

GE 2b

Statistical Tools and Techniques

60 Hours
(45hrs Lect. + 15 hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE 1b: Statistical Tools and Techniques	4	2	0	2	BLISc	-

Course Objectives

This course introduces the essential statistical methods and tools required for evidence-based research in Library and Information Science. Students will learn to collect and classify data, apply measures of central tendency and dispersion, and perform correlation and hypothesis testing using modern software to interpret and present research findings effectively.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Explain the basic concepts of statistics and their importance in library and information science research.
- ☞ Apply descriptive statistical methods to organize, summarize, and interpret library and information data.
- ☞ Utilize statistical techniques and software tools for analyzing research data in LIS studies.
- ☞ Interpret statistical results and present findings using appropriate tables, graphs, and charts for decision-making and research reporting.

UNIT I: Introduction to Statistics

11 Hours

- ☞ Concept, Scope, and Importance of Statistics
- ☞ Qualitative and Quantitative Data

- ☞ Data Collection Tools
- ☞ Classification and Tabulation of Data
- ☞ Presentation of Data

UNIT II: Descriptive Statistical Measures

12 Hours

- ☞ Measures of Central Tendency
- ☞ Measures of Dispersion
- ☞ Frequency Distribution, Probability and Graphical Representation

UNIT III: Correlation and Basic Inferential Statistics

12 Hours

- ☞ Concept and Types of Correlation
- ☞ Methods of Calculating Correlation
- ☞ Regression Analysis: Concept and Applications
- ☞ Testing of Hypotheses

UNIT IV: Statistical Tools and Applications

10 Hours

- ☞ Use of Statistical Tools and Software
- ☞ Presentation and Interpretation of Research Results
- ☞ Web-based Statistical Tools

Essential Reading

- ☞ CROXTON (FE), COWDEN (DJ) and KLEIN (S). Applied general statistics. 3rd ed. New Delhi, Prentice Hall of India. 1982.
<https://archive.org/details/in.ernet.dli.2015.462536/page/n1/mode/2up>
- ☞ FIELD (A). Discovering Statistics using IBM SPSS Statistics. 4th ed. London, SAGE Publications. 2019.
- ☞ GUPTA (SP). Statistical methods. 46thEdn. New Delhi, Sultan Chand & Sons. 2023.
- ☞ KOTHARI (CR) and GARG (G). Research methodology: Methods and techniques. 4th ed. New Delhi, New Age International. 2019.
- ☞ REMENYI(Dan), ONOFREI(George) and JOSEPH (English). An Introduction to Statistics using Microsoft Excel 2nd Edition. Academic Conferences & Pub, Ltd, 2015
- ☞ SIMPSON (IS). Basic Statistics for Librarians. Clive Bingley, 1988

Suggested Reading

- ☞ BABBIE (E). The practice of social research. 14th ed. Boston, Cengage Learning. 2016.
- ☞ BRYMAN (A). Social research methods. 5th ed. Oxford, Oxford University Press. 2016.
- ☞ CRESWELL (JW). Research design: Qualitative, quantitative, and mixed methods approaches. 4th ed. Thousand Oaks, SAGE Publications. 2014.
- ☞ MANN (Prem S) and LACKE (Christopher Jay). Introductory Statistics. 7thEdn. John Wiley& Sons, 2010.
- ☞ POWELL (RR) and CONNAWAY (LS). Basic research methods for librarians. 5th ed. Santa Barbara, Libraries Unlimited. 2010.
- ☞ PANDIAN (Sundara P) and Others. Research methodology & Applications of SPSS in Social Science Research. Sultan Chand & Sons, 2022.