

# PSYCHOLOGY 2110

## STATISTICAL METHODS FOR PSYCHOLOGICAL RESEARCH

1997-98 (WINTER)

GRANDE PRAIRIE REGIONAL COLLEGE

INSTRUCTOR: L. R. ANDREOTTI

OFFICE: C403

PHONE NUMBER: 539-2994

OFFICE HOURS: (M-W-F) 10:00-11:00, or by appointment

### PREREQUISITES

Psychology 1040 and Math 30, or consent of the instructor.

### COURSE DESCRIPTION

The course is designed to introduce students to the statistical methods which are used by behavioral scientists as they analyse and draw conclusions from research data. Special emphasis will be placed upon psychological investigations.

In general terms, the techniques which will be examined involve the tabular and graphic summarization of data in addition to the numerical description of averages, variability and measures of relationships. There will be a review of basic probability along with a careful examination of our more frequently used theoretical distributions and statistical tests. In addition, students will be introduced to the use of SPSS-X (one of the more widely used statistical packages) on the main-frame computer.

### COURSE OBJECTIVES

Successful students should be able to perform some elementary analyses of research data and to interpret the results of statistical tests. These students should have demonstrated a conceptual knowledge of the concepts and principles involved. The demonstrated conceptual understanding will involve more than simply calculating the appropriate numerical values. It will also involve a demonstrated ability to provide an accurate verbal description and interpretation of the relevant concepts and statistical tests. In addition, the students will be able to work with the main-frame computer and to conduct some elementary statistical analyses of data through the use of SPSS-X.

TEXT

1. Statistics for the behavioral sciences (4th Edition), 1996, by F. J. Gravetter and L. B. Wallnau. West Publishing Company.
2. Study Guide to accompany statistics for the behavioral sciences (4th Edition), 1996, by F. J. Gravetter and L. B. Wallnau. West Publishing Company.

A timetable for the course is provided below. The schedule is tentative. Changes may be announced in class.

<u>DATES</u>	<u>TEXT</u>
Jan. 6	Chapter 1 (Introduction)
Jan. 8	Chapter 2 (Frequency distributions)
Jan. 13	Chapter 3 (Central tendency)
Jan. 15 - 20	Chapters 4 and 5 (Variability, z-scores)
Jan. 22 - 27	Chapter 6 (Probability)
<u>Jan. 29</u>	<u>EXAM</u>
Feb. 3 - 5	Chapters 7 & 8 (Probability: hypothesis testing)
Feb. 10	Chapter 9 (Introduction to t-test)
Feb. 12 - 17	Chapter 10 (t-test: independent samples)
Feb. 19 - March 3	Chapter 12 (Confidence limits)
March 5 - 10	Chapter 13 (Introduction to ANOVA)
<u>March 12</u>	<u>EXAM</u>
March 24 - 26 <sup>1</sup>	Chapter 15 (ANOVA: two-factor)
March 31 - April 2	Chapter 16 (Correlation and regression)
April 7 - 14	Chapter 17 (Chi-square)

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<sup>1</sup> I will be attending a conference from March 16 - 20. There will be no classes during this period.

Homework assignments from the text will be assigned in class. Each assignment will be marked on a six point scale. Late assignments will be penalized by one point for each day that the assignment is late. If the assignment is five or more days late, it will not be marked. For each student, a maximum of two assignments may be handed in late. Additional (i.e., more than two) late assignments will not be accepted. In addition, any assignments handed in after the same assignment has been marked and returned to the rest of the class will not be accepted. Messy assignments will not be marked.

Computer assignments will also be marked on a six point scale, but will be penalized by 2 points for each day that the assignment is late.

### GRADING

Marks for the course will be weighted as follows:

January Exam	20%
March Exam	20%
Homework assignments	10%
Computer assignments <sup>2</sup>	10%
Final Exam	30%
Subjective Evaluation <sup>3</sup>	<u>10%</u>
	100%

### Nine Point Grading System

SCALE		<u>APPROXIMATE % EQUIVALENT</u>
9		90 - 100
<u>8</u>	<u>Excellent</u>	<u>80 - 89</u>
7		72 - 79
<u>6</u>	<u>Good</u>	<u>65 - 71</u>
5		57 - 64
<u>4</u>	<u>Pass</u>	<u>50 - 56</u>
<u>3</u>	<u>Failure</u>	<u>45 - 49</u>
<u>2</u>	<u>Failure</u>	<u>26 - 44</u>
1		0 - 25

It should be noted that students will be held accountable for lectures delivered in addition to any announcements that will be made during class. If any student is unable to attend a particular class, it will be his/her responsibility to find out what was missed.

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<sup>2</sup>Ten percent of the course grade will be based upon the student's "computer assignments." Half of the mark for "computer assignments" will be based upon a final "computer lab test." Depending upon the progress of the class, the percentage of the mark based upon the "lab test" may be reduced or eliminated.

<sup>3</sup>As explained in class, no student will receive a mark for subjective evaluation that is lower than the student's weighted marks on the exams, homework, and computer assignments.

If it becomes apparent to a student that s/he will be unable to write an exam at a scheduled time, the student should notify the instructor immediately<sup>4</sup>. In the event that the student cannot reach the instructor in person, s/he should leave a message for the instructor on the answering machine (539-2994). If the student is unable to write the final exam at the scheduled time<sup>5</sup>, s/he should notify the instructor in advance and make arrangements to write a deferred exam.

The dates listed on this handout are tentative and are subject to change due to unforeseen circumstances. Students should not make plans for travel, holidays, employment, etc., which would interfere with their writing of exams or their participation in other classroom/lab exercises during any scheduled class time. As well, students should not make plans that would conflict with their writing final exams during the scheduled times (times to be announced by the Registrar's office).

Since the information recorded on this sheet will be required by the student throughout the semester, I recommend that precautions be taken to insure that it is not lost.

Students are strongly encouraged to see me after class or in my office (C403) if they are having difficulty in the course or simply wish a further discussion of the material.

#### STUDENT RECORD OF MARKS ON HOMEWORK ASSIGNMENTS:

CH 3: CH 4 & 5: CH 6: CH 7: CH 8:

CH 9: CH 10: CH 12: CH 13: CH 15: CH 16:

#### STUDENT RECORD OF MARKS ON COMPUTER ASSIGNMENTS:

COMP1: COMP2: COMP3: COMP4: COMP5: COMP6:

#### STUDENT RECORD OF MARKS ON EXAMS:

January exam \_\_\_\_\_ March exam \_\_\_\_\_

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<sup>4</sup>In order to receive an excused absence on an exam, it is important for the student to contact the instructor, or to leave a message at 539-2994, prior to the time that the exam is to be written.

<sup>5</sup>It should be noted that the final examination timetable will be announced by the Registrar's office.