process status and distribution.</i>		
<b>Week five:</b>	<i>Classic OS resource management.</i>		
<b>Week six:</b>	<i>Classic OS resource management (continued)</i>		
<b>Week seven:</b>	<i>Test 1</i>		
<b>Week eight:</b>	<i>Modern Operating System elements.</i>		
<b>Week nine:</b>	<i>Modern Operating System elements (continued).</i>		
<b>Week ten:</b>	<i>Mobile Operating Systems.</i>		
<b>Week eleven:</b>	<i>Mobile Operating Systems (continued).</i>		

<b>Week twelve:</b>	<i>Virtual Operating Systems.</i>
<b>Week thirteen:</b>	<i>Virtual Operating Systems (continued).</i>
<b>Week fourteen:</b>	<i>Modern Operating Systems.</i>
<b>Week fifteen:</b>	<i>Test 2</i>
<b>Academic policies and rules of conduct</b>	
<i>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.</i>	