

GOVERNORS STATE UNIVERSITY  
STATISTICS 468  
Summer 1999

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Class time: Wed. 7:30 pm- 10:20 pm  
Office hours: D34056

Prerequisites: *Satisfactory completion of all three university mathematics proficiency examinations or intermediate or college algebra course with a "B" or better.*

Required materials:

1. Text: Gravetter, F. & Wallnau, L. Statistics for the Behavioral Sciences, Fourth edition. West Publishing Company.

2. Calculator: Any calculator with a square root key will suffice. Please bring to class.

Course overview:

Statistics 468 is intended to be an introduction to statistical inference as used in the behavioral sciences. Theory, computations, and interpretations will be emphasized, with the assumption that the student possesses an understanding of basic mathematics.

Instructional activities:

The course will consist of lectures, in-class practice, and readings to assure that competencies are met. Class attendance is expected, therefore lectures and quizzes will not be represented on an individual basis. Students missing class must make arrangements with other students to obtain notes or materials. Assigned readings are to be done prior to class meetings and will be reviewed at that time.

Evaluation:

There will be three exams over the course of the semester. Each will cover the material that has been covered in class up to that point. There will also be short weekly quizzes on the reading material for the current week. The cumulative score from the quizzes may be substituted for one exam grade. Although all the exams must be taken, the lowest score will be dropped from the final grade.

- A: 90-100% of total points
- B: 80-89% of total points
- C: 70-79% of total points
- D: 60-69% of total points
- F: 59% or less of total points



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Course objectives:

Students will be able to:

1. Recognize the difference between descriptive and inferential statistics; between variables and constants; between discrete and continuous variables; between the four types of numeric scales.
2. Summarize data by constructing frequency histograms and polygons.
3. Determine the central tendency of distributions by using mean, median, and mode.
4. Determine the variability of distributions by using range and standard deviation.
5. Use and explain the use of standard (z) scores and their relation to the normal distribution.
6. Explain the logic of statistical inference, null hypotheses, and type I and type II errors.
7. Select and use appropriate formulas for testing hypotheses of data in nominal, ordinal, interval, and ratio scales.
8. Select and correctly use appropriate tables for various tests of significance.

<u>Week</u>	<u>Date</u>	<u>Topic</u>	<u>Chapter</u>
1	5/12	Orientation, Introduction to statistics	1
2	5/19	Frequency distributions, graphs, percentiles Measures of central tendency	2-3
3	5/26	Measures of variability, Z scores and the normal curve	4-5
4	6/2	Probability & samples	6
5	6/9	Exam 1	1-6
6	6/16	Sampling distributions, Hypothesis testing	7-8
7	6/23	Introduction to the <i>t</i> -statistic, Independent measures <i>t</i> -statistic	9-10
8	6/30	Repeated measures <i>t</i> -statistic	11
9	7/7	Estimation	12
10	7/14	Exam 2	7-12
11	7/21	One-way analysis of variance (ANOVA)	13
12	7/28	Repeated measures and two-way ANOVA	14-15
13	8/4	Correlation & regression	16
14	8/11	Chi square	17
15	8/18	Exam 3	13-17