Course Syllabus

Code - Course Title	**SAY524 - Advanced Operations Research II**
Course Type	II. SEMESTER
Laboratory + Practice	3+0
ECTS	**6.0**
Language of Instruction	Türkçe
Course Type	Required Courses
Course Instructor(s)	PROF. DR. ALİ ÖZDEMİR

Mode of Delivery	The mode of delivery of this course is Face to face
Place of Delivery	On Campus
Used Educational Platforms	Face-to-face
Prerequisites	Advanced Linear Programming I has to be taken.
Courses Recomended	Linear programming
Recommended Resources	* Taha, H.(1997), Operation Research an Intrıduction,Prectice - Hall Inter. Inc.*Winston, W.L., (1994), Operation Research Application and Algorithms, Duxbury Press
Work Placement	Not suitable for this course.
Aims of the Course	The objective of the course is to provide students with the skill to transform complex industrial, logistical, and managerial problems into mathematical models.

Course Syllabus

Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1	**LO-4**	Inventory Models	Lecture, Question & Answer, Discussion
Week - 2	**LO-5**	Deterministic Inventory Models	Lecture, Question & Answer, Discussion
Week - 3	**LO-6**	Probabilistic Inventory Models	Lecture, Question & Answer, Discussion
Week - 4	**LO-7**	Dynamic Programlama	Lecture, Question & Answer, Discussion
Week - 5	**LO-7**	Aplication of Dynamic Programming	Lecture, Question & Answer, Discussion, Case Study, Problem Solving, Practice/Practical Work/Workshop
Week - 6	**LO-8**	Game Theory	Lecture, Question & Answer, Discussion
Week - 7	**LO-8**	Game Theory: Graphical Solution	Lecture, Question & Answer, Discussion

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 8	LO-8	Twp-Person Zero-Sum Games	Lecture, Question & Answer, Discussion
Week - 9	LO-9	Queuing Theory	Lecture, Question & Answer, Discussion
Week - 10	LO-9	Queuing Theory, Service Processes	Lecture, Question & Answer, Discussion
Week - 11	LO-9	Queuing System	Lecture, Question & Answer, Discussion
Week - 12	LO-10	Goal Programming	Lecture, Question & Answer, Discussion
Week - 13	LO-10	A Goal - Programming Formulation	Lecture, Question & Answer, Discussion
Week - 14	LO-10	Goal - Programming Algoritms	Lecture, Question & Answer, Discussion, Case Study, Problem Solving, Brain Storming

Learning Outcomes

#	Learning Outcome
1	Defines inventory models
2	Explains deterministic inventory models.
3	Explains stochastic inventory models
4	Defines Dynamic Programming
5	Defines game theory.
6	Defines queueing theory.
7	Defines goal programming.

Sustainable Development Goals

✓ Quality Education

Course Theme

✓ Economics, Finance and Management ✓ Entrepreneurship ✓ Logistics and Supply Chain

AKTS Workload

Activity	Duration (Hour)	Count	Workload

AKTS Workload

Activity	Duration (Hour)	Count	Workload
Teorik Derse Katılım	42.00	1	42
Sınıf Dışı Çalışma (Ön Hazırlık & Pekiştirme Amaçlı)	28.00	1	28
Ödevler	4.00	6	24
Proje - Rapor - Sunum Hazırlama	3.00	6	18
Ara Sınav Hazırlığı (sınav süresi dahil)	14.00	1	14
Final Sınavı Hazırlığı (sınav süresi dahil)	18.00	1	18
Uygulama (Laboratuvar, Müzik/Enstrüman Uygulaması, Atölye/Saha Çalışması vb.)	0.00	0	0
Staj Uygulaması	0.00	0	0
		Calculated ECTS	**6.0**

Assessment Method and Passing Requirements

✓ Open-Ended Test ✓ Homework ✓ Presentation