AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Artificial Intelligence and Deep Learning						
Course Code		BPR210		Couse Level		Short Cycle (Associate's Degree)		
ECTS Credit	4	Workload	100 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		The aim of this course is to teach and apply the methods, application languages and search paradigms in the field of artificial intelligence effectively; In this way, students should be able to increase their analytical and theoretical power and solve problems effectively.						
Course Content		Artificial Intelligence (AI) has been a field that has a wide range of applications over time. AI systems are now able to understand conversations, play chess and do household chores. In this course, how to present information about artificial intelligence systems; how the action can be divided into effective sections and how the best (optimal) result or the almost-best result can be found among the possibilities. It will also be discussed how to deal with the unknowns in the world, how to learn from the experience and how to decide from the data.						
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 (%)
Term Assignment	1	50
Project	1	50

Recommended or Required Reading

1	Russell, S.J. And Norvig, P., "Artificial Intelligence : A Modern Approach", Third Edition, Prentice-Hall, 2009. (AIMA
2	Yapay Zeka Geçmişi ve Geleceği Nils J. Nilsson (Eser Sahibi), Mehmet Doğan (Çevirmen) Boğaziçi Yayınları; 1. baskı (6 Şubat 2019)
3	Decision Support Systems (Data Warehouse - Data Mining - Clinical KDS)

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to Artificial Intelligence: History and Applications of Artificial Intelligence
2	Theoretical	Information Display
3	Theoretical	Problem Solving: Constraint Satisfaction Problems (CSP), Backtracking Search for CSP
4	Theoretical	Search Strategies: Depth First Search, Breath First Search, Heuristic Search
5	Theoretical	Hill Climbing, Best First Search, A* Method
6	Theoretical	Game Trees and Alternate Search, Alpha-Beta Reduction, Minimax Search
7	Theoretical	Artificial Intelligence Languages and Knowledge Base Creation
8	Theoretical	Artificial Intelligence Languages and Knowledge Base Creation
9	Theoretical	Midterm
10	Theoretical	Natural Language Processing: Morphology, Semantics and Pragmatics
11	Theoretical	Learning Paradigms: Learning from Observations, Inductive Learning, Decision Trees
12	Theoretical	Learning Paradigms: Learning from Examples, Learning with Hidden Variables, Instance Based Learning
13	Theoretical	Expert systems
14	Theoretical	Introduction to Deep Learning
15	Theoretical	Introduction to Deep Learning
16	Theoretical	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Lecture - Practice	14	0	1	14
Assignment	8	4	0	32

Midterm Examination	1	5	1	6
Final Examination	1	5	1	6
			Total Workload (Hours)	100
			[Total Workload (Hours) / 25*] = **ECTS**	4

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To learn artificial intelligence methods and applications in daily life.
2	To be able to learn and apply necessary paradigms of paradigm to solve mathematical problems such as constraints
3	To be able to use the appropriate search paradigm to solve the problem and to produce a solution to the problem.
4	To be able to comprehend learning paradigms.
5	Ability to analyze artificial intelligence based programming with modern programming languages (Java, C, C ++, C #, etc.).

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	5	4	3	5	3
P2	4	4	3	5	3
P3	4	4	3	5	3
P4	4	4	3	5	3
P5	3	4	3	5	3
P6	3	3	3	5	3
P7	3	3	3	5	3
P8	3	3	3	5	3
P9	3	3	3	5	3
P10	3	3	3	5	4
P11	3	3	3	5	4