

Course Type	Course Code	Name of the Course	L	T	P	Credits
DC	NHSC502	Statistics for Humanities and Social Sciences	3	1	0	4

Course Objective
To provide students an introduction to the necessary skills in understanding statistics in quantitative research.
Learning Outcomes
Upon successful completion of this course, students will be able to: <ul style="list-style-type: none"> • Understand quantitative research designs in social sciences. • Attain basic mathematical literacy for comprehending quantitative research in social sciences. • Understand and use foundational concepts in statistics for data analysis.

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Philosophical foundations of quantitative research. Sample and population, Variables & constants, Measurement: validity & reliability, scales.	6L + 2T	Broad understanding of foundations of quantitative research and statistics.
2	Descriptive statistics. Statistical average: Mean, Median, Mode. Measures of variability. Standardized distributions: Z-Scores.	6L + 2T	Understand and implement descriptive statistics.
3	Basics of probability. Normal Probability Distribution, Distribution of sample means, Standard error, Central Limit Theorem.	6L + 2T	Understand and apply concepts of probability for drawing inference from data.
4	Research Designs: Longitudinal and cross-sectional designs. Experimental/quasi-experimental methods.	6L + 2T	Be familiar with the common research designs in quantitative research.
5	Inferential Statistics: z-test, t-test, ANOVA, Chi-square. Confidence interval and effect sizes. Type I and II errors, Statistical power.	9L + 3T	Understand and implement basics of statistical inference and estimation.
6	Correlation and Linear Regression. Mediation and moderation models.	9L + 3T	Understand and implement basic techniques of prediction. Be familiar with mediation and moderation models.
Total Lecture Hours		42L+14T	

Text Books:

1. Gravetter & Wallnau (2016). Statistics for The Behavioral Sciences, 10th edition. Wadsworth Publishing Co Inc.
2. Gravetter & Forzano (2016). Research Methods for the Behavioral Sciences, 5th edition. Wadsworth Publishing Co Inc.
3. Goodwin & Goodwin (2016). Research in Psychology: Methods and Design, 8th edition. Wiley.

Reference Books:

1. Agresti (2017). Statistical Methods for the Social Sciences, 5th edition. Pearson.
2. Hayes (2022). Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach, 3rd edition. Guilford Press.
3. Navarro, D. (2018). Learning Statistics with R: A Tutorial for Psychology and Other Beginners, available at <https://learningstatisticswithr.com/lsr-0.6.pdf>