Academic Quality Assurance Department

Course Syllabus Form

College	Faculty of Applied Science		
Department	Department of Applied Mathematics		
Program			
Course Title	**principles of statistics for administration**	**Course Number:**	**15060105**
Year	2023/2024	**Semester:**	Summer
Prerequisite(s)	-		
Instructor	Dr. Bakr Albadareen		
Instructor's e-mail	b.badarin@ptuk.edu.ps		
Office Hours			
Office Room	E118		
Class Time	/////	**Class Room:**	////
Course description	This course is an introduction to statistical methods and concepts applied to business and economics data. This course covers the fundamental materials in both descriptive and inferential statistics. The topics include descriptive statistics, graphical representation of data, confidence intervals, hypothesis testing, regression analysis, an introduction to time series, index numbers, and the analysis of variance.		
Course Intended Learning Outcomes (CILOs)	1. understand how to construct and interrupt the histogram and pie charts, calculate and interrupt measures of central tendency, measures of dispersions for a given data sets. 2. understand the basic principles of simple linear regression and correlation, applied these ideas in practice case by: a. constructing and interpreting scatterplots. b. for a given data set, compute the following: least squares simple linear regression equation, Pearson correlation coefficient and the coefficient of determination. c- using linear regression equation to predict the value of a response variable y given a particular value of a predictor variable x if the linear relationship is significant. 3. the student will be familiar with the fundamental concepts of statistical inference such as: a. Point and interval estimation b. hypothesis testing based on stating the following: (i) the null hypothesis and the alternative hypothesis. (ii) the correct test statistic to be employed. (iii) the appropriate conclusion for rejecting or failing to reject for a stated level of significance. (iv) a conclusion or answer to the stated question. c. Estimating population parameters with testing a null hypothesis concerning a parameter using: the normal distribution applied to population mean, the t-distribution applied to population mean.		
Textbook(s)	Statistics for Business and Economics, 13th Edition, 2015, David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, Jeffrey D. Camm, James J. Cochran		
Other required material (References):		Lecture PowerPoint slides	
Other Resources used (e.g. e-learning, field visits, periodicals, software, etc.)			

Course Teaching Methods	
Teaching Method	**CILOs**
Lectures	

Assessment Type	Details/Explanation of assessment in relation to CILOs	Weight	Date(s)
Midterm Exam		**40%**	
Home works		**15%**	
Final Exam		**45%**	
Total		100%	

Course Intended Learning Outcomes (CILOs)										
CILOs	**Mapping to Program ILOs**									
On successful completion of the course, students will be able to:	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**I**	**j**

Course Weekly Breakdown					
Week	**Date**	**Topics Covered**	**CILOs**	**Lab Activities**	**Assessment**
1		**Chapter 2** Descriptive Statistics: Tabular and Graphical Displays 2.1-Summarizing data for a categorical variables: Frequency distribution, Relative frequency and percent frequency distribution, Bar charts and Pie charts 2.2-Summarizing data for a Quantitative variable: Frequency distribution, Relative frequency and percent frequency distribution, Histogram, Histogram with normal curve, Cumulative distribution, frequency polygon and Frequency Ogive			
2		**Chapter 3** Descriptive Statistics: Numerical Measures 3.1 Measures of Central Tendency (Mean, Weighted mean, Median, Mode) [case of values] & [case of frequency table] Measures of Location (Percentiles, and Quartiles) [case of frequency table]			
3		3.2 Measures of variability [Dispersion measure] (Range, Interquartile range, mean absolute error, Variance and Standard Deviation, Coefficient of Variation) [case of values] & [case of frequency table] Z-Score			

Course Weekly Breakdown					
Week	**Date**	**Topics Covered**	**CILOs**	**Lab Activities**	**Assessment**
4		**Chapter 14** The Scatter Plot Pearson Correlation Coefficient Simple Linear Regression (Least Squares Method) The coefficient of determination			
5		**Chapter 7** Sampling and Sampling Distributions 7.3 Point estimation 7.5 Sampling distribution of (Expected value of, Standard deviation of, Relationship between the sample size and the sampling distribution) 7.6 Sampling Distribution of p (proportion) **Chapter 6** 6.2 Normal Probability Distribution, Standard Normal Probability Distribution, An application of Normal Distribution			
6		**Chapter 8** Interval Estimation when: 8.1 Population mean- σ is known 8.2 Population mean- σ is unknown (compute margin of error and the interval estimate) 8.3 Determining the sample size 8.4 Population proportion, determining the Sample Size.			
7		**Chapter 9** Hypothesis Tests 9.1 Developing Null and Alternative hypothesis as an Assumption to be Challenged 9.2 Type I and Type II errors 9.3 Population mean: σ is known 9.4 Population mean: σ is unknown 9.5 Population Proportion (one-tailed test, two-tailed test, relationship between interval estimation and hypothesis testing)			

Prepared by:	Dr. Bakr Albadareen	**Signature**	
Head of Department	Dr. Rania T. M. Wanan	**Signature**	
Date	**21/07/2024**		