DOKUZ EYLUL UNIVERSITY

FACULTY OF ENGINEERING OFFICE OF THE DEAN

COURSE / MODULE / BLOCK DETAILS

ACADEMIC YEAR / SEMESTER

Offered by: Endüstri Mühendisliği			
Course Title: FORECASTING AND TIME SERIES ANALYSIS			Course Org. Title: FORECASTING AND TIME SERIES ANALYSIS
Course Level: Lisans			Course Code: IND 3915
Language of Instruction: İngilizce			Form Submitting/Renewal Date 20/02/2013
Weekly Course Hours: 3			Course Coordinator: YRD.DOÇENT SEREN ÖZMEHMET TAŞAN
Theory	Application	Laboratory	National Credit: 3
3	0	0	ECTS Credit: 4

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COURSE / MODULE / BLOCK DETAILS

ACADEMIC YEAR / SEMESTER

Offered to: Name of the Department:	Course Status: Compulsory/Elective
Industrial Engineering	Elective Course

Instructor/s:

Course Objective:

To obtain an understanding and ability to use basic concepts of forecasting and time series, regression methods and moving averages, exponential smoothing methods, adaptive methods and Box-Jenkins model

Learning Outcomes:

1	State, explain and interpret relevant inferential statistics using various data sets for forecasting
2	Explain basics of time series
3	State and explain regression methods and analysis for forecasting
4	State and explain exponential smoothing
5	Explain adaptive method and box-Jenkins model. regression analysis
6	Explain the usage of software for forecasting

Learning and Teaching Strategies:

Instructor notes will be given using blackboard and visual presentations. Additionally, it will be further supported by computer lab work.

Assessment Methods:

Name	Code	Calculation formula
Vize	VZ	
Ödev	OD	
Final	FN	
Bütünleme Notu	BUT	
BNS	BNS	VZ*035+D *015+FN * 050
Bütünleme Sonu Başarı Notu	BBN	VZ*035+D *015+BUT * 050

Further Notes about Assessment Methods:

Assessment Criteria:

Textbook(s)/References/Materials:

Textbooks:
1.D. C. Montgomery, C.L. Jennings and M. Kulahci. (2008).Introduction to Time SeriesAnalysis and Forecasting, Wiley-Interscience, USA.
Reference books:
1. F. X. Diebold. (2007). Elements of Forecasting (Fourth Edition), South-Western College Publishing, USA.
2. J. E. Hanke and D. Wichern (2008). Business Forecasting, Prentice Hall, UK.

Course Policies and Rules:

Contact Details for the Instructor:

Tel: 301 76 22
e-mail: seren.ozmehmet@deu.edu.tr

Office Hours:

Course Outline:

Week	Topics:	Notes:
1	Introduction to forecasting and background information for basic statistics	
2	Investigating data structures	
3	Moving average and exponential smoothing methods	
4	Time series and its components	

5	Simple linear regression
6	Multiple regression analysis
7	Regression analysis in time series
8	Mid-term exam
9	Box-Jenkins (ARIMA) method
10	Quantitative forecasting methods, forecasting error analysis
11	Managing forecasting process
12	Project presentation
13	Project presentation
14	Project presentation

ECTS Table

Course Activities	Number	Duration (hour)	Total Work Load (hour)
In Class Activities			
Lectures	13	3	39
Tutorials	1	3	3
Exams			
Final	1	3	3
Midterm	1	3	3
Out Class activities			
Preparations before/after weekly lectures	10	2	20
Preparation for midterm exam	1	15	15
Preparation for final exam	1	15	15
Preparing assignments	4	2	8
Preparing presentations	1	2	2
Total Work Load (hour)			108
ECTS Credits of the Course= Total Work Load (hour) / 25			4