Course title		Code	semester	T+U	credit	ECTS
Machine Learning			6	3+ 0	3	4

Prerequisite Courses	None
Language of the Course	English
Course Level	Undergraduate
Type of Course	Compulsory
Course Coordinator	
Instructors	
Course Assistants	
The aim of lesson	The course provides students with basic methods and approaches in the field of machine learning. to provide information on the subject and make students practice machine learning methods. aims to gain the ability to apply to problems
Course Content	Basic concepts and approaches of machine learning. steered machine learning methods. Concept learning and learning with decision trees. Machine Bayes' theorem-based approaches in learning. Evolutionary approach and genetics programming. Neural networks, learning and reinforcement with support vectors learning. Undirected learning methods and classification
Course Learning Outcomes	Students who successfully complete this course; 1. Have knowledge of basic methods in the field of machine learning. 2. Gains the ability to model and solve practical problems using machine learning methods. 3. Decides which machine learning method is suitable for the given data set. 4. Generates original solutions specific to the problem.

Weeks	Topics
one	Introduction to Machine Learning, Basic Terms, Types of Learning, Data Preparation, Overtraining
2	Distance Grouping, Similarity & Distance, Distance Criteria, K-means clustering, KNN classifier
3	Entropy, Decision Trees (ID3 and C4.5 algorithms), Classification and Regression Trees
4	Probability and Conditional Probability, Bayes Theorem, Naive Bayes Classifier, Categorical and Numerical Data
5	Linear Regression, Multiple Linear Regression, Least Squares Method, Thresholding and
6	Competitive Classification
7	Introduction to Artificial Neural Networks, Single-layer ANNs, Perceptron, Adaline, Smallest Average
8	squares
9	squares
10	Backpropagation Algorithm, Multilayer Perceptron, Training Stop Criteria
11th	Reinforcement Learning
12	Mapping, Diametric-Based Functions
13	Support Vector Machines (SVM)
14	Feature Extraction, Selection, and Size Reduction
15	Principal Component Analysis (PCA)

General Competencies
European Computer Science, the information and communication technologies required by the field and at least one computer software. Uses License Advanced.

	He has the ability to communicate effectively in English and Turkish and uses both languages in the field of informatics.
	monitors information, interprets and prepares technical documents.
	Access to information with the awareness and awareness of the necessity of lifelong learning,
	gains the ability to monitor developments and constantly renew themselves.

resources
Cawsey, A. (1998). The Essence of Artificial Intelligence, Prentice-Hall.
Haykin, S., (2009). Neural Networks and Learning Machines, Pearson Education, 3rd Ed.
Russell, SJ & Norvig, P., (2016). Artificial intelligence: a modern approach. Malaysia, Pearson Education limited.
Winston, PH, (1992). Artificial Intelligence (3rd Edition).

Evaluation System
The dates, days and hours of the Midterm Exam, Quiz, Final Exam and Evaluations will be announced later, according to the decision of the Faculty Administrative Board.

	WITH PROGRAM LEARNING OUTCOMES COURSE LEARNING OUTCOMES RELATIONSHIP TABLE										
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PC10	PC11
INCREASE 1	5	5	5	5	4	4	4	5	5	4	4
INCREASE 2	5	4	4	4	4	3	3	3	5	4	5
INCREASE 3	5	5	5	4	5	3	3	3	3	3	3
LO4	5	5	5	3	5	4	3	3	3	3	3
LO: Learning Outcomes OP: Program Outcomes											
Contribution Level	1 Very Low		2 Low		3 Medium		4 High		5 Very High		

Relation of Program Outcomes and Related Course

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
Machine Learning	5	5	5	4	5	3	4	4	3	4	3