



The Islamia University of Bahawalpur
Rahim Yar Khan Campus
Department of management Sciences

Class: BBA

Semester: 4th

Session: 2018-2022

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Instructor	Zartashia Zia		E-Mail: zartashia_zia@yahoo.com		
Course Title	Inferential Statistics			Program	BBA
Course Number			Credit Hours		3
Lecture Timings	Thursday (10:00 am to 11:30 am) Thursday (11:30 am to 01:00 am)				
<u>Course Objectives:</u>					
1. The course will cover preliminary ideas of data collection, presentation of data, measure of central tendency, measure of dispersion, probability distribution, regression and correlation.					
2. To give the students the knowledge of elementary statistical methods.					
3. Prepare them to be able to use descriptive statistics for summarizing, reducing the data size and performing exploratory data analysis and interpretation.					
4. To make students aware of the conditions underlying the applicability of probability and theoretical probability distribution.					

Course Outline

Week	Topics
	Mid Term
1,2	Population, statistical population, finite and infinite population, target population, size of population, sample, size of sample, sampling, sampling unit, sampling technique, purpose of sampling, parameter, statistics, standard error, uses of standard error, with and without replacement and numerical questions.
3,4	Probability and non probability sampling, sampling frame, sampling design, sampling distribution, sampling error, non sampling error, bias, simple random sampling and its methods, finite correction factor, advantages of sampling, unbiasedness, uses of sampling in daily life, precision and accuracy and numerical questions.
5,6	Estimation, estimation of parameter, point and interval estimation, estimate, interval estimate, interval, confidence interval, confidence coefficient, confidence limit, error of estimation, properties of good estimator and numerical questions.
7,8	Hypothesis, simple and composite hypothesis, testing of hypothesis, exact and inexact hypothesis, null and alternative hypothesis, type I error, type II error, comparison b/w α and β , one tailed test, two tailed test, Acceptance and rejection region, test statistics, level of significance, level of confidence, critical value, power of test, power of curve and numerical questions.
	Final Term
9,10	t-distribution, assumption of t-distribution, assumptions of paired t-distribution, properties of t-distribution, Application of t-distribution, confidence interval of t-distribution, small and large sample mean of t- distribution and numerical questions.
11,12	Chi-squared distribution, properties of chi-squared distribution, uses of chi-squared distribution, what is condition to apply chi-squared distribution, assumption of chi-squared distribution, differentiate b/w attributes and variables and numerical questions.
13,14	Regression, simple linear regression, simple linear regression modal, regression line, regression coefficient, independent and dependent variable, scatter diagram, properties of regression line, properties of regression coefficient and numerical questions.
15,16	Correlation, correlation coefficient, positive and negative correlation, properties of correlation of coefficient, linear correlation, differentiate b/w association and correlation, method of least square, residual, uncorrelated, zero correlation and numerical questions.

Course presentations:

A brief introduction of the topic will be given by the course instructor followed by the PowerPoint presentation by the student/group of about 20 minutes. A further 20-30 minutes would be devoted to the discussion, objection or questions related with the topic. The PowerPoint copy of the presentation must be e-mailed or a hard copy submitted to the instructor at least 24 hours before the presentation.

Teaching Methodology:

- 1. The class will be conducted in the form of lecture and discussion. Students will be encouraged to participate and ask question at the end of each class session.
- 2. Students are also expected to read the topic of the day in advance which will be told a day before by the instructor.

Testing and Grading:

- 1. Grading will tend to focus on your overall performance rather than on or two aspects. A mid-term examination and a comprehensive final examination will be given.
- 2. Themid-term examination will be graded for 30 marks and final examination will have a value of 50 marks.
- 3. At least 80% attendance is mandatory.
- 4.Test question may be taken from textbook reading, additional material discussed in the class and / or other assigned readings.

Marks Distribution:

Activity	Marks
Classroom participation/general behavior/group work	5
Quiz/surprise test	5
Assignments	5
Presentation/Seminar	5
Mid-term Exam	30
Final Exam	50
Total	100

Recommended Books:

- 1. “Statistical Techniques for Business & Economics” by Robert D Mason, and Lind.
- 2. “Inferential Statistics” by Francis
- 3. “Statistics for Management” Ritchard I. Lavin & David S.Rubin. 7th ed.
- 4. “Introduction of statistical theory Part II” by Sher Muhammad Ch.