Course Syllabus

Code - Course Title	**VBA108 - Programming Fundamentals for Data Science**
Course Type	II. SEMESTER
Laboratory + Practice	3+1
ECTS	**6.0**
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		Python Basics: Syntax structures and native data types	
Week - 2		Control flow statements	
Week - 3		Defining modular functions	
Week - 4		Object-Oriented Programming: Class definitions and objects	
Week - 5		Inheritance and Polymorphism	
Week - 6		Encapsulation	
Week - 7		Data Handling: File I/O operations	
Week - 8		Robust error handling	
Week - 9		Utilizing base library operations	
Week - 10		Setting up Virtual environments	
Week - 11		Numerical Computing: Introduction to NumPy arrays	
Week - 12		Basic Pandas dataframes	
Week - 13		Data filtering and grouping in Pandas	
Week - 14		Writing scalable scripts for data ingestion	

Learning Outcomes

#	Learning Outcome
1	Write structured control flow Python statements.
2	Implement object-oriented programming concepts

Learning Outcomes

#	Learning Outcome
3	Automate file operations and robust error handling
4	Utilize NumPy and Pandas for data ingestion

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.