

**GOVERNORS STATE UNIVERSITY
COLLEGE OF EDUCATION/DIVISION OF COUNSELING AND PSYCHOLOGY
COURSE SYLLABUS**

COURSE TITLE: STATISTICS 468
COURSE NUMBER: STAT 468
CREDIT HOURS: 3
INSTRUCTOR: DAVID M. LEWANDOWSKI, PhD
TRIMESTER: FALL 1999
OFFICE HOURS: TUESDAY 3:30 - 4:30PM
WEDNESDAY 3:30 - 4:30PM
OR
BY APPOINTMENT

GSU ARCHIVES

COURSE OVERVIEW:

STATISTICS 468 is intended to be an introduction to classical statistical inferences as used in the behavioral sciences. Theory, concepts, computations, and interpretations will be emphasized, with the assumptions that the student possesses an understanding of basic mathematics and algebra.

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 graphic representations.
3. Determine the central tendency of a distribution by using mean, median, and mode.
4. Determine the variability of a distribution by using range, variance, and standard deviation.
5. Use and explain the utility of standard scores and their relationship to the normal distribution.
6. Explain the logic of statistical inference, Null and Alternative hypotheses, and Type I and Type II statistical errors.
7. Select and use appropriate statistical formulas for the testing of hypotheses

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of data in nominal, ordinal, interval, and ratio scales.

8. Select and use appropriate tables for determining statistical significance.
9. Select and use the appropriate ANOVA designs for statistical analysis.
10. Perform and interpret correctional coefficients for nominal, ordinal, interval, and ratio scaled data.
11. Recognize the difference between normal and binomial distributions.
12. Select and use the appropriate nonparametric statistics for statistical analysis.

INSTRUCTIONAL ACTIVITIES:

The course will consist of lectures, in-class demonstrations and readings to assure that competencies are met. Class attendance is expected, therefore, lectures will not be re-presented on an individual basis. Students missing classes must make arrangements with other students to obtain notes/materials. Assigned readings are to be done prior to class meetings and will be reviewed at that time. The assigned readings for each class are listed on the last page of the syllabus.

REQUIRED MATERIAL/TEXT:

Statistics for the Behavioral Sciences, Gravetter, Frederick and Wallnau, Larry, fourth Edition. West Publishing Company.

A calculator with a square root key and one storage memory. Please bring to class for in-class demonstrations.

EVALUATION:

Weekly quizzes (total of 10) will be given on assigned chapters in an attempt to keep the student current in readings. Each quiz will be worth **10 points** with a **cumulative total of 100 points**. The final total will be recorded as an exam grade. Students are expected to take all ten quizzes, which will be of an objective format.

In addition, each student will take four in-class examinations. Each exam will cover a limited amount of information. The first two exams will consist of fifty multiple choice questions to test conceptual knowledge. The final two exams will consist of two parts. Part One will contain twenty-five multiple choice questions, Part Two will consist of two computational problems and a twenty-five point bonus problem which will also involve computations. Students **will** be allowed to use their notes and texts for **Part Two** of exams three and four **only**. The dates and chapters from which the test questions will be taken are listed on the last page of the syllabus.

Each student will have a total of five grades reflective of the in-class exams and the weekly quizzes. **The lowest of these five scores will be dropped** and the final grade established on the total points earned on the four remaining scores. Grades will be assigned as follows:

360 - 400 = A
 320 - 359 = B
 280 - 319 = C
 240 - 318 = D
 Below 239 = F

NOTE: The university does **not** assign credit for grades below the level of a "C". If a student misses a scheduled exam, the exam must be made up within seven (7) days. There will be **NO** exceptions, and a grade of "Incomplete" will be assigned.

DATE	TOPIC	READINGS
Sept 1	Introduction to Statistics	Ch. 1
	Frequency Distributions, Graphs and Percentiles	Ch. 2
Sept 8	Measures of Central Tendency and Variability	Ch. 3 - 4
Sept 15	Exam One	Ch. 1 - 4
Sept 22	Standard Scores and the Normal Curve	Ch. 5
Sept 29	Probability theory and Sampling Hypothesis Testing	Ch. 6 Ch. 7 - 8
Oct 5	Exam Two	Chs. 5 - 8
Oct 12	Single Sample T Statistic	Ch. 9
Oct 19	Repeat Measure T Statistic	Ch. 10
Oct 26	Independent Measures T statistic Estimation	Ch. 11 - 12
Nov 3	Exam Three	Ch. 9 - 12

Nov 10	One Way Analysis of Variance Repeat Measure ANOVA	Ch. 13 Ch. 14
Nov 17	Two Way Analysis of Variance	Ch. 15
Nov 24	Correlation and Regression	Ch. 16
Dec 1	Binomial Distribution/Nonparametrics	Ch. 17 - 19
Dec 8	Exam Four	Ch. 13 - 19

NOTE: The subject matter and the content of the class lecture are subject to change at the discretion of the instructor.