



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Robotics and Programming							
Course Code		BPR158		Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	3	Workload	75 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		This course introduces the students to the fundamentals of robotics and the approach to robotics in the light of the computer programmer's specific point of view.							
Course Content		Introduction to robotics, definitions, general information, Electrical, Electronic and circuit elements, robot control, robotic control elements , Algorithm Development, operators, control structures, sensors and sensors applications, DC motor application, Servo Motor application, step Motor application, robot project							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Project Based Study, Individual Study, Problem Solving					
Name of Lecturer(s)		Ins. Erkan GÜLER							

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

### Recommended or Required Reading

1	Bilgisayar Kontrollü Robotik - Devrim Çamoğlu Dikeyksen Yayın Dağıtım
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Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to robotics
2	Theoretical	History and definitions
3	Theoretical	General Information
4	Theoretical	Electrical, electronic and circuit elements
5	Theoretical	Robot control
6	Theoretical	Robotic Control Elements
7	Theoretical	Algorithm Development, Operators, Control Structures
8	Theoretical	Sensors
9	Intermediate Exam	Midterm
10	Theoretical	Sensors and sensors applications
11	Theoretical	DC Motor Application
12	Theoretical	Servo Motor Application
13	Theoretical	Step Motor Implementation
14	Theoretical	Robotics Project
15	Theoretical	Robotics Project
16	Final Exam	Final Exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Assignment	2	0	2	4
Term Project	2	0	2	4
Midterm Examination	1	4	1	5
Final Examination	1	5	1	6
Total Workload (Hours)				75
[Total Workload (Hours) / 25*] = ECTS				3

\*25 hour workload is accepted as 1 ECTS



**Learning Outcomes**

1	To reach the necessary technical, academic and practical knowledge
2	Demonstrate the ability to analyze, design and use systems or processes in productivity, manufacturability, sustainability, environmental and social dimensions
3	To work effectively in research teams with interdisciplinary interaction
4	To know the history and basics of robotics
5	Understanding robots in the light of computer programmer's specific perspective

**Programme Outcomes (Computer Programming)**

1	Having knowledge and skills in web project preparation and publishing
2	Having the knowledge and skills necessary for proper use management of database applications
3	Having knowledge and skills for software development, testing and installation
4	Be able to use the hardware necessary for computer programming and solve the basic problems they have with hardware
5	To be able to use information and communication technologies at the level required by computer programming
6	To be able to produce solutions to problems encountered in the field
7	Having the competencies to make job planning in the profession
8	Communicating with colleagues and clients based on knowledge and skills
9	Be able to take responsibility as an individual or as a team member and to fulfill the responsibility
10	To be able to express written and oral expressions related to the study topic
11	Be able to adapt the winning information to new situations

**Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High**

	L1	L2	L3	L4	L5
P1	2	2	3	4	5
P2	2	2	3	3	5
P3	3	2	3	3	4
P4	3	2	3	2	4
P5	3	2	2	1	3
P6	2	2	2	3	3
P7	2	2	2	3	2
P8	2	2	1	2	1
P9	2	2	2	1	2
P10	3	3	2	2	2
P11	3	3	2	2	2

