

Discipline	COMPUTER ORGANIZATION	code: 17	winter semester
Specialty	Computer Systems and Technologies		
ECTS credits: 7	Form of assessment: exam		
Lecturer	Assoc. Prof. Yulka Petkova, PhD Room 207-3 E Phone: +359 52 383 403 E-mail: yulka.petkova@tu-varna.bg		
Department	Computer Science and Engineering		
Faculty	Faculty of Computing and Automation		
<p>Learning objectives:</p> <p>The discipline is devoted to the structural organization and functioning of modern computer systems. Types of data and the standards for their presentation are considered. Algorithms of arithmetic with fixed and floating point numbers are studied. Based on the principles of organization and implementation of the computer, the logical structure and functioning of its main devices and systems are considered. The attitude of individual structural elements and primary algorithms to various programmatic problems is elucidated.</p>			
<b>CONTENTS:</b>			
Training Area		Hours lectures	Hours seminar exercises
Data - logical, symbolic, numeric. Number representation - fixed and floating point. Standards for number representation. Features. Accuracy. Machine codes. Formal means for presenting logical structures and language of micro-operations.		3	3
Arithmetic-logic devices for a fixed point numbers. Arithmetic-logic floating point devices.		7	7
Storage devices and operations in them. RAM-memory - static and dynamic organization. FIFO and LIFO structures. Associative memory - associative operations. Applications.		4	4
Organization of the computation process. Command cycle. Machine command system. Addressing methods. Registers.		4	4
Interruption. Organization of the interruption system. Organization of I/O system. System bus. Exchange methods.		4	4
Organization of the storage system. Buffer memories, commands, and management algorithms. Organization of virtual memory.		4	4
Principles of organization of control. Logical structures of micro-programming control devices.		4	4
<b>TOTAL:</b>		<b>60 h</b>	<b>30</b>