MTH 131 - INTRO TO PROB & STATS

Course Description

Descriptive statistics, experimental design, an introduction to probability concepts and inferential statistics are included in the course. Descriptive statistics includes graphs of both numerical and categorical data, measures of central tendency, and measures of variation. The normal density function, linear regression, and the binomial model are included. One and two sample problems involving confidence intervals and significance tests are studied for the sample mean and the sample proportion. Group 1 course.

Credit Hours

3

Contact Hours

3

Lecture Hours

3

Required Prerequisites

Placement into MTH 111 or MTH 120 or higher or appropriate placement.

Recommended Prerequisites or Skills Competencies

Placement into ENG 111

General Education Outcomes supported by this course

Quantitative Reasoning

Course Learning Outcomes

Knowledge:

- Students will create: histograms, bar charts, stemplots, dot plots, box plots, scatterplots, regression lines, normal curves, and binomial distributions.
- Students will compute: measures of center, measures of variation, and probabilities, both continuous and discrete.

Application:

- Use graphs of numerical data to choose appropriate measures of center and variation.
- Use scatterplots to determine if linear models are appropriate.
- Analyze statistical claims for accuracy, such as cause and effect claims.
- Generate confidence intervals and conduct hypothesis test for various situations.

Integration:

- Interpret important traits of linear models such as strength, slope and trend.
- Explain the use and purpose of sampling distributions.
- Make precise and accurate interpretations of confidence intervals and hypothesis tests.
- Compare and contrast two or more data sets.

Human Dimension:

- Strive to improve areas of mathematical weakness based on feedback.
- Collaborate with peers during group work.

Caring - Civic Learning:

- Recognize the impact mathematics plays in civic situations such as politics, education and income.

Learning How to Learn:

- Relate mathematical skills to real-life situations.