MACHINE LEARNING

1	Course Title:	MACHINE LEARNING
2	Course Code:	BLPS2414
3	Type of Course:	Optional
4	Level of Course:	Short Cycle
5	Year of Study:	2
6	Semester:	4
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Öğr. Gör. AHMET DARTAR
15	Course Lecturers:	--
16	Contact information of the Course Coordinator:	ahmetdartar@uludag.edu.tr, (0 224) 294 26 62, Bursa Uludağ Üniversitesi Karacabey MYO Bilgisayar Programcılığı
17	Website:	
18	Objective of the Course:	The aim of this course is to provide students with the theoretical basis of machine learning algorithms and practical application of them on real-world data sets.
19	Contribution of the Course to Professional Development:	For a problem whose parameters are given, the student can reveal the advantages and disadvantages of different machine learning methods.
20	Learning Outcomes:	
	1	To be able to solve problems by understanding the basic concepts of machine learning and learning types.
	2	Developing models and making evaluations by applying machine learning algorithms on data
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21	Course Content:	

Course Content:

Week	Theoretical	Practice
1	Introduction to Machine Learning	
2	Applications of Machine Learning	
3	Data Digitization	
4	Feature Selection/Extraction	

5	Regression Algorithms	
6	Classification Algorithms (Support Vector Machine)	
7	Classification Algorithms (Artificial Neural Network)	
8	Mid-term exam	
9	Classification Algorithms (K-nearest Neighbor Algorithm)	
10	Classification Algorithms (Naive Bayes Algorithm)	
11	Classification Algorithms (Decision Tree)	
12	Clustering Algorithms (K-Means Algorithm)	
13	Clustering Algorithms (Single Linkage Clustering Algorithm-SLINK/Complete Linkage Clustering Algorithm-CLINK)	
14	Ensemble Learning Algorithms and Classifier Performance	

22	Textbooks, References and/or Other Materials:	1-Ethem ALPAYDIN (2010). Introduction to Machine Learning, The MIT Press, second edition. 2-Tom Mitchell,McGraw-Hill. Machine Learning. ISBN 0070428077. 3-Atınç Yılmaz, Makine Öğrenmesi: Teorisi ve Algoritmaları, Papatya Bilim Yayınevi, 2018
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		Measurement and evaluation is carried out according to the principles of Bursa uludag University Associate and Undergraduate Education

24	**ECTS / WORK LOAD TABLE**

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	2.00	28.00
Homeworks	14	2.00	28.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	3.00	3.00
Others	0	0.00	0.00
Final Exams	1	3.00	3.00
Total Work Load			93.00
Total work load/ 30 hr			3.00
ECTS Credit of the Course			3.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	1 very low	2 low	3 Medium	4 High	5 Very High