Course Syllabus

Code - Course Title	**SAY534 - Fuzzy Multi Criteria Decision Making**
Course Type	II. SEMESTER
Laboratory + Practice	3+0
ECTS	**6.0**
Language of Instruction	Türkçe
Course Type	Elective Courses
Course Instructor(s)	DOÇ. DR. ÇAĞLAR KARAMAŞA

Mode of Delivery	Face to face
Prerequisites	There is no prerequisite or co-requisite for this course.
Courses Recomended	There is no recommended optional programme component for this course.
Recommended Resources	-Handbook of Research on Advances and Applications of Fuzzy Sets and Logic (Said Broumi, 2022)-Çok Kriterli Karar Verme Yöntemlerinin Bulanık Küme Uzantıları ve Uygulamaları (Çağlar Karamaşa, Fatih Ecer, Ahmet Aytekin, 2022)-Bulanık Kümeler ve Uzantıları (Cengiz Kahraman, Başar Öztayşi, Sezi Çevik Onar, 2024)
Work Placement	Not applicable for this course

Course Syllabus

Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Introduction to Decision Theory and related basic concepts	
Week - 2		Multi Criteria Decision Making Theory and related basic concepts	
Week - 3		Introduction to Fuzzy Logic	
Week - 4		Fuzzy Set Theory, Fuzzy Arithmetic, Fuzzy Functions	
Week - 5		Fuzzy Set Extensions: Type-2 Fuzzy Sets	
Week - 6		Intuitionistic Fuzzy Sets	
Week - 7		Neutrosophic Sets	
Week - 8		Pythagorean Fuzzy Sets	
Week - 9		Picture Fuzzy Sets	
Week - 10		Q-Rung Orthopair Fuzzy Sets	
Week - 11		Spherical Fuzzy Sets	
Week - 12		Fermatean Fuzzy Sets	

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 13		Fuzzy Set Extensions Based Multi Criteria Decision Making Applications	
Week - 14		Fuzzy Aggregation Operators: Hamy Mean, Dombi-Bonferroni, Aczel-Alsina, Hamacher, Frank	

Learning Outcomes

#	Learning Outcome
1	Gain the main subject of Fuzzy Set Theory and make related calculations
2	Gain the Fuzzy Logic Methods, recognize membership functions and inference systems
3	Gain the Fuzzy Set Extensions
4	Gain the Fuzzy Aggregation Operators (Hamy Mean, Dombi-Bonferroni, Aczel-Alsina, Hamacher, Frank etc.) and make related calculations.

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.