Course Syllabus

Code - Course Title	**VBA304 - Big Data Ecosystems**
Course Type	VI. SEMESTER
Laboratory + Practice	3+0
ECTS	**5.0**
Language of Instruction	İngilizce
Course Type	Required Courses
Course Instructor(s)	DR. ÖĞR. ÜYESİ ÖNDER DORAK

Mode of Delivery	Face to face

Course Syllabus

Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Distributed Computing: Hadoop architecture	
Week - 2		Navigating the Hadoop Distributed File System (HDFS)	
Week - 3		Programming MapReduce paradigms	
Week - 4		Stream Processing: Apache Spark ecosystem	
Week - 5		RDDs and DataFrames	
Week - 6		Real-time data ingestion with Apache Kafka	
Week - 7		Cloud Data Warehouses architectures	
Week - 8		Managing cloud resource provisioning	
Week - 9		Designing schemas for massive data stores	
Week - 10		Utilizing Snowflake or BigQuery	
Week - 11		Big Data Analytics: Running complex queries on clusters	
Week - 12		Optimizing data pipelines for speed	
Week - 13		Managing big data security	
Week - 14		Big data governance frameworks	

Learning Outcomes

#	Learning Outcome
1	Program MapReduce paradigms within Hadoop architectures
2	Process massive datasets seamlessly with Apache Spark

Learning Outcomes

#	Learning Outcome
3	Design scalable schemas for cloud data warehouses
4	Optimize distributed pipelines for big data analytics

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.