F. 88-89

GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF BUSINESS ADMINISTRATION
COURSE OUTLINE

BA 206 - Statistics for Business 3(3-2)

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| TEXT: | Statistics for Management and Economics, 4th Edition, Duxbury Press, 1981 |
| PREREQUISITE: | BA 105 |
| COURSE DESCRIPTION: | An introduction to the use of random variables, the binomial and normal probability distributions, estimation, tests of hypotheses and small sample theory in statistics. Practical applications will be emphasized in the course. |
| COURSE OBJECTIVES: | To provide students with a knowledge of statistics. |

| GRADING: | | |
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| | Mid Term Exam | 30% |
| | Final Exam | 40% |
| | Assignments | 30% |

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BA 206 - STATISTICS FOR BUSINESS

COURSE CONTENT:

1. RANDOM VARIABLES

   1. Random Variables
   2. The Probability Distribution of a Random Variable
   3. Discrete and Continuous Random Variables
   4. Usefulness of the Random Variable Approach to Probability
   5. Expected Value and Variance of a Random Variable

2. THE BINOMIAL PROBABILITY DISTRIBUTION

   1. Introduction
   2. The Binomial Probability Distribution
   3. Probability Distribution of Proportions
   4. Expected Value and Variance
   5. Illustrations of the Binomial Model

3. THE NORMAL PROBABILITY DISTRIBUTION

   1. The Central Limit Theorem
   2. Random Sampling
   3. Calculation of Probabilities for the Normal Distribution
   4. The Normal Approximation of the Binomial Distribution
   5. Application of the Normal Probability Model

4. ESTIMATION

   1. Distribution of Sample Statistics
   2. Estimation as a Decision
   3. Point Estimates and Interval Estimates
   4. Properties of Good Estimators
   5. Examples of Estimation
   6. Calculation of a Sample Size

5. TESTS OF HYPOTHESES

6. SMALL SAMPLE THEORY

   1. Small Sample Sizes
   2. Student's "t" Distribution
   3. Degrees of Freedom
   4. Estimating the Population Variance
   5. A Paired Difference Test

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7. DECISION ANALYSIS

1. Certainty Versus Uncertainty
2. Analysis of the Decision Problem
3. Expected Monetary Value Decisions
4. Decision Making that Involves Sample Information

8. LINEAR REGRESSION AND CORRELATION

1. A Simple Linear Prohabitistic Model
2. The Least Squares Method
3. Calculating Estimators
4. Inferences Concerning the Slope
5. Predicting a Particular Value for a Given Value
6. Coefficient of Correlation

9. MULTIPLE REGRESSION

1. Linear Statistical Models
2. Estimation of the Regression Parameters
3. Confidence Intervals and Tests of Hypotheses
4. Correlated Estimates: Multicolinearity
5. Goodness of Fit
6. Using the Prediction Equation
7. Model Building and Testing