



EFFECTIVE: MAY 2003

M: Course Objectives / Learning Outcomes

At the end of the course, the successful student should be able to:

- Define the terms “population” and “sample” as they apply to Statistics
- Define and differentiate between the nominal, ordinal, interval and ratio levels of measurement
- Explain the proper use of Statistics within real world application and provide examples of its abuse
- Have an understanding of experimental design and the use of random number tables and generators
- Employ statistical software such as SPSS and/or Minitab in their own statistical investigations
- Create and interpret frequency tables, histograms, cumulative frequency tables and ogives, stem and leaf displays and scatter plots
- Calculate and interpret measures of central tenancy and variation
- Calculate and interpret standard scores
- Understand the classical and relative frequency approaches to probability and employ counting techniques
- Know and apply the addition and multiplication rules for probability and the concept of conditional probability
- Be able to differentiate between discrete and continuous random variables
- Understand and apply Tchebychev’s theorem
- Determine whether the conditions for a Binomial experiment apply and compute the Binomial probabilities
- Compute the mean, variance and standard deviation for the Binomial distribution
- Understand and apply the Poisson and other probability distributions
- Determine probabilities of standard and non-standard normal random variables
- Use the Normal distribution to approximate Binomial probabilities

8. Inferences from Two Samples

Inferences about two means: dependent samples, inferences about two means: independent and large samples, inferences about two means: independent and small samples, inferences about two proportions

9. Correlation and Regression

Correlation, regression variation and prediction intervals, multiple regression

10. Multinomial Experiments and Contingency Tables

Multinomial experiments: goodness-of-fit, contingency tables: independence and homogeneity