AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Computer Control of Machines,devices and Processes							
Course Code		EEE561		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	200 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		This course aims to teach how to control machines, devices, and systems by computer							
Course Content		Controllability and stability concepts, DAC/ADCs, Real time measurement (RTM) and data acquisition systems, Labview and other up-to date RTM software, industrial control and power switching techniques, measurement and control of electrical power, temperature and heating systems, project based other applications							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Discussion, Case Study, Project Based Study, Individual Study, Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	30
Final Examination	1	30
Assignment	4	20
Project	1	20

Recommended or Required Reading	
1	J. G. Bollinger and N. A. Duffie, Computer Control of Machines and Processes, Addison-Wesley Series in Electrical and Computer Engineering: Control Engineering, 1st ed. 1988
2	Lecture notes and internet resources

Week	Weekly Detailed Course Contents	
1	Theoretical	Review of liner system theory, controllabilitiy and stability concepts
2	Theoretical	Review of DAC/ADCs
3	Theoretical	Real time measurement and data acquisition systems
4	Theoretical	Labview commands-I
5	Theoretical	Labview commands-II
6	Theoretical	Other related up-to-date software
7	Theoretical	Computer control of electrical power sources
8	Intermediate Exam	Midterm Exam
9	Theoretical	Review of industrial control and high-power switching techniques
10	Theoretical	Computer control of temperature and heating processes
11	Theoretical	Computer control of low temperature Resistivity-Temperature measurement
12	Practice	Computer control of high temperature Resistivity-Temperature measurement
13	Practice	Project work (applications)
14	Practice	Project work (applications)
15	Practice	Project work (applications)
16	Final Exam	Final Exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	4	3	98
Assignment	4	10	3	52
Project	1	11	3	14
Midterm Examination	1	15	3	18

Final Examination	1	15	3	18
			Total Workload (Hours)	200
			[Total Workload (Hours) / 25*] = **ECTS**	8
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Developing and intensifying knowledge that requires expertise in the area of Electrical-Electronics Engineering, and gaining the skills necessary to analyze and solve problems using this knowledge
2	Grasping the inter-disciplinary interaction related to Electrical-Electronics Engineering, interpreting and forming new types of knowledge by combining the knowledge from Electrical-Electronics Engineering and the knowledge from various other disciplines
3	Developing new approaches to solve the complex problems arising in Electrical-Electronics Engineering, coming up with solutions while taking responsibility and carrying out a specific study independently
4	Assessing the knowledge and skill gained in the area of Electrical-Electronics Engineering with a critical view
5	Transferring the current developments and one’s own work in Electrical-Electronics Engineering, to other groups in written, oral and visual forms
6	The ability to control the collecting, interpreting, practicing and announcing processes of the Electrical-Electronics Engineering related to data taking into consideration scientific, cultural and ethical values and the ability to teach these values to others
7	Developing application plans concerning the subjects related to Electrical-Electronics Engineering and the ability to evaluate the end results of these plans within the frame of quality processes

Programme Outcomes *(Electrical and Electronics Engineering Master)*	
1	Developing and intensifying knowledge that requires expertise in the area of Electrical-Electronics Engineering, and gaining the skills necessary to analyze and solve problems using this knowledge
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Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5	L6	L7
P1	4	4	4	4	4	4	4
P2	4	4	4	4	4	4	4
P3	4	4	4	4	4	4	4
P4	4	4	4	5	4	4	4
P5	4	4	4	4	4	4	4
P6	4	4	4	4	4	4	4
P7	4	4	4	4	4	4	4