Óbuda University Bánki Donát Faculty of Mechanical and Safety Engineering	Insitute of Mechatronics and Vehicle Engineering

Subject title and code:	**Programmable Control Circuits**	**Credits:** *2*
Full-time study	2024/25 *ac.* 2 *semester year*	

The course is available at:	mechatronical engineering	
Supervised by:	Dr. Nagy András	**Instructors:** Dr. Nagy András
Prerequisite (neptun code):	Digital Technics	

Weekly number of lessons

Lecture: 2	Group seminar: 0	Lab: 2	Consultation: 1

Way of assessment:	Exam	(Written)

Online consultation (in case it's required): ... *(BBB link)*

Edu. goal: *Indtroduce student to programmable control circuits*

Schedule

Education week	Topics
1.	Introduction to digital circuits
2.	Basics of PLDs, classifications
3.	Introduction to PALs
4.	Programming PLS-100
5.	Programming PLS-153
6.	Controlling 7segment display and driving circuit
7.	Programming logical functions using PLD
8.	First mid-term exam
9.	Spring break, no lecture
10.	Spring break, no lecture
11.	Public holiday, no lecture
12.	Introduction to CPLD and FPGA, internal structure of main FPGAs
13.	Student's presentations
14.	Retake of mid-term exam

Mid-semester requirements

Test		Assignment to be submitted		Lab measurement	
amount	dates	amount	deadlines	amount	dates
1	8th week	1	13th week	0	-

According to the HKR attendance of group seminars and lab exercises are mandatory.

Other requirements for participation in sessions not covered by the regulations and restrictions on substitutions:
Students have to prepare and give a presentation in a topic previously negotiated from the field of FPGA applications.

Test		Assignment to be submitted		Lab measurement	
maximum points available	minimum score required to pass /test	maximum points available	minimum score required to pass / assignment	maximum points available	minimum score required to pass /lab
100points	50points	100points	60points	points	points

Total number of points achievable in semester:	200points			
Grading thresholds	**satisfactory** 110 points and above	**average** 140 points and above	**good** 160 points and above	**excellent** 180 points and above

Other evaluation criteria:	
Receive a signature denied entry:	If the student cannot justify the absence for the test, has failed to write the test, or absences exceed the number of classes specified in SRS, or not give the required presentation.
Required references:	Lecture presentations uploaded to Moodle
Recommended references:	Cem Unsalan, Bora Tar: Digital System Design with FPGA: Implementation Using Verilog and VHDL, ISBN: 978-1259837906
Quality assurance methods of the subject:	

Things, that are not included, can be found within the regulations of Óbuda University.