BAKER COLLEGE
STUDENT LEARNING OUTCOMES

MTH 2750 Statistical Methods
3 Semester Credit Hours

Student Learning Outcomes and Enabling Objectives

1. Determine appropriate data collection methods for a given statistical study.
   a. Identify the population and sample for a given study.
   b. Recognize an experimental or observational study.
   c. Define various sampling methods.
   d. Contrast reliable and unreliable data.
2. Analyze qualitative and quantitative data.
   a. Summarize data using statistical graphs.
   b. Calculate descriptive statistics for quantitative data.
   c. Compare data sets using descriptive statistics.
   d. Identify linear relationships between two variables using correlation.
   e. Determine the appropriateness of a linear regression model.
   f. Predict values using linear regression.
3. Apply probability distributions to predict the likelihood of outcomes.
   a. Use counting techniques to determine the number of possible outcomes.
   b. Calculate the mean and standard deviation for a probability distribution.
   c. Calculate simple and compound probabilities for discrete and continuous probability distributions.
   d. Apply the Empirical Rule to estimate probabilities for a normal distribution.
   e. Determine probabilities based on the normal distribution.
4. Make informed decisions based on inferential statistics.
   a. Apply the Central Limit Theorem.
   b. Estimate population parameters using confidence intervals.
   c. Test a claim regarding population parameter(s) using a test of hypothesis.
   d. Interpret statistical results from real world studies.

Big Ideas and Essential Questions

Big Ideas
- Data Collection
- Data Analysis
- Probability Distributions
- Inferential Statistics

Essential Questions
1. Why is statistical thinking important?
2. How can I become a more informed consumer of information?
3. How can statistics help me to assess the reliability of empirical data?

These SLOs are approved for experiential credit.

Effective: Spring 2022