Course Syllabus

Code - Course Title	**BİL524 - Data Mining**
Course Type	II. SEMESTER
Laboratory + Practice	3+0
ECTS	**6.0**
Language of Instruction	Türkçe
Course Type	Elective Courses
Course Instructor(s)	DR. ÖĞR. ÜYESİ İLKER KAYABAŞ

Mode of Delivery	Distance Education
Prerequisites	There is no prerequisite or co-requisite for this course.
Courses Recomended	There is no other recommended course prior to this course.
Recommended Resources	Han, J., Kamber, M., & Pei, J. (2012). Data mining: Concepts and techniques (3rd ed.). Morgan Kaufmann.Hastie, T., Tibshirani, R., & Friedman, J. (2009). The elements of statistical learning: Data mining, inference, and prediction (2nd ed.). Springer.
Work Placement	This course has no internship practice.

Course Syllabus

Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Introduction to Data Mining	
Week - 2		Data Mining Applications	
Week - 3		The R programming language and RStudio as the development environment (IDE)	
Week - 4		Python programming language and Jupyter Notebook as the development environment (IDE)	
Week - 5		Data Preprocessing	
Week - 6		Exploratory Data Analysis	
Week - 7		Association Rules Mining	
Week - 8		Applications of Association Rule Mining	
Week - 9		Classification	
Week - 10		Applications of Classification	
Week - 11		Regression	
Week - 12		Cluster Analysis	
Week - 13		Applications of Cluster Analysis	

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 14		Neural Networks and Deep Learning	

Learning Outcomes

#	Learning Outcome
1	Uses data mining tools to analyze data and develop models.
2	Applies data mining techniques to solve real-world problems in various domains.
3	Explains the basic concepts of data mining.
4	Analyzes different types of data mining problems.
5	Prepares data in a way appropriate for different data mining tasks.
6	Exploratory data analysis on datasets is performed using the R programming language with the RStudio development environment and the Python programming language with the Jupyter Notebook IDE.
7	Uses association rule mining, classification, regression, cluster analysis, and neural networks to extract insights from diverse datasets and solve complex problems.
8	Discusses ethical issues and privacy concerns related to data mining.

Sustainable Development Goals

No content has been provided.

Course Theme

No content has been provided.

AKTS Workload

Activity	Duration (Hour)	Count	Workload
Teorik Derse Katılım	0	0	0
Sınıf Dışı Çalışma (Ön Hazırlık & Pekiştirme Amaçlı)	0	0	0
Ödevler	0	0	0
Proje - Rapor - Sunum Hazırlama	0	0	0
Ara Sınav Hazırlığı (sınav süresi dahil)	0	0	0
Final Sınavı Hazırlığı (sınav süresi dahil)	0	0	0
Uygulama (Laboratuvar, Müzik/Enstrüman Uygulaması, Atölye/Saha Çalışması vb.)	0	0	0
Staj Uygulaması	0	0	0
		Calculated ECTS	**0**

Assessment Method and Passing Requirements

No content has been provided.