



Kot Bhalwal, Jammu



Model Institute of Engineering
& Technology (Autonomous)
Course Handout

COURSE HANDOUT

BUSINESS STATISTICS AND RESEARCH METHODS (MBA_106)

MBA-1st SEMESTER

ACADEMIC YEAR (2024-25)

Dr. Rakesh Sharma

Assistant Professor

School of Management



School of Management

Model Institute of Engineering & Technology (Autonomous)

Kot Bhalwal, Jammu - 181122

www.mietjmu.in



Dr. Arun K. Gupta Teaching-Learning Centre

Version 1.1



Please Do Not Print Unless Necessary



Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
MBA-106	Business Statistics and Research Methods	Core	4	4	0	0	30	70	100

COURSE OUTCOMES

At the end of the course the student will be able to:	
CO1	Remember the elementary concepts and techniques of statistics.
CO2	Understand the applications of regression and correlation.
CO3	Examine the framework of probability and the various probability concepts that are essential in business decisions.
CO4	Formulate and validate the hypothesis using different statistical methods.
CO5	Demonstrate the importance, types, and research process in decision-making and business.

Detailed Syllabus Section A

UNIT I

Measures of Central Tendency: Arithmetic Mean, Median, and Mode; **Measures of Dispersion:** Standard Deviation; Coefficient of Variation; Skewness and Kurtosis.

(10 hours)

UNIT II

Regression Analysis: Correlation Karl Pearson Coefficient of Correlation; Spearman's Rank Correlation Method; Simple Linear Regression Model; Regression Coefficients; Regression Equations; Standard Error of Estimate, Coefficient of Determination.

(09 Hours)

UNIT III

Probability: Concept of Probability, Binomial Distribution, and Poisson Distribution; Continuous Probability Distribution, Normal Distribution.

(09 Hours)

Section B

UNIT IV

Hypothesis Testing: Format and Types; Procedure of Hypothesis Testing; Errors in Hypothesis; Tests of Significance for Attributes; Tests of Significance for Variables; Tests of Significance for Small Samples; t-distribution and its application. Non-Parametric Tests-Chi-Square Distribution; Chi-Square Distribution Statistic; Goodness of Fit; F-test; Analysis of variance (ANOVA), One Way and Two Way.

(12 Hours)

Unit V

Research Methodology: Concept and meaning of research, types of research-exploratory, descriptive, causal; Process of research, Questionnaire design and Test; Scaling techniques, Research report preparation and presentation; Citation and referencing style.

(08 Hours)

Textbooks

S.No	Name of the Books	Name of the Author	Publisher Name	Edition (Pub.Yr.)
1	Statistics for Managers Using Microsoft Excel	Levine Stephan Kathryn A.S Zabat	Pearson	8th (2017)
2.	Business Statistics	G.C Beri	Mc Graw Hill Education (India)	3 rd (2017)



Reference Books

S.No	Name of the Books	Name of the Author	Publisher Name	Edition (Pub.Yr.)
1	Elementary Statistics in Social Research	Jack Levin, James Alan Fox	Pearson Education	12 th (2016)
2	Business Statistics	J.K Sharma	Pearson Education	2 nd (2013)

COURSE PLAN		
Unit-I Measures of Central Tendency		
S.No	Topics	Recommended Books
1	Arithmetic Mean	Book 1, Ch.1
2	Median	Book 1, Ch.1
3	Mode	Book 1, Ch.1
4	Measures of Dispersion: Standard Deviation	Book 2, Ch.2
5	Coefficient of Variation	https://www.investopedia.com/terms/c/coefficientofvariation.asp
6	Skewness and Kurtosis	Book 2, Ch.2
Unit-II Regression Analysis		
7	Introduction to Correlation	Book 2, Ch.2
8	Correlation Karl Pearson Coefficient of Correlation	https://ebooks.inflibnet.ac.in/mgmt/p15/chapter/ccorrelation-karl-pearseons-coefficient-of-correlation-spearman-rank-correlation-ar/
9	Spearman's Rank Correlation Method	Book 2, Ch.1
10	Regression Coefficients	Book 2, Ch.2
11	Regression Equations	Book 2, Ch.2
12	Standard Error of Estimate	https://www.investopedia.com/terms/s/standard-error.asp
13	Coefficient of Determination	Book 2, Ch.2
Unit-III Probability		
14	Concept of Probability	https://testbook.com/maths/probability
15	Binomial Distribution	Book 2, Ch.2
16	Poisson Distribution	Book 2, Ch.2
17	Continuous Probability Distribution	Book 2, Ch.2
18	Normal Distribution	Book 2, Ch.2
Unit-IV Hypothesis Testing		
19	Format and Types; Procedure of Hypothesis Testing	Book 2, Ch.3
20	Errors in Hypothesis; Tests of Significance for Attributes	https://www.investopedia.com/ter



		ms/h/hypothesistesting.asp
21	Tests of Significance for Variables; Tests of Significance for Small Samples	https://ebooks.inflibnet.ac.in/geop01/chapter/tests-of-significance-based-on-small-samples/
22	t-distribution and its application	https://www.geeksforgeeks.org/students-t-distribution-in-statistics/
23	Non-Parametric Tests-Chi-Square Distribution	https://www.statisticshowto.com/probability-and-statistics/statistics-definitions/parametric-and-non-parametric-data/
24	Chi-Square Distribution Statistic; Goodness of Fit	Book 2, Ch.3
25	F-test; Analysis of variance (ANOVA), One Way and Two Way	Book 1, Ch.3
Unit-V Research Methodology		
26	Concept of and meaning research	Book 2, Ch.8
27	Types of research-exploratory; descriptive, causal	Book 1, Ch.8
28	Descriptive, causal	Book 2, Ch.8
29	Questionnaire design and Test; Scaling techniques	file:///C:/Users/DELL/Downloads/Questionnaire design and scale development.pdf
30	Research report preparation, and presentation	Book 2, Ch.8
31	Citation and referencing style	https://library-guides.ucl.ac.uk/referencing-plagiarism/referencing-styles

ADDITIONAL WEB RESOURCES

1.	MOOC: Excel Skills for Business: Essentials https://www.coursera.org/learn/excel-essentials
2.	NPTEL: https://www.digimat.in/nptel/courses/video/111106112/L01.html
3.	HBPE Course Pack: Business Statistics and Research Methods (AY 2024-25) created on Harvard Publishing House https://hbsp.harvard.edu/coursepacks/1196006

GRADING AND ASSESSMENT

- **Sessional Test:** 15 marks
- **Assignment:** 10 marks
- **Attendance:** 5 marks
- **Final Examination:** 70 marks

COURSE POLICIES

- **Attendance:** Minimum 75% attendance is mandatory to appear in the final examination of the course.
- **Academic Integrity:** MIET's academic integrity policies apply. Plagiarism will not be tolerated.
- **Late Submissions:** Assignments and projects must be submitted by the specified timelines.





FACULTY INFORMATION

- **Office Hours**
Monday (12:05 PM - 12:55 PM)
Friday (12:05 PM - 12:55 PM)
- **Contact Information**
rakesh.mba@mietjammu.in