Statistics Learning Outcomes

This course studies methods of collecting, organizing, summarizing, and presenting data, providing students the opportunity to develop skills using statistical techniques.  Topics of study also include sampling methods, descriptive statistics, probability and probability distributions, normal distributions, confidence intervals, hypothesis testing, inferential statistics, regression, and correlation.  Technology will be employed as appropriate.

1. Demonstrate an understanding of the application of statistics and explain its value.
2. Explain methods of data collection and the use of statistics to reach reasonable conclusions.
3. Interpret and apply table, diagrams, drawings, and charts to obtain or convey quantitative information.
4. Analyze data and calculate measures of central tendency and measures of variability.
5. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and counting.
6. Interpret analyses of probability distributions for discrete and continuous random variables
7. Describe and compute confidence intervals for randomly sampled data and for a given confidence level.
8. Make inferences about a property of a population using estimation and hypothesis testing.
9. Perform analyses involving linear correlation and linear regression.