Course Syllabus

Code - Course Title	**İST357 - Operations Research**
Course Type	V. SEMESTER
Laboratory + Practice	3+0
ECTS	**5.0**
Language of Instruction	İngilizce
Course Type	Required Courses

Mode of Delivery	The mode of delivery of this course is 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	* İmdat Kara (1991) Yöneylem Araştırmasının Yöntembilimi, Anadolu Üniversitesi. * Ahmet Öztürk (1997) Yöneylem Araştırması, Bursa. * F.S. Hillier, G.J.Lieberman (1995) Introduction to Operations Research, 6th Edition, McGraw-Hill
Work Placement	N/A

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Operational Research as a science field Linear Programming(L/P) and examples of L/P models	
Week - 2		Different kinds of L/P problems and their equality; Basic consepts and qualities of solutions.	
Week - 3		Criteria of optimum; Simplex algorithm for L/P problem which can be designated one base solution	
Week - 4		Artificial base solution method.	
Week - 5		Problems of dual L/P; Relations of primal and dual; Primal-Dual computations.	
Week - 6		Problems of dual L/P; Relations of primal and dual; Primal-Dual computations. (continiou).	
Week - 7		Dual Simplex method	
Week - 8		Economic interpratation of Duality.	
Week - 9		Transportation Models: Definition and Starting solution technics	
Week - 10		Transportation Models: Optimum solution technics	
Week - 11		The Assignment Model	
Week - 12		Network Models: Minimum spanning tree problems; Shortest path problems;	
Week - 13		Network Models: Maximum flow problems; PERT Analysis.	

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 14		Integer L/P: Cutting Planes algorithm; The Branch-and-Bound Method	

Learning Outcomes

#	Learning Outcome
1	explain operational research.
2	explain and use linear programing.
3	explain and use Network Models.

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.