



**Gautam Buddha University
School of Management
Greater Noida**

TEACHING-LEARNING PLAN

Ph.D. Programme-Course Work (Odd Sem.)

Course: Computer Applications in Research

MB-904

Instructor: Dr. Indu Uprety

Year/Sem: 2022-23

Department: School of Management

Credit: 02

Sessions: 30

Each Session: 60 Minutes

Course Description:

This course provides foundational training on the application of SPSS and other data analysis tools used in management/social science research. SPSS is probably the most commonly used statistical program in the field of Management Sciences in general and is used by a majority of researchers working in the field of second language research.

This course is designed to promote learning-by-doing. Students learn concepts through lectures and readings, then apply them in practical assignments using standard computer applications. The course will use software for statistical analysis (SPSS) and spreadsheet analysis (MS Excel) with other Excel-compatible tools. The subject matter is meant to give students the "analytical toolbox" usable across many disciplines - whether using regression to forecast sales, designing spreadsheets for portfolio optimization or constructing decision tree models to evaluate different R&D alternatives.

Course Objectives:

- To help students develop basic capabilities in working with quantitative data for planning and analysis;
- To develop core vocabulary, conceptual understandings, analytical capabilities, and computer skills to conduct research that makes use of quantitative data;
- Expose students to the use of data analysis across business disciplines to develop their logical and problem-solving skills for decision making;
- To help students able to interpret software results and sensitivity reports.

Course Outcomes:

Upon completion of the course, students would be able to:

- Understand the role of business analytics within an organization.
- Identify the appropriate techniques for different business problems/cases.
- Use SPSS and Excel for planning and data analysis.
- Be able to apply the data analysis tools and techniques in their research and investigations.

Pedagogy:

This pedagogy will make use of analytical and experiential exercises using SPSS and Excel based tools & applications comprising of business/research cases pertaining to diverse management disciplines. The sessions will be conducted in Computer lab where students will be expected to implement the models using relevant algorithms/programs in order to develop logical and problem-solving skills.

Session Plan:

Sr. No.	Session No.	Topics to be Covered
1	1-5	<ul style="list-style-type: none">• Getting Started with SPSS: Setting up data file, screening for input errors and creating variables, Dealing with missing data.• Describing and presenting the data• Examining the shape of distribution for Normality, Statistical Significance
2	6-12	Statistical Tests: <ul style="list-style-type: none">• Choosing a Statistical Test- Parametric vs Non-parametric Tests (hypothesis testing for differences between means and proportions)• ANOVA (One-way, Two-way, Factorial Design)• Chi-Square Test
3	13-18	<ul style="list-style-type: none">• Methods of Correlation: Testing hypotheses of relationships• Prediction and Regression (Linear, Multiple-linear, Non-Linear, Logistic)• Reliability and Validity
4	19-20	Forecasting Techniques
5	21-26	Multivariate Data Analysis: (Factor, Cluster, Discriminant, Conjoint Analysis) <ul style="list-style-type: none">• Using SPSS to explore the relationship among three or more variables.
6	27-30	Using MS-Excel & other Compatible Tools for Data Analysis: <ul style="list-style-type: none">• Spreadsheet Exercises: Elementary Modeling, Functions and relationships• Spreadsheet Graphics: spreadsheets to prepare graphs and charts. Database exercises on sorting, filtering, and pivot tables.• Using the advanced filter and database functions• Simulation using spreadsheets

Mini Project:

The mini research project will be one of the most important learning tools of the course. This research oriented mini project should be carried out with extensive data analysis to derive the results and conclusion. Students will have to submit a short case report using SPSS and other data analysis tools and techniques.

Machine test will also be conducted during the course as part of continuous assessment.

Suggested Texts:

1. Business Research Methods and Statistics using SPSS, Robert B. Burns, Richard A. Burns, SAGE Pub.
2. Spreadsheet Modeling for Business Decisions, John F. Cros, Kendall/Hunt Pub.

Reference Books:

1. Data Analysis and Business Modeling, Wayne L. Winston, PHI.
2. Using SPSS for Social Statistics and Research Methods, William E. Wagner, SAGE Pub.
3. Quantitative Data Analysis with SPSS, Alan Bryman, Duncan Cramer, Routledge Pub.
4. Spreadsheet Modeling and Decision Analysis, Cliff Ragsdale, Cengage Learning; 6th edition.
5. Developing Spreadsheet-Based Decision Support Systems, Michelle M.H. Şeref, Ravindra K. Ahuja, and Wayne L. Winston, Dynamic Ideas, Belmont, Massachusetts.

Websites that can be visited for the course:

www.ibm.com

www.solver.com

Evaluation Scheme:

Regularity & Participation	10
Assignments, Machine Test and Mini Project	40
End-Term Examination	50

Gautam Buddha University

GBU School of Management

Ph D Programme

Course-Outline

Course: Research & Publication Ethics
2015-16

Credits: 4 (60 hrs.)

Session:

Course Coordinator: Dr Satish K Mittal & Dr Manisha Sharma

Course Overview

The sixty ours course is structured to provide a foundation in Research Methodology including research methods, techniques (quantitative and qualitative) and their relevance to different types of research conducted with a 'Managerial' outlook. The objective of the course is to introduce various aspects of research methodology, including problem formulation, research designs, various tools and techniques for data collection and analysis and reporting of research findings. The course aims to provide a broad overview of the above aspects and prepare the student for undertaking more detailed research in his/her chosen field of interest.

The pedagogy will consist of lectures, seminars, group work, cases, self study of the modules and discussion. Participants are encouraged to discuss applications, illustrations, methods and techniques related to individual topics. Hands on training using hypothetical data on statistical softwares may also form an important part of the pedagogy.

Evaluation: Group project (Submission & Presentation) : 25%
Assignments/Quizzes/Tests (3) : 25%
End Term Written Exam : 50%

Suggested Books

Session-Plan (60 sessions in all with each session of 60 minutes)

Session No.	Topic(s)	Instructor(s)
1	Introduction to the Course	Dr. Satish K Mittal
2	Descriptive Statistics	Dr. Satish K Mittal
3-6	Introduction to Research; The Research Process	Dr. Satish K Mittal
7-9	Formulation of Research Problem	Dr. Satish K Mittal
10-12	Research Designs I	Dr. Satish K Mittal
13-14	Research Designs II	Dr. Satish K Mittal
15-16	Sampling Design	Dr. Satish K Mittal
17-18	Measurement and Scaling	Dr. Satish K Mittal

Session No.	Topic(s)	Instructor(s)
19-21	Data collection methods	Dr. Satish K Mittal
22-23	Reliability and Validity	Dr. Satish K Mittal
24-25	Data Preparation	Dr. Satish K Mittal
26-27	Questionnaire Design	Dr. Satish K Mittal
28	Data Analysis: An Introduction	Dr. Satish K Mittal
29-33	Data Analysis: Hypothesis Testing (Z-test, t-test, chi square test)	Dr. Manisha Sharma
34-36	Data Analysis: ANOVA	Dr. Manisha Sharma
37-38	Academic Writing I	Dr. Manisha Sharma
39-40	Data Analysis: Correlation & Regression	Dr. Manisha Sharma
41	Academic Writing II	Dr. Manisha Sharma
42-44	Data Analysis: Multivariate Analysis I	Dr. Manisha Sharma
45-47	Data Analysis: Multivariate Analysis II	Dr. Manisha Sharma
48	Ethical issues in Research	Dr. Manisha Sharma
49-52	Use of Statistical Software in Research I	Dr. Manisha Sharma
53-54	Presentations by Participants: Evaluation	Dr. Manisha Sharma
55-57	Use of Statistical Software in Research II	Dr. Manisha Sharma
58-60	Presentations by Participants: Evaluation	Dr. Manisha Sharma

Note: Readings/cases shall be provided by concerned instructor through course coordinator as and when required.