

Course Unit Descriptor

<b>Study Programme:</b> Measurement Systems			
<b>Course Unit Title:</b> Microprocessor Electronics			
<b>Course Unit Code:</b> EM300A			
<b>Name of Lecturer(s):</b> Ivan Mezei			
<b>Type and Level of Studies:</b> Bachelor level			
<b>Course Status (compulsory/elective):</b> compulsory			
<b>Semester (winter/summer):</b> winter			
<b>Language of instruction:</b> english			
<b>Mode of course unit delivery (face-to-face/distance learning):</b> face-to-face			
<b>Number of ECTS Allocated:</b> 6			
<b>Prerequisites:</b> Complex Digital System Design, Applied electronics			
<p><b>Course Aims:</b></p> <p>Enabling students to make models, modular designs, simulate and implement hardware functional units and microcomputer systems based on the microprocessors and microcontrollers. Enabling students to design, write and test application and system programmes in the symbolic machine language and programme language at high level for the microcomputer system design</p>			
<p><b>Learning Outcomes:</b></p> <p>The student who successfully completes this course will be able: - to design, simulate and implement hardware functional units of the microcomputer system based on the given specifications. - to design, simulate and implement hardware microcomputer system for general purposes based on the microprocessors and microcontrollers according to the given specifications. - to model, design, simulate and implement simple application and system programmes in the symbolic machine language and programme language at the high level for the given microcomputer system. - to test microcomputer system in the developing system based on the programmable circuits of the FPGA type.</p>			
<p><b>Syllabus:</b></p> <p>Structure of the microcomputer systems for general purposes. Structure and features of the embedded microcomputer systems. Functional units of the microcomputer systems. Hardware functional unit design. Design of the microcomputer systems based on the microprocessors and microcontrollers. Application of software tools in design and simulation of microcomputer systems. Structure of the programme support of the embedded microcomputer systems. Design, writing and testing of application and system programmes. Application of programme languages at the high level and software tools in the programme support design of microcomputer systems. Introduction to microcomputer systems for real time operation.</p>			
<b>Required Reading:</b> Relevant literature in English			
<b>Weekly Contact Hours:</b> 6	<b>Lectures:</b> 3	<b>Practical work:</b> 3	
<p><b>Teaching Methods:</b></p> <p>Lectures; Computer Practice; Laboratory Practice; Consultation.</p>			
<b>Knowledge Assessment (maximum of 100 points):</b> 100			
<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Active class	-	Final Exam Part 1	-

participation			
Laboratory exercise attendance	-	Final Exam Part 2	-
Lecture attendance	-		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			