Title: Statistics in Psychology
Course: Psychology 3600 (30077)
Instructor: Doug R. Richards, Ph.D.
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Year: Spring Semester 2017
Phone: (801) 822-2289 (text is preferred)
Room: Social & Behavioral Sciences 378
Times: M W F 7:30 am – 8:20 am
Office Hour: T 11:45 am – 12:45 pm
Office: Social & Behavioral Sciences 356

Text: Essential Statistics for the Behavioral Sciences by Gregory J. Privitera

COURSE OVERVIEW & LEARNING OUTCOMES

The purpose of the course is to learn basic statistical techniques and concepts. The course will cover statistical processes of descriptive analysis, graphic analysis, and methods of factorial and correlational analysis.

Learning outcomes for this course have been developed around the 4 general learning objectives of the Psychology Department at Weber State University, and are based on recommendations of the APA: Knowledge, Application, Values/Ethics, and Communication. Specifically, the outcomes for the class are as follows:

KNOWLEDGE – Students will understand psychology as a scientific discipline.

1.1 Psychology Statistics Content Knowledge

Students will identify the processes involved in data analysis in the social sciences. This includes learning both graphical and statistical procedures for analyzing group differences as well as correlational relationships. Methods covered include, but are not limited to, t-tests, ANOVA, correlation, and regression. Distinguishing characteristics include identification of independent and dependent variables, types of variables used in each method, assumptions of each method and how to remedy unmet assumptions, as well as correct interpretation of results.

APPLICATION – Students will apply psychological principles to explain social research and better understand the results of their own investigations.

2.1 Psychology Statistics Application

Students will apply appropriate statistical methods to a variety of types of data. Students will adequately interpret results of statistical tests. This will include analysis of assumptions and correct interpretation of both magnitude and size of effect of all results.
VALUES/ETHICS – Students will display an attitude of skepticism and intellectual curiosity about psychological issues. Students will recognize the need for ethical guidelines and will practice ethical behaviors in regard to the field of psychology.

3.1 Psychology Statistics Values

In learning the distinguishing characteristics of statistical methods, students will describe the implications on results of using the wrong method to analyze data, identify data that is biased, and describe the effects of analyzing biased data.

3.2 Psychology Statistics Lab Ethics

Students will understand the importance of significance levels and when to properly apply them and how to properly report the results.

COMMUNICATION – Students will professionally communicate their understanding of terms, concepts, and theories via written and oral format.

4.1 Psychology Statistics Written Communication – Evidence Based

Students will explicitly outline logical flow of information from broad to most fine-grained and will present all statistical results in logical form based on evidence.

4.2 Psychology Statistics Lab Written Communication – Clarity

Students will write in a clear and concise manner; appropriate professional language and tone will be used.

Students with Disabilities/Requests for Accommodations:

Any student requiring accommodations or services due to a disability must contact Services for Students with Disabilities (SSD) in Room 181 of the Student Services Center (or Room 221 at the Davis Campus). SSD can also arrange to provide course materials in alternative formats upon request. To contact SSD by phone: (801) 626-6413 – Ogden; or, (801) 395-3524 – Davis. http://www.weber.edu/ssd
Class Schedule

Class Date       Topic                                Chapter

Jan 9th, 11th, 13th  Introduction to Statistics  Chapter 1
January 18th (all questions) Assignment #1 Due

Jan 18th, 20th, 23rd  Frequency Distributions in Tables and Graphs  Chapter 2
January 25th (all questions except 14-16, 31) Assignment #2 Due

Jan 25th, 27th, 30th  Central Tendency  Chapter 3
January 30th (all questions) Assignment #3 Due

Feb 1st, 3rd  Variability  Chapter 4
February 3rd (all questions and add boxplot to #11, #12) Assignment #4 Due

TEST #1 (Chapters 1-4) February 4th – February 7th in the Testing Centers

Feb 6th, 8th, 10th  Probability & Normal Distributions  Chapter 5
February 13th (all questions) Assignment #5 Due

Feb 13th, 15th, 17th  Characteristics of the Sample Mean  Chapter 6
February 22nd (all questions) Assignment #6 Due

Feb 22nd, 24th (27th)  Hypothesis Testing: Significance, Effect Size, & Power  Chapter 7
February 27th (all questions except 29, 31) Assignment #7 Due

TEST #2 (Chapters 5-7) February 28th – March 2nd in the Testing Centers

Mar 1st, 3rd, 13th  One-Sample t-test  Chapter 8
March 15th (all questions) Assignment #8 Due

Mar 15th, 17th, 20th  Two-independent sample t-test  Chapter 9
March 22nd (all questions) Assignment #9 Due

Mar 22nd, 24th (27th)  Related samples t-test  Chapter 10
March 27th (all questions) Assignment #10 Due

TEST #3 (Chapters 8-10) March 28th – March 30th in the Testing Centers

(Mar 29th), Mar 31st, Apr 3rd, 5th, 7th  One-Way Analysis of Variance  Chapter 11
April 10th (all questions) Assignment #11 Due

Apr 10th, 12th, 14th  Two-Way Analysis of Variance  Chapter 12
April 17th (all questions except 26b and 27b) Assignment #12 Due

Apr 17th, 19th, 21st, (24th)  Correlation and Linear Regression  Chapter 13
April 24th (all questions) Assignment #13 Due

FINAL EXAM (Chapters 11, 12, 13) April 25th – April 27th
Holidays (Days off from class)

- Martin Luther King Jr. Day: Jan 16th (Monday)
- President’s Day: Feb 20th (Monday)
- Spring Break: Mar 6th – Mar 10th (Monday-Friday)

Assignments: This is the core of the course. Assignments will be given at the beginning of the topic and will be due on the first day of the new topic or the last day of the topic. Thirteen assignments will be given. Each assignment will be worth 20 pts. Assignments cannot be made up except under extreme circumstances. All end of chapter problems are assigned except for chapters 2, 7 & 12 (see schedule). Chapter 4 has additional boxplots added. I will take a sample of four problems to grade from each assignment (Before exams, answers to the odd number problems will be posted on Canvas). Each problem will be worth 4 pts (total of 16 points) and 4 points will also be awarded for entire completion of the assignment. Assignments may be submitted using Canvas or at my office.

Tests: There will be four opportunities to test your practical knowledge of material learned. These tests are not purposely comprehensive but knowledge learned earlier does apply to subsequent material. Understanding and interpretation of material will be emphasized as well as practical knowledge. There will be four tests with each worth 100 pts. Tests cannot be made up except under extreme circumstances. Tests will be 40 multiple-choice questions with five short-answer questions. The tests will be administered through Chitester (chitester.weber.edu) at the various Weber State University Testing Centers; namely, the Student Services Testing Center (room 262), Social and Behavioral Science Testing Center (SS building – room 38), Shepard Union Building (room 323). The West Center has a testing facility as well as Davis campus. Make sure to check the specific hours and arrive one hour before closing time.

Test Due Dates:

- Test #1: February 4th – February 7th
- Test #2: February 28th – March 2nd
- Test #3: March 28th – March 30th
- Final Exam: April 25th – April 27th

Grading: The strictest performance standards that I will use (may be modified down according to class performance)

- A = 94-100%
- A- = 90-93%
- B+ = 87-89%
- B = 83-86%
- B- = 80-82%
- C+ = 77-79%
C = 73-76%
C- = 70-72%
D+ = 67-69%
D = 63-66%
D- = 60-62%
E = below 60%

Point Totals:

Assignments (13 X 20 pts.) 260 points
Tests (4 X 100 pts.) 400 points
Total points possible 660 points

Academic Honesty: as members of the Weber State University academic community, students shall:

1. Maintain academic standards including institutional, school, departmental, program, and individual course standards;

2. Maintain academic ethics and honesty. To this end, the following activities are specifically prohibited:

a. Cheating, which includes but is not limited to:

i) Copying from another student's test;

ii) Using materials during a test not authorized by the person giving the test;

iii) Collaborating with any other person during a test without authorization;

iv) Knowingly obtaining, using, buying, selling, transporting, or soliciting in whole or in part the contents of any test without authorization of the appropriate University official

v) Bribing any other person to obtain any test;

vi) Soliciting or receiving unauthorized information about any test;

vii) Substituting for another student or permitting any other person to substitute for oneself to take a test.

b. Plagiarism, which is the unacknowledged (uncited) use of any other person’s or group’s ideas or work. This includes purchased or borrowed papers;

c. Collusion, which is the unauthorized collaboration with another person in preparing work offered for credit;
d. Falsification, which is the intentional and unauthorized altering or inventing of any information or citation in an academic exercise, activity, or record-keeping process;

e. Giving, selling, or receiving unauthorized course or test information;

f. Using any unauthorized resource or aid in the preparation or completion of any course work, exercise, or activity;

g. Infringing on the copyright law of the United States which prohibits the making of reproductions of copyrighted material except under certain specified conditions.

**Cheating infractions:**

1. The first infraction shall result in a score of 0 (zero) points for the particular test, paper, presentation, activity etc.
2. The second infraction shall result in a failing grade (E) for the course.

**Disclaimer:** I reserve the right to make changes in a) course schedule, b) course requirements, c) course grading procedures, and/or d) any other aspects of the course at any time. Any alterations will be circumspect and will be made in the best interests of the students, the course, and the instructor.

**Emergency Closure Statement:**

Emergency Closure: If for any reason the university is forced to close for an extended period of time, we will conduct our class via Canvas. Look for announcements on Canvas. Code Purple is a good way to be alerted to campus closures, and you are encouraged to sign up for it.