

GRANDE PRAIRIE REGIONAL COLLEGE  
DEPARTMENT OF BUSINESS ADMINISTRATION  
COURSE OUTLINE

BA 2060 STATISTICS FOR BUSINESS 3(3-2)

PREREQUISITE: BA 1050

**COURSE DESCRIPTION:** An introduction to the use of random variables, the binomial and normal probability distributions, estimation, tests of hypotheses, regression and small sample theory in statistics. Practical applications will be emphasized in the course. As well students will be introduced to statistical software such as Minitab and Lotus.

**COURSE OBJECTIVES:** To provide students with a knowledge of statistics. This course in conjunction with BA 1050 provides an exemption to the CGA Managerial Statistics 203 course and to the CMA Quantitative Methods 332 course.

**GRADING:**

Midterm Exam	30%
Final Exam	40%
Assignments	30%

**TEXT:** Statistical Analysis for Business and Economics; Harnett & Murphy, First Canadian Edition, (Don Mills, Ontario: Addison Wesley, 1993)

Exploring Statistics with the IBM PC; Doane, Second Edition, (Reading, Mass: Addison Wesley, 1988)

- COURSE CONTENT:**
1. **INTRODUCTION TO STATISTICS**
    - 1.1 Populations and samples
    - 1.2 Frequency distributions
    - 1.3 Measures of central location
    - 1.4 Measures of dispersion
  
  2. **FUNDAMENTALS OF PROBABILITY**
    - 2.1 Introduction of probability
    - 2.2 Basic counting rules
    - 2.3 Probability rules
    - 2.4 Probability distribution
  
  3. **PROBABILITY DISTRIBUTIONS**
    - 3.1 Binomial distribution
    - 3.2 Continuous probability distributions
    - 3.3 Normal probability distributions

4. **SAMPLING AND SAMPLING DISTRIBUTIONS**
  - 4.1 Sample designs
  - 4.2 Sample statistics
  - 4.3 The sampling distribution of  $\bar{x}$
  - 4.4 t-distribution
  
5. **STATISTICAL ESTIMATION**
  - 5.1 Properties of estimators
  - 5.2 Interval estimation
  - 5.3 Sample size determination
  - 5.4 Summary
  
6. **HYPOTHESIS TESTING**
  - 6.1 Basic concepts
  - 6.2 Hypothesis testing on the mean
  - 6.3 Hypothesis testing on the proportion
  - 6.4 Interval estimation and hypothesis testing
  
7. **REGRESSION AND CORRELATION**
  - 7.1 Simple linear regression
  - 7.2 Correlation
  - 7.3 Testing the model
  - 7.4 Using the computer
  
8. **MULTIPLE REGRESSION, INDEX NUMBERS, AND TIME SERIES**
  - 8.1 Multiple regression
  - 8.2 Examination of regression assumptions
  - 8.3 Index numbers
  - 8.4 Time series
  
9. **STATISTICAL DECISION THEORY**
  - 9.1 Probability rules and Bayes' rule
  - 9.2 Probability / decision trees
  - 9.3 Applications and illustrations
  
10. **LINEAR PROGRAMMING**
  - 10.1 Graphing linear inequalities
  - 10.2 The linear programming model
  - 10.3 Graphical sensitivity analysis
  - 10.4 Using the CMMS software
  - 10.5 Applications