

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
ARTIFICIAL INTELLIGENCE	MIS3212182	Spring Semester	3+0	3	5
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Elective				
Course Coordinator	Prof.Dr. Gökhan SİLAHTAROĞLU				
Name of Lecturer(s)	Prof.Dr. Gökhan SİLAHTAROĞLU				
Assistant(s)					
Aim	The objective of this course is to train students so that they perceive Machine Learning algorithms in both logical and mathematical dimensions and develop these algorithms with a programming language within the framework of Artificial Intelligence concept.				
Course Content	This course contains; Definition and History of Artificial Intelligence,Machine Learning,Machine Learning,Data conversion, visual conversion, 3-4-5 rule, Introduction to unsupervised learning, Python examples.,DEEP LEARNING MACHINE VISION,Data Preparation and Data Warehouses,BIG DATAKNOWLEDGE PRESENTATION,NATURAL LANGUAGE PROCESSING (NLP)TEXT MINING (TM)WEB MINING (WM),AI Agents,Ethical Issues of AI,Unsupervised Learning, Distance, Similarity, Centre of Graphs and AI,Statistical Learning and Model Selection.,Examples of Supervised - Unsupervised Learning Algorithms,Writing our own library for Python: Fuzzy C means algorithm, XIE BENI and other unsupervised learning algorithms quality measures..				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. Artificial Intelligence will be able to explain.			16, 3, 9	A	
1.1. Defines Artificial Intelligence					
1.2. List the components of Artificial Intelligence					
2. Will be able to define the concept of unsupervised learning.			9	A	
2.1. Explains unsupervised learning					
2.2. List the algorithm types of unsupervised learning					
3. Will be able to define the concept of supervised learning.			6, 9	A	
3.1. Explains supervised learning					
3.2. List the algorithm types of supervised learning					
4. Will be able to define pattern recognition.			14, 2, 6, 9	A, E	
4.1. Explains pattern recognition					
4.2 Lists the algorithms of pattern recognition					
5. Will be able to define the sub-components of Artificial Intelligence.			16, 9	A, E	
5.1. NLP defines					
5.2. Defines the concept of robotics					
5.3. Defines Text Mining					
5.4. Defines Data Mining					
5.5. Distinguishes the concepts of Classification and Clustering					
Teaching Methods	14: Self Study Method, 16: Question - Answer Technique, 2: Project Based Learning Model, 3: Problem Baded Learning Model, 6: Experiential Learning, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, E: Homework				
Lecture Schedule					
Sequenc e	Topics	Preliminary Preparation			
1	Definition and History of Artificial Intelligence				
2	Machine Learning	Watch the video and be ready to answer in-class questions.			
3	Machine Learning	Watch the video and be ready to answer in class questions.			
4	Data conversion, visual conversion, 3-4-5 rule, Introduction to unsupervised learning, Python examples.	Watch the video and be prepared for in-class questions.			
5	DEEP LEARNING MACHINE VISION	Recommended Reading			
6	Data Preparation and Data Warehouses	Watch the related video, answer the given questions			
7	BIG DATAKNOWLEDGE PRESENTATION				
8	NATURAL LANGUAGE PROCESSING (NLP)TEXT MINING (TM)WEB MINING (WM)				
9	AI Agents	Watch the related video, answer the given questions			
10	Ethical Issues of AI	Watch the video, answer the questions before and in class			
11	Unsupervised Learning, Distance, Similarity, Centre of Graphs and AI	Watch the video, answer the questions before and in class			
12	Statistical Learning and Model Selection.	Video watching and reading			
13	Examples of Supervised - Unsupervised Learning Algorithms				
14	Writing our own library for Python: Fuzzy C means algorithm, XIE BENI and other unsupervised learning algorithms quality measures.	Prepare Python Environment			
Evaluation Methods		Weight(%)			
(Midterm Exam) In class discussions / participation and Homework		50% of Midterm = 20% of all			
Midterm Exam		40			
General Exam		60			

Resources

BASIC OF ARTIFICIAL INTELLIGENCE

by Philips Coleman, | 2021AFTER EACH LESSON A READING OR WATCHING TASK WILL BE GIVEN BY THE LECTURER.

Artificial Intelligence: Understanding Future's Language Kindle Edition by Umut Guney (Author) , 2023.