

TOROS ÜNİVERSİTESİ

Faculty Of Engineering
Industrial Engineering (English)

Course Information

OPERATIONS RESEARCH III					
Code	Semester	Theoretical	Practice	National Credit	ECTS Credit
		Hour / Week			
INE310	Spring	2	2	3	5

Prerequisites and co-requisites	
Language of instruction	English
Type	Required
Level of Course	Bachelor's
Lecturer	Asst. Prof. Dr. Melik KOYUNCU
Mode of Delivery	Face to Face
Suggested Subject	NONE
Professional practise (internship)	None
Objectives of the Course	To develop the operations research knowledge and skills by using stochastic model techniques
Contents of the Course	Basic statistical concepts, Introduction to queuing systems, M/M/1,M/M/s and the other queue models,queuing networks, Markov chains and its applications

Learning Outcomes of Course

#	Learning Outcomes
1	Student shall gain knowledge on optimisation concept
2	Student will be able to model the real life problems
3	Student will be able to model inventory, network and queuing models.
4	

Course Syllabus

#	Subjects	Teaching Methods and Technics
1	Markov Chains, Transition Probabilities, n-step Transition Probabilities	Lecturing
2	Markov Chains and some examples	Lecturing
3	Classification of States, Steady States	Lecturing
4	Average First Passage Times	Lecturing
5	Markov Chains	Lecturing
6	Markov Chain Examples	Lecturing
7	Midterm	Exam
8	Queuing Theory	Lecturing
9	Queuing Theory-Application	Lecturing
10	Network Models-1	Lecturing
11	Network Models-2CPM	Lecturing
12	Network Models-2PERT	Lecturing
13	Inventory Models-1	Lecturing

14	Inventory Models-2	Lecturing
15	Review	Lecturing
16	Final Exam	

Course Syllabus

#	Material / Resources	Information About Resources	Reference / Recommended Resources
1	R.L. Rardin, Optimization in Operations Research, Pearson Education.		

Method of Assessment

#	Weight	Work Type	Work Title
1	40%	Mid-Term Exam	Mid-Term Exam
2	60%	Final Exam	Final Exam

Relationship between Learning Outcomes of Course and Program Outcomes

#	Learning Outcomes	Program Outcomes	Method of Assessment
1	Student shall gain knowledge on optimisation concept	1	1,2
2	Student will be able to model the real life problems	2	1,2
3	Student will be able to model inventory, network and queuing models.	4	1,2
4			

PS. The numbers, which are shown in the column Method of Assessment, presents the methods shown in the previous table, titled as Method of Assessment.

Work Load Details

#	Type of Work	Quantity	Time (Hour)	Work Load
1	Course Duration	14	4	56
2	Course Duration Except Class (Preliminary Study, Enhancement)	14	4	56
3	Presentation and Seminar Preparation	0	0	0
4	Web Research, Library and Archival Work	0	0	0
5	Document/Information Listing	0	0	0
6	Workshop	0	0	0
7	Preparation for Midterm Exam	1	6	6
8	Midterm Exam	1	2	2
9	Quiz	0	0	0
10	Homework	0	0	0
11	Midterm Project	0	0	0
12	Midterm Exercise	0	0	0
13	Final Project	0	0	0
14	Final Exercise	0	0	0
15	Preparation for Final Exam	1	14	14
16	Final Exam	1	2	2
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