EK-4

IĞDIR UNIVERSITY
GRADUATE EDUCATION INSTITUTE NEW COURSE OPENING FORM

Course Code and Name: Applied Statistics				**Department / Department of:** Business Administration			
Semester	**Theoretic Hour**	**Practice Hour**	**Total Hour**	**Credits**	**ECTS**	**Education Language**	**Type: Compulsory/ Elective**
Spring	3	0	3	3	6	Turkish	Elective

Prerequisite (s)		
Instructor	Prof. Dr. Ecevit EYDURAN	**Mail: ecevit.eyduran@igdir.edu.tr** **Web:**
Course Assistant	Res. Assit. Selin AYKOL	**Mail: selin.aykol@igdir.edu.tr** **Web:**
Groups / Classes		
Course Aim	The aim of this course is to teach advanced statistics subjects.	
Course Goals	In this course, it is aimed to analyze the data obtained in social sciences effectively.	
Course Learning Outs and Proficiencies	In the field of Social Sciences, to reach information by doing scientific research, to evaluate, interpret and apply information. Ability to complete and apply knowledge by scientific methods using limited or missing data; to integrate information from different disciplines.	

Course Basic and Auxiliary Contexts	1. Montgomery, D.C., Peck, E.A., Vining, G.G., (çeviri editörü: Prof. Dr. M. Aydın Erar) (2013). "Doğrusal Regresyon Analizine Giriş". Fifth edition. Nobel Yayınevi. 2. Aydın, D., 2014. "Uygulamalı Regresyon Analizi (Kavramlar ve R Hesaplamaları)". Nobel Yayınevi 3. Fox, C., 1997. "Applied Regression Analysis, Linear Models, and Related Methods", Sage Publication. 4. Draper, N, R., Smith, H., 1998. "Applied Regression Analysis", John Wiley&Sons. 5. Eyduran, E., Akın, M., Eyduran, S.P. 2019. Application of Multivariate Adaptive Regression Splines in Agricultural Sciences through R Software. Nobel Yayınevi. ISBN: 9786052149812 6. Akın, M., Eyduran, S.P., Eyduran, E. 2020. R Yazılımı ile Tarım Bilimlerinde Regresyon ve Sınıflandırma Tipi Problemlerin Çözümünde MARS Algoritması. Nobel Yayınevi. ISBN: 978-625-439-078-4 E-ISBN: 978-625-439-079-1.
Methods of Give a Lecture	Lecture, Question-Answer, Practice,

Assessment Criteria		**If Avaible, to Sign (x)**	**General Average Percentage (%) Rate**
	1. Mid-term exam	**X**	**40**
	2. Mid-term exam		
	3. Mid-term exam		
	4. Mid-term exam		
	Presentation		
	Oral exam		
	Project and seminar		
	Final exam	**X**	**60**

Semester Course Plan

Week	**Subjects**
1	Introduction to Regression analysis, Definitions and goals of Regression Analysis, type of data for Regression
2	Simple Linear Regression, Ordinary Least Square Methods for Regression Parameter Estimation
3	Standard Error of Regression Models and Regression Coefficients
4	Correlation and Determination Coefficients and Significance Tests
5	Multiple Regression Models and Their Assumptions, Least-squares estimation of Multiple regression coefficients
6	Multiple regression analysis with Factor Analysis and Factor analysis scores
7	Multiple regression analysis with Factor Analysis and Factor analysis scores

8	Introduction to Data Mining
9	Classification and Regression Tree Algorithm (CART)
10	CHAID algorithm
11	Exhaustive CHAID algorithm
12	QUEST algorithm
13	MARS algorithm
14	BRNN algorithm

Relations with Course Department Advantages

	Programme Advantages	**Effect of Class**		
		No effect	**Little Effect**	**Whole Effect**
1	The aim of the course is to reach the information in depth and in depth by conducting scientific research in the field of all sciences, to evaluate, interpret and apply the information.			**X**
2	Ability to complete and apply knowledge by scientific methods using limited or missing data; to integrate information from different disciplines.		**X**	
3	To be able to construct engineering problems, develop methods to solve them and apply innovative methods in solutions.			**X**
4	Ability to develop new and original ideas and methods; develop innovative solutions in system, part or process designs.		**X**	
5	Ability to design and apply analytical, modeling and experimental research; to analyze and interpret complex situations encountered in this process.			**X**
6	Identify the information and data needed, reach them and evaluate them at an advanced level.		**X**	
7	Leadership in multi-disciplinary teams, developing solutions to complex situations and taking responsibility.		**X**	
8	To be able to convey the process and results of his / her studies systematically and clearly in written or oral form in national and international environments in or out of that field.		**X**	
9	Interpreting comprehensive information about modern techniques and methods applied in agricultural sciences and their limits.			**X**
10	Awareness about new and developing practices of the profession; to examine and learn them when necessary.			**X**

11	To understand the social and environmental dimensions of engineering applications and to adapt to the social environment.		**X**	
12	To observe social, scientific and ethical values in the stages of data collection, interpretation and announcement and in all professional activities.			**X**

Prepared by: Prof. Dr. Ecevit EYDURAN **Date : 01/01/2021**