Discipline	Microprocessor Systems - Part 1 code: 5558 Semester – /winter/	
Specialty	Electronics	
ECTS credits: **7**	Form of assessment: Exam	
Lecturer	Assistant Professor, PhD Firgan Feradov Room: 114E Phone: +359 52 383 572 E-mail: firgan.feradov@tu-varna.bg	
Department	Department of Electronics and Microelectronics	
Faculty	Faculty of Computer Sciences and Automation	

Learning objectives

The curriculum of the discipline covers topics regarding the basics principles of operation of microprocessor and microcontrollers. It examines the fundamentals of microprocessor and microcontroller design, introduces students to the core structures of processing units, instruction executions, programming models and memory types. The laboratory exercises consist of introduction to Assembly programming and programming of embedded systems.

CONTENTS:

Training Area	Hours lectures	Hours seminar exercises

Introduction to the discipline. History of microprocessor devices.	1	0
Numeral systems. Binary and hexadecimal representation of numbers.	1	2
Basic structure and operation of microprocessor devices.	2	2
Execution of instructions in microprocessor devices.	2	2
Microprocessor programming basics. Assembly language and programing. IDEs.	4	4
Stack memory.	2	2
Detection of events and interrupts. Program flow and device priorities.	2	2
Microprocessor architectures.	1	0
Basic principles of input-output data and information transfer in microprocessors.	3	4
Design of microprocessor systems.	4	4
Use of peripherals and interfaces.	2	2
Microprocessor device families.	4	4
Current state of the art in microprocessors.	2	2
TOTAL: 60 h	**30**	**30**