J. Nutting

**GRANDE PRAIRIE REGIONAL COLLEGE**
**DEPARTMENT OF BUSINESS ADMINSISTRATION**
**COURSE OUTLINE**

**BA 2060 - STATISTICS FOR BUSINESS 3(3-2)**

F. **1997 - 1998**

**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 SPSS and Lotus.

**COURSE OBJECTIVES:** To provide students with a knowledge of statistics. This course in conjunction with BA 1050 provides exemption to the CGA Quantitative Methods 2 course and to the CMA Quantitative Methods course.

**GRADING:**

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| Midterm Exam | 30% |
| Final Exam | 40% |
| Assignments | 30% |

**TEXT:** Introductory Statistics for Business and Economics; Fourth Edition; Wonnacott and Wonnacott ; Wiley
Student Workbook; Wonnacott and Wonnacott; Wiley

**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