



COURSE / MODULE / BLOCK DETAILS

ACADEMIC YEAR / SEMESTER

Offered by: Endüstri Mühendisliği			
Course Title: MANAGEMENT SCIENCE MODELING WITH SPREADSHEETS		Course Org. Title: MANAGEMENT SCIENCE MODELING WITH SPREADSHEETS	
Course Level: Lisans		Course Code: IND 4918	
Language of Instruction: İngilizce		Form Submitting/Renewal Date 15/02/2013	
Weekly Course Hours: 3		Course Coordinator: YRD.DOÇENT DERYA EREN AKYOL	
Theory	Application	Laboratory	National Credit: 3
3	0	0	ECTS Credit: 4



DOKUZ EYLUL UNIVERSITY

FACULTY OF ENGINEERING OFFICE OF THE DEAN

COURSE / MODULE / BLOCK DETAILS

ACADEMIC YEAR / SEMESTER



Offered to:

Course Status: Compulsory/Elective

Name of the Department:

Industrial Engineering

Elective Course

Wire: 0 232 301 72 15

Fax: 0 232 301 72 10

Access: <http://www.eng.deu.edu.tr>

Address: Dokuz Eylül Üniversitesi Tınaztepe Yerleşkesi 35160 Buca/İZMİR E-mail: [muhendislik@deu.edu.tr](mailto:muhendislik@deu.edu.tr)



DOKUZ EYLUL UNIVERSITY

FACULTY OF ENGINEERING OFFICE OF THE DEAN



COURSE / MODULE / BLOCK DETAILS

ACADEMIC YEAR / SEMESTER

Instructor/s:

---

Wire: 0 232 301 72 15

Fax: 0 232 301 72 10

Access: <http://www.eng.deu.edu.tr>

Address: Dokuz Eylül Üniversitesi Tınaztepe Yerleşkesi 35160 Buca/İZMİR E-mail: [muhendislik@deu.edu.tr](mailto:muhendislik@deu.edu.tr)



## COURSE / MODULE / BLOCK DETAILS

## ACADEMIC YEAR / SEMESTER

**Course Objective:**

The objective of this course is to introduce students to the Spreadsheet Modeling approach and to develop skills in order to solve problems in production and operations management. The spreadsheet software Microsoft Excel will be taught, various decision models will be developed by using Excel's built-in functions and several add-ins for Excel.

**Learning Outcomes:**

- 1 To be able to describe spreadsheet modeling concepts
- 2 To be able to model problems that arise in manufacturing and service systems, using spreadsheets
- 3 To be able to distinguish between different real life decision problems
- 4 To be able to solve problems in production and operations management using spreadsheets
- 5 To be able to analyze the solution decision

**Learning and Teaching Strategies:****Assessment Methods:**

Name	Code	Calculation formula
Vize	VZ	
Ödev	OD	
Final	FN	
Bütünleme Notu	BUT	
BNS	BNS	$VZ * 025 + D * 025 + FN * 050$
Bütünleme Sonu Başarı Notu	BBN	$VZ * 025 + D * 025 + BUT * 050$

**Further Notes about Assessment Methods:**



COURSE / MODULE / BLOCK DETAILS

ACADEMIC YEAR / SEMESTER

Assessment Criteria:

Textbook(s)/References/Materials:

- 1) Introduction to Management Science: A Modeling and Case Studies Approach with Spreadsheets, Frederick S. Hillier, Mark S. Hillier, 3/e, McGraw Hill publishers. ISBN 978-0-07-312903-7
- 2) Managerial Decision Modeling with Spreadsheets, N. Balakrishan, B. Render, R.M.Stair, Prentice Hall, 2007, ISBN 0-13-195114

Course Policies and Rules:

Contact Details for the Instructor:

derya.eren@deu.edu.tr, Tel. +90-232-3017604

Office Hours:

Course Outline:

Week	Topics:	Notes:
1	Introduction to Management Science Models	
2	Basic Spreadsheet Modeling Concepts	
3	Using Spreadsheets in Decision Modeling	
4	Modeling, Solving Linear Programming Problems using Excel?s Solver	
5	Sensitivity Analysis using Solver	



DOKUZ EYLUL UNIVERSITY

FACULTY OF ENGINEERING OFFICE OF THE DEAN



COURSE / MODULE / BLOCK DETAILS

ACADEMIC YEAR / SEMESTER

6	Solving Network Optimization Problems using spreadsheets
7	Data Envelopment Analysis
8	Midterm
9	Macros, VBA, Premium Solver Platform
10	Solving Integer Programming Problems using Solver
11	Case studies on various real world Production and Operations Management Problems
12	Case studies
13	Student presentations
14	Student presentations



## COURSE / MODULE / BLOCK DETAILS

ACADEMIC YEAR / SEMESTER

## ECTS Table

Course Activities	Number	Duration (hour)	Total Work Load (hour)
In Class Activities			
Lectures	12	3	36

## Exams

Final	1	2	2
Midterm	1	2	2
Presentations	2	4	8

## Out Class activities

Preparations before/after weekly lectures	13	2	26
Preparation for midterm exam	1	7	7
Preparation for final exam	1	7	7
Preparing group assignments	5	3	15
Total Work Load (hour)			103
ECTS Credits of the Course= Total Work Load (hour) / 25			4