Department of Public Health
Institute of Social & Cultural Studies
Faculty of Behavioral & Social Sciences
University of the Punjab, Lahore

Course Outline

Programme	BS Workplace Health & Safety Promotion	**Course Code**	**WHSP 201**	**Credit Hours**	3
Course Title	**Bio-Statistics**				

WHSP 201- BIO-STATISTICS

Course Objectives:

After studying this course, you should be able to:

i. Present & Interpret data in tabular and graphical forms

ii. Apply the basic rules of probability

iii. Summarize data using the appropriate measures of central tendency and variation

iv. Apply the principles of normal distribution on a population and on sample means

v. Determine the required sample size for a given level of significance

vi. Determine & interpret the confidence interval for sample means and proportions

vii. Apply the appropriate test of significance to test the hypothesis on a given data set

Course Contents:

i. Introduction to Biostatistics and its Application in Research

ii. Data: its Types, Sources and uses

iii. Organizing and Displaying Data

iv. Measures of Central Tendency and Measures of Dispersion

v. Introduction to Statistical Software

vi. Probability

vii. Normal Distribution

viii. Sampling Techniques

ix. Confidence Intervals for Mean

x. Confidence Intervals for Proportion

xi. Hypothesis Testing

xii. Introduction to Tests of Significance

xiii. Correlation and Regression

Practical Contents

1. Frequency distribution
2. Stem-and-leaf diagram
3. Various types of graphs
4. Mean,
5. Geometric mean harmonic mean,
6. Median,
7. Quartiles deviation,
8. Mean deviation.
9. Standard deviation,
10. Variance,
11. Coefficient of variation,
12. Skewness and kenosis
13. Regression analysis
14. ANOVA

Teaching-Learning Strategies

Teaching will be a combination of class lectures, class discussions, and group work. Short videos/films will be shown on occasion.

Sessional Work

The sessional work will be a combination of written assignments, class quizzes, presentations, and class participation/attendance.

Assessments and Examination

Sessional Work: 25 marks
Midterm Exam: 35 marks
Final Exam: 40 marks

Recommended Books/Readings:

1. Bio Statistics Bush, Heather M 2012.
2. Fundamentals of Biostatistics 7th edition by Bernard Rosner 2011.
3. Bio Statistics Daniel, Wayne W 2009.
4. Bio Statistics Rao, K Visweswara (ed) 2009.
5. Pagano, Gauvreau Principles of Biostatistics 2nd Thomson
6. Rosner Fundamentals of Biostatistics 6th Thomson
7. Daniel WW Biostatistics: A Foundation for analysis in Health Sciences 5th (1990) Joh Wiley and Sons