

# MAT 152 Statistical Methods I

## **COURSE DESCRIPTION:**

Prerequisite(s): Take One Set:

Set 1: DMA-010, DMA-020, DMA-030, and DRE-098

Set 2: DMA-010, DMA-020, DMA-030, and ENG-002

Set 3: DMA-010, DMA-020, DMA-030, and BSP-4002

Set 4: DMA-025, and DRE-098

Set 5: DMA-025, and ENG-002

Set 6: DMA-025, and BSP-4002

Set 7: MAT-003 and DRE-098

Set 8: MAT-003 and ENG-002

Set 9: MAT-003 and BSP-4002

Set 10: BSP-4003 and DRE-098

Set 11: BSP-4003 and ENG-002

Set 12: BSP-4003 and BSP-4002

Corequisite(s): MAT 052

This course provides a project-

- III. Numerically Summarizing Data
  - A. Measures of Central Tendency
  - B. Measures of Dispersion
  - C. Measures of Position and Outliers
  - D. The Five-Number Summary and Boxplots
  
- IV. Probability
  - A. Probability Rules
  - B. The Addition Rule and Complements
  
- V. Discrete Probability Distributions
  - A. Discrete Random Variables
  - B. The Binomial Probability Distribution
  
- VI. The Normal Probability Distribution
  - A. Properties of the Normal Distribution
  - B. Applications of the Normal Distribution
  
- VII. Sampling Distributions
  - A. Distribution of the Sample Mean
  - B. Distribution of the Sample Proportion
  
- VIII. Estimating the Value of a Parameter Using Confidence Intervals
  - A. Estimating a Population Proportion
  - B. Estimating a Population Mean
  
- IX. Hypothesis Tests Regarding a Parameter
  - A. The Language of Hypothesis Testing
  - B. Hypothesis Tests for a Population Proportion
  - C. Hypothesis Tests for a Population Mean
  
- X. Inferences on Two Samples
  - A. Inferences about Two Population Proportions
  - B. Inferences about Two Means: Dependent Samples
  - C. Inferences about Two Means: Independent Samples
  
- XI. Describing the Relation Between Two Variables
  - A. Scatter Diagrams and Correlation
  - B. Least Squares Regression
  
- XII. Oral and Written Presentation of statistical results/analysis throughout the course

**REQUIRED TEXTBOOK AND MATERIAL:**

The textbook and other instructional material will be determined by the chair/instructor.