College of Business Administration

Quantitative Analysis Department

Business Statistical Analysis

QUA 502

Course Facilitator:

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Course Description

This course introduces statistical methods and applications, covering descriptive statistics, probability, and inferential techniques necessary for appropriate analysis and interpretation of data relevant to management sciences. Students will use one of the statistical software packages such as SPSS.

Course Objectives

- Familiarity with basic statistics terms.
- Ability to summarize data and do basic statistical analyses using SPSS.
- Ability to understand basis statistical analyses in published journals.
- Understanding of key concepts including statistical hypothesis testing – critical quantitative thinking.
- Foundation for more advance analyses.

Course Evaluation

1. Assignments and attendance (20%)
2. Midterm Exam (20%)
3. Project (20%)
4. Final exam (40%)

Text Book

Statistical Techniques in Business and Economics
18th Edition
By Douglas Lind and William Marchal and Samuel Wathen
ISBN10: 1260239470
ISBN13: 9781260239478
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Business Statistics: A First Course, 8th edition

Published by Pearson (July 15th 2020) - Copyright © 2020

David M. LevineDavid F. Stephan

Course Contents and Plan

TOPIC	DATE	READING
Introduction to Statistics: Descriptive statistics — Populations and samples — Types of data — Graphic methods — Measures of location — Measures of spread	4/09/2022	Ch 1 & 2 & 3& 4
Introduction to the SPSS Interface — Opening an existing SPSS database — Graphical data analysis — Descriptive statistics	11/09/2022	Ch 1 & 2 & 3& 4
Probability and Probability distributions: — Elementary probability — Elementary properties of random variables — Binomial distribution — Poisson distribution — Normal distribution — Central limit theorem — Normal approximation to the binomial — Normal approximation to the Poisson	18/09/2022 25/09/2022	Ch 5,6,7,8
One-sample inference — Populations and samples — Point estimation — The logic of hypothesis testing — Inference for the mean of the normal distribution — Inference for the binomial distribution — Inference for the Poisson distribution — Confidence intervals for the mean and variance — Hypothesis testing and confidence intervals — Confidence intervals for binomial and Poisson	2/10/2022 9/10/2022	Ch 9,10
Midterm exam	يوم الأحد 16/10/2022	موعد المحاضرة
Two-sample inference — Inference for paired samples — Inference for independent samples (equal variance) — Underlying assumptions — Inference for independent samples (unequal variance)	16/10/2022 23/10/2022	Ch 11

— Two-sample tests for binomial proportions — Measures of effect for binomial data		
Simple linear regression and correlation — Fitting regression lines - method of least squares — Inference and prediction for regression — Correlation	30/10/2022	Ch 13
Analysis of Variance, ANOVA — One-way ANOVA — Hypothesis testing — Comparisons of Groups	30/10/2022	Ch 12
Nonparametric Methods — Sign Test — Wilcoxon Signed Rank Test — Wilcoxon Rank Sum or Mann Whitney Test — Kruskall Wallis Test — chi-square test for goodness of fit — Chi-square test for independence.	6/11/2022	Ch 15 &16
Final Exam	**Date is stated in Edugate**	

Some remarks about the Research Paper

- Maximum three students can work together in condition that each one has a certain role.
- Four reports must be submitted:
  - First, title and objectives of the paper in (Week 3).
  - Second, paper literature review, objectives, methodology and questionnaire design (if needed) in (Week 5).
  - Third, initial analysis of the data in (Week 7)
  - Four, final paper with also short presentation in (week 10).
- It is expected that all papers are done in professional way that represent well educated master's degree students.
- The paper should be typed in Double space Simplified Arabic (font 14).
- All analysis have to be done in SPSS.
- There should be a cover page with:
  - ✓ Title of the program
  - ✓ Course title and no.
  - ✓ Names of the students and their university ID no.
  - ✓ Date of submission