

Óbuda University Bánki Donát Faculty of Mechanical and Safety Engineering				Insitute of Mechatronics and Vehicle Engineering			
Subject title and code:		PLC knowledges, BMXPLE5BNE				Credits: 4	
Full-time study		3 ac. 1 semester year					
The course is available at:		mechatronical engineering					
Supervised by:		István Nagy		Instructors:		István Nagy	
Prerequisite (neptun code):		Electrical Engineering					
Weekly number of lessons							
Lecture: 1		Group seminar: 0		Lab: 2		Consultation: see, consul-tation's time	
Way of assessment:		Exam (Written)					
Online consultation (in case it's required): ... (BBB link)							
Educational goal:		The aim of education is to give the students general information about PLC structure, operation and PLC programming. In the exercises the students will program through a Mitsubishi –FX trainer simulation's model, and TIA portal.					
Schedule							
Education week		Topics					
1.		Lecture: PLC main components and generations					
2.							
3.		PLC processors- structures, bit/byte/modular, organized PLCs; Counters/timers/merkers : HW ad SW realizations;					
4.							
5.		PLC I/O modules; PLC OS structure and basic SW components (modules) of op. system;					
6.							
7.		PLC programming standards and programming languages: IL, FBD, SFC, LD, GraphCet.					
8.							
9.		PLC communications: networks, BUS systems, access modes, master-slave connections (CSMA/CD/CA)					
10.							
11.		PLC communications: networks, BUS systems, access modes, master-slave connections (CSMA/CD/CA)					
12.							
13.		Lecture: PLC- Theory – Test Paper					
14.		Extra Lecture for: Retake PLC-Theory					
Mid-semester requirements							
Test		Assignment to be submitted		Lab measurement			
amount	dates	amount	deadlines	amount	dates		
1	see, schedule						
According to the Study and Examination regulations of Óbuda University attendance of group seminars and lab exercises are mandatory.							
Other requirements for participation in sessions not covered by the regulations and restrictions on substitutions:							
The lectures are mandatory, max. 30% absence is allowed.							
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		

100/TPpoints	50points	points	...points	100/Progpoints	50/progpoints
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Total number of points achievable in semester: ...points				
Grading thresholds	satisfactory 50-65% % and above	average 66-79% % and above	good 80-89% % and above	excellent >90 % % and above
Other evaluation criteria: if the TOTAL (practice+theory) average of evaluation is over 65% the recommended mark is offered.				
Receive a signature over max. absence, missing from practices, denied entry:				
Required references: http://siva.banki.hu/jegyzetek/mechatronikai_alapismeretek/English_Mechatr/PLC_Control/				
Recommended references: see, moddle				
Quality assurance methods of the subject:				

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