UNIVERSITETI "KADRI ZEKA" UNIVERSITY

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SYLLABUS

Course: **Operating systems and computer architecture**

Basic information of the course	
Academic unit:	**FAS**
Course Title:	**Operating systems and computer architecture**
Level:	**Bachelor**
Program:	**Mathematic Education**
Course status:	**Obligatory**
Academic year:	**2019/2020**
Year of study:	**Year I, Semester II**
Number of hours per week:	**2+2**
Credits – ECTS:	**5 ECTS**
Timer / Location:	
Professor of subject:	**Prof. Ass. Dr.**
Contact details:	
Description, Objectives and expected resultes	
Course description:	The course aims at acquiring knowledge about computer architecture. By recognizing basic computer equipment, students need to acquire knowledge about mutual co-operation between different components. Learn from the principles of synchronization and communication processes. Obtain knowledge of administration, configuration and use of standard operating systems based on Windows and Unix. Learn the new services that are used in operating systems and the implementation of software management systems processes. This course is designed to provide core concepts of computer architecture and operating systems, including Instruction Set Architecture (SNA), compilation / ISA relationships, memory hierarchy, memory management, and protection. Processes, threads, CPU, synchronization, file system and accompanying techniques.
Objectives of the course:	The purpose of this course is to help students understand the principles of design and implementation of the operating system, providing the basics of internal operations for modern operating systems as well as the elements that make up the computing architecture.
Expected learning outcomes:	Knowledge and understanding: Knowledge of computer architecture and operating systems Application: Students with this course receive the basic fundamentals for computer building and programs that guide them as being the operating systems .. Reflects: Increases the level of recognition of the components that make up the computer and the system-driven computer program.

Student contribution			
Activity	**Hours**	**Day / Week**	**Total**
Lectures	2	15	30
Theoretical exercises / laboratory	2	15	30
Contacts with teacher / consultations	1	15	15
Collocfiums, seminars	2	3	6
Homework	1	15	15
Self-learning time student (at the library or at home)	2	15	30
Final preparation for the exam	5	1	5
Time spent on assessment (tests, final exam)	4	1	30
Projects, seminars, presentations, etc.	5	2	10
Total			**145**
145:25≈5 ECTS.			

Teaching methodology and assessment methods	
Teaching methodology:	**Regular lessons, lectures, consultations, discussions, individual independent work, term papers (homework), presentations.**
Methods of assessment:	**The exam consists of a written part and the oral part.** **The assessment is based on the following activities:** **Participation and engagement in hours (10%)** **(Koll.) Test 1-35% (written examination)** **(Koll.) Test 2-35% (written examination)** **Seminar papers (individual independent work) - 20%** **Final exam:** **90% (for those who do not pass kollokfiumet).** **Points Score** **91-100 10** **81-90 9** **71-80 8** **61-70 7** **51-60 6**
Literature	
Base literature:	• Linda Null, Julia Lobur, The essentials of computer organization and architecture, 2010. • Computer Organization and Design, Fifth Edition: The Hardware/Software Interface (The Morgan Kaufmann Series in Computer Architecture and Design) 5th Edition by David A. Patterson (Author), John L. Hennessy (Author)
Designed teaching plan:	
Week	**The lecture to be held**
I - week :	**Computer architecture.**
II - week :	**Basic computer equipment, mutual cooperation between various components.**
***III - week*:**	**Principles of synchronization and communication processes.**
IV - week :	**Administer, configure and use standard operating systems based on DOS, Windows and Unix.**
V - week:	**New services used in operating systems and application of management systems software processes.**
VI- week	**Main concepts of computer architecture and operating systems, including Architecture Instruction Set (SNA),**
VII-week	**Compilation Relationships / ISA,**

VIII-week	**The first colloquium.**
IX-week	**Types and hierarchy of memory**
X-week	**Memory management, and protection.**
XI-week	**CPU**
XII-week	**Processes**
XIII-week	**Threads**
XIV-week	**Synchronization, file system and accompanying techniques**
XV-week	**The second colloquium.**
Academic policies and rules of etiquette:	
Regular attendance of students assessed with 10 points, **- Students are free to ask questions and active participation in all teaching activity.** **- They are not allowed cell phones, late arrival or departure from the class without reason.** **- Plagiarism and copying in exams are penalized under the statute and other regulations of the university.** **- The Code of conduct applies to both students and teachers.**	