

MATH 1530-12 Elements of Statistics
Fall Semester 2004
CX 118 TuTh 2:20-3:45

Instructor: Dr. Samuel Jator

Communications

I invite you to come by my office (CX 329 A) as follows: 9:00-11:00 daily. By phone, dial 931-221-7313(Office) or 931-358-9433(Home). My email address is Jators@apsu.edu. You can also visit my web site at <http://www.apsu.edu/Jators>.

Prerequisites: High School Algebra

Credit: 3 Credit Hours

Text: *Stats, Data and Models* by DeVeaux, Velleman, and Bock, 2005.

Course Description

The purpose of this course is to acquaint the students with some of the basic ideas and techniques in probability and statistics and with the application of these techniques to problems. In particular, the course deals with the following: Measures of central tendency and dispersion for descriptive statistics, estimation of confidence intervals for means and proportions, probability distribution, hypothesis testing, analysis of variance, the least squares method, and correlation analysis.

Course Goals

After studying this course you should have:

- A knowledge of general statistical skills, which will equip the you to better use statistics to analyze and solve problems.
- An appreciation for the need to consider logical step-by-step procedures in the approach to solving problems.
- A greater understanding of critical thinking and the use of critical thinking in statistical analysis.

Course Contents

Part I: Exploring, Describing and Understanding Data

Part II: Relationships between Variables

- Linear Regression and Correlation

Part III: Methods for Gathering Data

Part IV: Probability and Random Variables

- Binomial Distributions

Part V & VI: Confidence Interval and Hypotheses Testing

- Normal Distributions
- Sampling Distribution Models
- Confidence Intervals and Hypothesis Tests for Proportions
- Confidence Intervals and Hypothesis Tests for Means
- Inference for Means and Proportions of Two Populations
- Paired samples and Blocks
- Analysis of Counts using Chi-Square Models
- Chi-Square Tests of Independence

Calculator Requirement

The suggested calculator is the TI-83 or the TI-84 since these calculators do a very good job on statistical features. If you already have a calculator, such as the TI-86, it is not necessary to purchase a new calculator since those should be adequate.

Course Software

The software used for this course will be Minitab Release 14 and ActivStats for Minitab.

Requirements/Grading

Homework: Regular homework assignments and quizzes will be given and will count 100 points toward the final grade. Late submission of required homework to be graded will be unacceptable. Poor presentation of the assignments will be penalized in points.

Examinations: There will be four examinations. Three of them will be announced in class and each will have a weight of 100 points. The last examination that will be comprehensive will be taken during the examination period in December and will have a weight of 150 points. Each examination is focused on the material covered since the previous one, but may include questions about supporting materials from previous sections in the course. The total score for the examinations will be 550 points, and will be converted to reflect the grading scale shown below.

Make Up Tests: Make up tests will be given during the week preceding the examination week. Make up tests are generally more difficult than the regular in class tests. There is no make up for the quizzes and they cannot be taken early.

How Points and Percentages Equate to Letter Grades

90-100%	A
80-89%	B
70-79%	C
60-69%	D
0-59%	F

Attendance

Regular attendance is expected. Unavoidable absences that might be due to illness must be proven with a medical report. Students are strongly discouraged from irregular attendance that will normally lead to poor performance in the course.

Disability

Students with disabilities are encouraged to consult the office of disability. I will respect all university policies for students under this category. The telephone number for the Office of Disability Services is 221-6230.

Cell Phones

In order to be fair to other students, please turn off your cell phones before entering class.

University Policy on Minors

According to APSU policy #3:032, minors (defined as those under the age of 18) are not allowed in classrooms. For additional information on minors on campus, contact the Office of Student Affairs in the Morgan University Center.

Withdrawing From Class

My policy is to grant W's to those students who withdraw officially on or before the date listed in the university calendar as the last day to drop a class with a "W", "F", "FN", or "FA". This semester that date is Nov. 12. **Withdrawal after that date will result in an F** except for extreme circumstances such as being hospitalized and unable to finish the course.