DEPARTMENT OF BUSINESS AND ECONOMICS
COURSE SYLLABUS

Course Details				
Code		**Academic Year**		**Semester**
BE031		2021-2022		
Title		**T**	**A**	**L**	**ECTS**
Advanced Statistics and Data Analysis		3	1	0	10

Language	English					
Level	**Master**		**Doctorate**	**X**		
Department / Program	PhD in Business and Economics					
Forms of Teaching and Learning	Face-to-Face					
Course Type	**Compulsory**		**Elective**	**X**		
Objectives	This course aims to endow students with advanced knowledge about statistics and data analysis. Some topics that will be covered include probability theory, univariate and multivariate random variables, and asymptotic theory, properties of estimators, likelihood functions and elements of Bayesian statistics. The course will also introduce applications of the topics to topics related to business and economics using statistical software.					
Content	This course consist of advanced topics in statistics. Mainly, identification and assumptions of the statisticals test will be given. Different types (one independent variable) of ANOVA will be considered, such as One-way or Kruskal-Wallis. Repeated measures ANOVA and ANCOVA will be given. Later in the course, two independent variable analysis will be equipped to the students. Starting from OLS, regression types (multiple, logistic) will be progressed. T-test and data will also be given.					
Prerequisites						
Coordinator						
Lecturer(s)						
Assistant(s)						
Work Placement						

Recommended or Required Reading	
Books / Lecture Notes	**Field, A. (2013). Discovering statistics using SPSS (4th edition). Los Angeles: Sage. ISBN: 978-1-4462-4918-5**
Other Sources	Newton, R., & Rudestam, K. E. (1999). Your statistical consultant. Thousand Oaks, CA: Sage Publications. ISBN: 0-8039-5823-4

Additional Course Material	
Documents	**Lecture Notes and Books**
Assignments	Assignments
Exams	Midterm and Final

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Course Composition		
Social Sciences		%100
Educational Sciences		%
Natural Sciences		%
Health Sciences		%
Expert Knowledge		%

Assessment		
Activity	**Count**	**Percentage (%)**
Midterm Exam		30
Quiz		
Assignments		30
Attendance		
Recitations		
Projects		
Final Exam		40
	Total	**100**

ECTS Points and Work Load			
Activity	**Count**	**Duration**	**Work Load (Hours)**
Lectures	14	3	42
Self-Study	14	2	28
Assignments	12	5	60
Presentation / Seminar Preparation			
Midterm Exam	1	60	60
Recitations			
Laboratory			
Projects			
Final Exam	1	90	90
		Total Work Load	**280**
		ECTS Points (Total Work Load / 28)	**10**

Course Learning Outcomes	
1	To become familiar with several statistical analysis techniques
2	To be able to evaluate the appropriateness of statistical analyses, results, and inferences so that s/he can understand research and interpret data in applied settings.
3	To be able to select the correct analysis technique for new research
4	To be able to correctly interpret the results

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5	To use SPSS to conduct statistical analyses
Weekly Content	
1	Introduction
2	The SPSS Environment
3	Unbiasness Assumptions
4	T-Tests
5	ANOVA
6	ANOVA
7	ANCOVA
8	Midterm
9	Mixed Designs
10	Project Presentations
11	Correlations and Data with Graphs
12	Regression
13	Regression
14	Categorical Data
15	Overview

Contribution of Learning Outcomes to Program Objectives (1-5)

CLO	P1	P2	P3
1	4	3	5
2	4	5	5
3	3	3	4
4	5	4	4
5	3	4	4

Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High
Compiled by:	
Date of Compilation:	04/05/2021