Course Contents for Subjects with Code: STAT

This document only contains details of courses having code **STAT**.

Code	Subject Title		Cr. Hrs	Semester
STAT-101	Statistics-I		3	I
Year	Discipline			
1	Statistics-I,II,III, Mathematics-II, Economics			

Code	Subject Title		Cr. Hrs	Semester
STAT-102	Statistics Lab-I		1	I
Year	Discipline			
1	Statistics-I,II,III, Mathematics-II, Economics			

Course Outline

Meaning of Descriptive and Inferential statistics. Population and Sample. Types of variables, Measurement Scales. Sources of Statistical data in Pakistan. Description of data by frequency tables and graphs. Stem and Leaf plots and Box plots. Measures of Central Tendency. A.M. H.M. G.M., Mode, Median, Quantiles. Properties of Mean with proofs. Weighted Arithmetic Mean. Empirical Relation between Mean. Median and Mode. Relative Merits and Demerits of various averages. Measures of Dispersion: Absolute and Relative Measures, Range. Semi-Inter Quartile Range, Mean Deviation, Variance, Standard Deviation. Coefficient of Variation, Coefficient of Mean Deviation, Coefficient of Quartile Deviations, Properties of Variance and Standard Deviation with proofs. Standardized variables, Moments, Moment Ratios, Sheppards Correction, Kurtosis and Skewness.

Index Numbers and Time Series

a) Construction and application of wholesale price Index Numbers. Fixed and chain base methods. Weighted Index Numbers (Laspeyre's, Paasche's Fisher's Ideal and Marshall-Edgeworth Indices). Tests for the consistency of Index Numbers Construction of Consumer price Index Numbers. Sensitive price Indicator.

b) Time series. Components of a time series. Analysis of time series. Measurement of secular trend and seasonal variations by various methods. Deseasonalization of data.

Simple Regression and Correlation

Logic of regression and correlation. Scatter diagram, simple linear regression model, least square estimators and their properties, standard error of estimate. Meaning and application of linear correlation coefficient. Properties of correlation co-efficient. Correlation coefficient for bi-varlate frequency distribution. Meaning derivation and application of Rank correlation, tied ranks.

Recommended Books

1. Chaudhry, S.M. & Kamal, S. (2010). Introduction to Statistical Theory Part I, Ilmi Kitab Khana, Urdu Bazar, Lahore.
2. Wonnacott, T.H. and Wonnacott, R.J. (1998). Introductory Statistics, John Willy & Sons, New York.
3. Clarke G. & Cooke D. (1998). A basic Course in Statistics, Arnold Publisher, London, 4th Edition.

4. Crawshaw, J and Chambers, J. (2001). A concise course in advanced level Statistics with worked examples, Nelson Thornes, 4th Edition.
5. Graybill, Iyer & Burdick (1998). Applied Statistics, A first course in inference. Prentice Hall, New Jersy.
6. Beg, M.A. and Mirza, M.D. (2006). Statistics, Theory and Methods, Volume I, Carven Book House, Kutechery Road, Lahore.
7. Chase W. & Bown F. (1997). General Statistics, 3rd Edition, John Willy & Sons, New York.
8. Macfie, B.P. and Nufrio, P.M. (2006). Applied Statistics for public policy, Prentice Hall of India.
9. Blumen (1997), Elementary Statistics, 3rd Edition, McGraw Hill, New York.
10. Johnson, R.A. and Wichern, D.W. (2003). Business Statistics: Decision making with data, John Wiley & Sons Inc.
11. Levine, D.M., Kschbiel, T.C. and Berenson, M.L. (2003). Business Statistics: A first course, 3rd edition, Pearson Education.
12. Levin, J. and Fox, J.A. (2006). Elementary Statistics in Social Research, 10th edition, Pearson Education.