Basic data of the subject	
Academic unit:	**Faculty of Engineering and Informatics** **Applied Informatics**
Title of the subject:	**Computer Architecture**
Level:	**Bachelor**
Course Status:	**Obligatory**
Year of studies:	**I**
Number of hours per week:	**3**
Value of Credits - ECTS:	**5**
Time / location:	
Course lecturer:	**Prof.Ass.Dr.Fakije Zejnullahu**
Contact details:	Fakije.zejnullahu@ushaf.net
Course Description:	*The subject of computer architecture provides knowledge about physical, logical and programming level of computer architecture. The students are familiarized with microprocessors of the computers, sub-systems of memory and input-output, the creation technicalities of controllers and drivers for exterior devices. The students are taught how to solve the computer architecture tasks by applying various methods of analysis, programming and testing (lab works, modelling, prototyping, etc.).*
Objectives of the course:	*The purpose of the study subject is to familiarize the students with physical, logical and programming level of computer architecture, microprocessors of the computers, sub-systems of memory and input-output, the creation technicalities of controllers and drivers for exterior devices and to teach the students how to apply analysis of solutions, programming and testing methods of computer architecture.*
Expected learning outcomes:	*Upon successful completion of this course, student will be able to:* • *Know and to use modern computer architecture elements and systems development and maintenance tools (programs).* • *Know how to explain the varying complexity of the hardware function, principles of operation and features.* • *Acquired skills to specify, design of computer architecture components according to customer requirements, apply the latest standards.* • *Acquired skills to create and install the microprocessor software.* • *Self-study visual material, examine samples.*

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 2 hours of lectures and 2 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:	*Test 1, Test 2, Attendance and Activity.* *Final exam: 100%*
The ratio of theory and practice:	*70% theory with exercises and 30% laboratory work.*
Literature	
Basic Literature:	1. *William Stallings. (2016) Computer Organization and Architecture: Designing for Performance. 10th ed., MacMillan.*
Additional Literature:	2. *Provided by Tutor.*
Designed learning plan	
Week:	**Lectures and exercises to be held**
Week one:	*Introductory lecture.*
Week two:	*The computer system resources organization.*
Week three:	*The processor architecture.*
Week four:	*Operating systems and management programs.*
Week five:	*The processor networks.*
Week six:	*Peripheral device management.*
Week seven:	*Test 1*
Week eight:	*Media computer systems architecture.*
Week nine:	*The computer memory architecture.*
Week ten:	*Assembler's and processor management.*
Week eleven:	*The system bus architecture.*

Week twelve:	*The embedded microprocessor systems.*
Week thirteen:	*Microcontroller programming.*
Week fourteen:	*Open electronics device's architecture.*
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.