Course Syllabus

Code - Course Title	**VBA409 - Finance in the Age of Artificial Intelligence**
Course Type	VII. SEMESTER
Laboratory + Practice	3+0
ECTS	**5.0**
Language of Instruction	İngilizce
Course Type	Area Elective 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		Algorithmic Trading: Quantitative trading models	
Week - 2		Low-latency infrastructure of high-frequency trading	
Week - 3		Historical backtesting of financial strategies	
Week - 4		Risk Management: Calculating value at risk (VaR)	
Week - 5		Extreme financial stress testing scenarios	
Week - 6		Machine learning for retail credit scoring	
Week - 7		Institutional default prediction models	
Week - 8		FinTech Innovations: Decentralized blockchain applications	
Week - 9		Programming and verifying smart contracts	
Week - 10		Automated financial advisory and robo-investors	
Week - 11		Fraud Detection: Sophisticated anomaly detection	
Week - 12		Monitoring massive volumes of transactions	
Week - 13		Mitigating global money laundering efforts	
Week - 14		Securing next-generation digital payment gateways	

Learning Outcomes

#	Learning Outcome
1	Develop quantitatively backtested high-frequency algorithmic models
2	Calculate mathematical Value at Risk (VaR) under stress

Learning Outcomes

#	Learning Outcome
3	Formulate and verify decentralized finance smart contracts
4	Apply massive scale anomaly detection for anti-money laundering

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.