

Rowan University

Department of Mathematics

Syllabus

STAT 02-260-9 – Statistics I (Fall, 2011)

T 4:45 – 7:15 Wilson Room 205

Professor: B. Drury

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Custom Text: Introduction to Statistics & Data Analysis, Peck, Olsen, and Devore, 2011, Cengage.

Strongly Recommended: TI 84/83 Graphing Calculator

Content:

I. Introduction

- A. Brief discussion on the usefulness and relevance of statistics.
- B. Graphical Techniques – bar graphs, pie charts, stemplots, histograms, boxplots, scatterplots.
- C. Descriptive Statistics – mean, median, standard deviation, interquartile range and five-number summary.

II. Basic Probability

- A. Probability – experiments, sample spaces, events, probability of event, set notation, independent and dependent events, intersections and unions, probability calculations.
- B. Variable description – discrete and continuous random variables.
- C. Expected value for discrete random variables.
- D. Probability distributions for continuous random variables – normal and t distributions.

III. Bivariate descriptive statistics

- A. Interpreting scatterplots and the coefficient of correlation.
- B. Simple linear regression.
- C. Coefficient of determination.

IV. Sampling and Sampling Distributions

- A. Importance of appropriate sampling.
- B. Concept of simple random sample (SRS).
- C. Sampling distribution of the mean.
- D. Central Limit Theorem.

V. Estimation

- A. Point and interval estimation.
- B. Confidence intervals for a population mean (and t-distributions).
- C. Confidence intervals for a population proportion.
- D. Sample size estimation.

VI. Hypothesis Testing

- A. Hypothesis testing methodology.
- B. Hypothesis testing for a population mean and a population proportion.
- C. Hypothesis testing for two means and two proportions (Time permitting).
- D. Chi-Square Procedures (Time Permitting).

Grading Policy:

Homework / Classwork (15%)

Mid-Term Exam #1 (25%) - Tuesday, October 4th

Mid-Term Exam #2 (30%) - Tuesday, November 15th

Final Exam (30%) - Tuesday, December 20th

Attendance Policy:

Attendance is mandatory. If a student is absent or tardy (A/T) from class and the A/T is **excused** then the student must provide the instructor a written note explaining the A/T when the student returns to class. Otherwise, the A/T will be considered **unexcused**. For example, absences due to a personal/family/medical emergency are excused but those due to a transportation/scheduling problem are not. Each student is allowed a total of **three** unexcused A/T's; thereafter the instructor reserves the right to drop a student's course grade by **one** letter. Students will only be allowed to make up work for excused absences. Please refer to Rowan's policy on class attendance (see the Rowan undergraduate catalog.)

Classroom Rules:

Students will abide by Rowan's student code of conduct and policy on academic honesty (please refer to the Rowan undergraduate catalog). Improper behavior will not be tolerated. As a courtesy to other classmates, students are asked not to leave their seats during class except for emergencies or unless prior arrangements have been made with the instructor. Please use the restrooms before class begins.

Withdrawal Policy:

The Rowan withdrawal policy does not allow withdrawal from a class during the last four weeks of the semester. The only exception is due to extreme circumstances beyond the control of the student.

Accommodation Policy:

Your academic success is important. If you have any documented disability that may have an impact upon your work in this class, please contact me. Students must provide documentation of their disability to the Academic Success Center in order to receive official University services and accommodations. The Academic Success Center can be reached at 856-256-4234. The Center is located on the 3rd floor of Savitz Hall. The staff is available to answer questions regarding accommodations or to assist you in your pursuit of accommodations. We look forward to working with you to meet your goals.