

- SLO 1: ORGANIZE, DISPLAY, DESCRIBE AND COMPARE REAL DATA SETS.
- Recognize data types and data sources: develop basic statistical terminology including population parameters & sample statistics; identify common sampling methods used for obtaining data and identify advantages & disadvantages of each; recognize bias in sampling; compare principles of good experimental design.
- Organize and display data appropriately by preparing tables and graphs.
- Analyze data by computing measures of central tendency, measures of dispersion, and measures of position.
- Analyze bivariate data for linear trends using the least-squares regression model and the correlation coefficient.
- SLO 2: DISTINGUISH BETWEEN PROBABILITY MODELS APPROPRIATE TO DIFFERENT CHANCE EVENTS AND CALCULATE PROBABILITY ACCORDING TO THESE METHODS.
- Compute probabilities using sample spaces, the addition & multiplication rules, conditional probability, and complements.
- Develop and apply probability distributions for discrete random variables; compute probabilities and expected value.
- Analyze both discrete and continuous probability distributions by considering areas under the graph of a function or a histogram.
- Use the normal and binomial probability distributions to compute probabilities.
- SLO 3: APPLY INFERENCE STATISTICAL METHODS TO MAKE PREDICTIONS, DRAW CONCLUSIONS ABOUT HYPOTHESES AND COMPARE POPULATIONS.
- Create and interpret confidence interval estimates for population mean and population proportion based on appropriate probability models.
- Select the appropriate hypothesis test, perform the necessary computations and comparisons to test hypotheses about one population mean or one population proportion and explain the conclusion of the test.
- Create and interpret confidence interval estimates for the difference in two population means (independent and dependent sampling) or two population proportions.
- Select the appropriate hypothesis test, perform the necessary computations and comparisons to test hypotheses about two-population means (independent & dependent sampling), more than two population means, and two or more population proportions and explain the conclusion of the test.
- Test significance of correlation and make predictions based on linear trends using the least-squares regression model.
- SLO 4: USE APPROPRIATE STATISTICAL TECHNIQUES TO ANALYZE AND INTERPRET APPLICATIONS OF DATA including all of the following: business, economics, social sciences, psychology, life science, health science and education.