Course Syllabus

Code - Course Title	**VBA303 - Social Network Analysis**
Course Type	V. SEMESTER
Laboratory + Practice	4+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		Graph theory applications: Nodes, edges, network topology	
Week - 2		Network fundamentals: Directed vs undirected graphs	
Week - 3		Calculating centrality: Degree and betweenness	
Week - 4		Calculating centrality: Closeness	
Week - 5		Community detection: Optimizing modularity	
Week - 6		Evaluating clustering coefficients	
Week - 7		Clique analysis and Identifying structural holes	
Week - 8		Information Diffusion: Simulating cascade models	
Week - 9		Modeling influence maximization	
Week - 10		Tracking viral spread in social graphs	
Week - 11		Network Visualization: Layout algorithms (force-directed)	
Week - 12		Visualizing large-scale networks	
Week - 13		Interpreting network dynamics over time	
Week - 14		Practical case studies in social networks	

Learning Outcomes

#	Learning Outcome
1	Calculate network centrality measures mathematically
2	Identify community structures and structural holes

Learning Outcomes

#	Learning Outcome
3	Track and simulate viral information diffusion over graphs
4	Visualize complex network dynamics accurately

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.