



NAZARENE UNIVERSITY COLLEGE

BHS 310 Quantitative Methods for the Behavioral Sciences (3-3) Winter 2006

Instructor: Alex Sanderson

Office:503

Class Times: W/F: 9:45 – 11:00

Lab Times: M: 1:00 – 2: 15

Office Phone: 571-2550, ext. 5907

Class Location: RM: TBA

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Course Description

This course is designed to give students a basic understanding of descriptive and inferential statistics. Emphasis is placed on practical application and students will learn to analyze and interpret basic statistical research. They will also learn to use computer software (SPSS 12) to create their own statistical tables and charts. The course will emphasize practical applications and as such, lab time will be spent working on the computer. Students will be required to work in groups of three for all lab work. As part of the course requirements, students will also participate in a group project where they will analyze data and present it in a written assignment.

Course Objectives

1. To have students develop skills in organizing quantitative data;
2. To have students acquire an understanding of the logic for each of several basic statistical techniques;
3. To have students develop skills in computing statistical techniques;
4. To have students understand appropriate applications for these statistics;

Required Texts

Levin, J & Fox, J.A. (2006). *Elementary Statistics in Social Research (10th edition)*. Allyn & Bacon, Boston.

Green, S.B. & Salkind, N.J. (2005). *Using SPSS for windows and macintosh: Analyzing and understanding data (4th edition)*. Prentice Hall: New Jersey

Course Schedule

Part I:

Introduction to the Course
The Connection Between Statistics and Research.
Read: Chap. 1
Organizing Data: Distribution and Graphics
Read: Chap. 2
Central Tendency
Read: Chap. 3

EXAM 1 – Handed out Feb 3rd and due back on Feb 6th

Part II:

Variability
Read: Chap. 4
Probability and Normal Curve
Read: Chap. 5
Samples and Populations
Read: Chap. 6

EXAM 2 – Handed out March 3rd and due on March 6th

Part III:

Testing Differences Between Means
Read: Chap. 7
Analysis of Variance
Read: Chap. 8
Non-Parametric Tests
Read: Chap. 9 and readings provided by the instructor

EXAM 3 – Handed out March 29th and due back on March 31st

Part IV:

Parametric Correlation
Read: Chap. 10
Non-Parametric Correlations
Read: Chap. 12
Regression
Read: Chap. 11

EXAM 4 (FINAL) Given out on April 19th and Due on April 24th

Course Requirements

Students need to be competent using computers and have a good working knowledge of basic mathematics (e.g., fractions, decimals, equations) in order to complete the course successfully. No statistical software experience is expected. Students will need a pocket calculator for homework and exams. If your math skills are a bit rusty, there is a basic math review in the back of the Levin text. Evaluation will be based on four exams, a written assignment and homework/lab assignments. Students will need a calculator, which can perform Σx , Σx^2 , mean, variance and standard deviation.

Written Assignment

This course is designed to provide students with basic statistical skills so that they can apply their knowledge of statistical concepts to 'real life' research and data analysis. This assignment gives you the opportunity to apply the concepts you have learned to an original research paper using a data set collected by the students. With your lab group, you will write a 4-5-page paper using double spaced type (1" margins and no more than 12 inch font) in which you demonstrate your ability to analyze variables and describe and interpret patterns within a data set. You will also need to present and interpret a table and a graph within the body of your paper. We will be discussing formatting (APA style) and different types of data analysis in class. The paper is due on **April 18th**. Please note all members of a group will receive the same mark on their final product

Course Grade

The first mid-term is worth 10%, the second mid-term is worth 15%, the third mid-term is worth 20%, and the final exam will be worth 25%. The written assignment and the homework/lab assignments will be worth 15% each.

Course Guidelines:

- 1) Attendance at class is expected from each student. After three (3) unexcused absences (per term), the instructor reserves the right to ask a student to withdraw from the class.
- 2) The written and presentation assignments are due on the dates specified. Extensions will only be granted upon request of the student at least two (2) weeks prior to the due date. In the case of illness or other extenuating circumstances, exceptions may be made.
- 3) Exams must be taken at the times specified. The student must inform the instructor immediately if there is a problem with taking a test on a certain date.

Grade Structure:

Percentage:	Letter Grade:	Grade Point Weight:
96-100	A+	4.0
91-95	A	4.0
86-90	A-	3.7
82-85	B+	3.3
75-81	B	3.0
72-74	B-	2.7
68-71	C+	2.3
63-67	C	2.0
60-62	C-	1.7
56-59	D+	1.3
50-55	D	1.0
0-49	F	

Important Notes

- Last day to enter course without permission and/or voluntarily withdraw from course without financial penalty: January 20th, 2006
- Last day to voluntarily withdraw from course or change to audit without academic penalty: March 10th, 2006
- It is the responsibility of all students to become familiar with and adhere to NUC Academic Policies, such as the policy on Academic Dishonesty, which are stated in the current Catalogue.