

ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ



UNIVERSITY OF MYSORE
(Estd.1916)

CERTIFICATE COURSE
in
STATISTICAL SOFTWARE FOR
DATA ANALYSIS



UNIVERSITY OF MYSORE

DEPARTMENT OF STUDIES IN ECONOMICS AND CO-OPERATION
MANASAGANGOTRI, MYSURU-570 006

CERTIFICATE COURSES

[Syllabus: 2017-2018]

INSTRUCTIONS:

1. **Duration:** Certificate Course is for a duration of THREE Months
2. **Number of Credits:** Number of Credits for each Course shall be 5.
3. **Teaching Hours:** 5 Hours per week for each course. [About 60 hours for each course]
[This shall be inclusive of theory, application, practical work, tutorials, and seminars as required/applicable to each course depending on the content and approach by the faculty]
4. **Allocation of Marks: Number of Marks for Each Course: 100**
Out of 100 Marks: 70 Marks is for Theory Examination [Comprehensive end Semester Exam]
30 Marks is for Internal Assessment [for all the Courses in 2 Semesters]
30 Marks for Internal Assessment shall have the break-up as follows:
10 Marks for One Test
05 Marks for One Assignment
05 Marks for Seminar Presentation
5. **Fees Structure:**
 - Diploma Course is fully Self-Finance Course.
6. **Eligibility Criteria:**
 - Students who have completed their Bachelor's Degree with Economics as one of the Cognate Subjects, B.Sc., with Mathematics or Statistics as one of the Cognate Subjects in Bachelor's Programme, B.Com, BBM and Students with Masters' Degree in Social Science, Commerce & Management are eligible to pursue this Course.

LIST OF CERTIFICATE COURSES

Sl. No.	Title of the Certificate Course	Marks for Theory	Internal Assessment	Total Marks
1	Certificate Course in Basic Mathematics for Research	70	30	100
2	Certificate Course in Basic Statistics for Research	70	30	100
3	Certificate Course in Theory of Econometrics for Research	70	30	100
4	Certificate Course in Applied Econometrics for Research	70	30	100
5	Certificate Course in Research Methodology	70	30	100
6	Certificate Course in Statistical Software for Data Analysis	70	30	100


CHAIRMAN
 Department of Studies
 Economics and Co-operation
 University of Mysore
 Manasagangothri
 MYSORE-570 006

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CERTIFICATE COURSE IN STATISTICAL SOFTWARE FOR DATA ANALYSIS

[For Research in Social Science, Commerce & Management]

Preamble: In the era of information technology proper use of information technology in most of the disciplines has become a necessity. Economics being an empirical science, computer has emerged as the pivotal instrument for economic analysis, research and forecasting. Given the highly quantitative aspect of research in economics, it becomes imperative for students to equip themselves with a basic knowledge of statistical software if they are to keep abreast of the explosive growth of knowledge in the rapidly growing area. This is essential for anyone intending to specialize in applied economics, as statistical software are the only interface between data and their meaningful analysis (especially if the data collection is done at a substantially sophisticated level). Therefore the students of economics need to be equipped with skills and tools based on statistical software. This will not only enhance their employability but also prepare them for future challenges. This course is basically tailored to meet this current lacuna in the research in applied economics.

Module 1: Introduction - Getting Started - Entering Data in the Data Viewer - Defining Variables - Recoding Variables - Computing new Variables - Data Analysis with Statistical Software -Generating Frequency Table, Bar Chart, Pie Chart, Histogram, Arithmetic Mean, Median, Standard Deviation and Range, Contingency Table, Chi-square, and Cramer's V, Pearson's r , and Spearman's rho, Scatter Diagrams - Saving, Retrieving Data - Printing Output.

Module - 2: Matrix and Determinants Operations - Computing Inverse Matrix, Input-Output Analysis - Construction of Different Tables - Transaction Matrix, Technical Coefficient Matrix, Computation of Values on the Basis of Problems.

Module- 3: Computing, Discounting and Calculation of Present Value - Linear Programming -Procedure used in Formulating and Solving Linear Programming Problems- Graphical and Simplex Methods, Profit Maximization and Cost Minimization.

Module - 4: Construction of Frequency - Generating Graphs - Histogram, Pie Charts, Bar - Graphs, Calculation of Probability, Calculation of Central Tendencies and Measures of Dispersion.

Module - 5: Estimation Correlation Coefficient - Zero Correlation Matrix - Partial Correlation -Estimation of Simple Regression - Ordinary Least Squares - Estimation of Multiple Regression.

Module - 6: Test of Statistical Significance - 't' Test - F Test - ANOVA Test - Chi-Square Test Construction of Index Numbers - Deflating a Series by Price Indexes - Time Series Analysis and Forecasting.

References: [Please refer to the Latest Editions]

1. Bryman Alan, *Social Research Methods*, Oxford University Press, Oxford.
2. Edward Minieka, *Statistics for Business with Computer Application*, South-Western, USA
3. Sonia Taylor, *Business Statistics*, Palgrave.

