

Statistics for Psychology

Psy 3600, Spring 2015
W 5:30p-8:10p
Social and Behavioral Science 317

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Annex 5, Lower Level
Office Hours: By Appointment

Required Materials:

- Salkind, N. J. (2013). Statistics for people who (think they) hate statistics: Excel 2010 edition (3rd ed.). Thousand Oaks, CA: Sage Publishing, Inc.

Optional Materials:

- Salkind, N. J. (2013). Excel statistics (2nd ed.). Thousand Oaks, CA: Sage Publishing, Inc.

Student Study Site:

- <http://www.sagepub.com/salkindexcel3e/>

COURSE OVERVIEW & LEARNING OUTCOMES

The purpose of the course is to introduce students to the concepts associated with the various statistical methods employed within the field of Psychology. The course will cover concepts such as bias in data, descriptive statistics, categorical and correlational methods. Further, it will cover how to appropriately analyze and interpret different types of data and methods.

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 Statistics for Psychology Content Knowledge

Students will identify the processes involved in data analysis in the social sciences. This includes an introduction to concepts such as measures of central tendency, variability, bias, and analyzing group differences as well as correlational relationships.

*1.1A By the end of the semester, students will be able to identify and describe the critical components of statistical analyses and when to use each.
(Assignments & Exams)*

1.1B By the end of the semester, students will be able to compute and interpret both descriptive and inferential statistics. (Exams)

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

2.1 Statistics for Psychology Application

Students will apply appropriate statistical methods to a variety of types of data. Students will adequately interpret results of statistical tests.

2.1A By the end of the semester, students will be able to use Excel to conduct each of the analyses covered in class, and will be able to interpret these

analyses. This includes running the test, assessing assumptions, interpreting graphics, and interpreting results. (Assignments & Exams)

2.1B By the end of the semester, students will be able to select the appropriate statistical test to use when given a dataset. (Exams)

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 Statistics for Psychology 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.

3.1A By the end of the semester, students will be able to identify and test the assumptions of each statistical method and identify the biases introduced to their analyses when these assumptions are not met. (Assignments & Exams)

3.2 Statistics for Psychology Ethics

Students will summarize relevant information into a written or graphical document that is appropriately aligned with the proper referencing guidelines.

3.2A By the end of the semester, students will be able to apply appropriate APA formatting to statistical results. (Assignments & Exams)

3.2B By the end of the semester, students will be able to identify appropriate uses of data and will be able to discuss the ethical obligation of researchers to accurately analyze and report results. (Assignments & Exams)

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

4.1 Statistics for Psychology Written Communication – Logic

Students will explicitly outline logical flow of information from broad to most fine-grained and will present all statistical results in logical form moving from least specific to most specific analyses; this logic will follow the form of “if A then B then C” and all evidence within the document will relate back to this logic.

4.1A By the end of the semester, students will be able to write a full APA results write-up that flows from assumptions of each test to results and finally to graphic representation. (Exams)

4.2 Statistics for Psychology Written Communication – Clarity

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

4.2A By the end of the semester, students will be able to write a full APA results write-up for each of the methods discussed in class. (Exams)

UNIVERSITY & COURSE POLICIES

Academic Integrity and Honesty Policy:

Any academic dishonesty will not be tolerated. If a student is caught engaged in academic dishonesty in this course, he or she risks failing the course and being subject to academic discipline including the imposition of university sanctions. For more information, please see the university policy on cheating, which can be found in the WSU Student Code, Section IV, Part D, Paragraph 2.

For the purposes of this course, students are encouraged to work together. Discussing the assignment together will not be considered cheating. However, all submitted work should be original. Any student caught submitting identical or closely related work will at the minimum receive zero (0) credit for the assignment and at a maximum a failing grade in the course and be turned in to the appropriate university personnel. The types of activities that would be considered academic dishonesty are as follows: actively copying answers or otherwise using the work of another student on an exam; using the answers of another student on an assignment without having done the work yourself; soliciting other students or agencies to complete and submit work for you.

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>

Inclusivity Statement:

Pivotal to Weber State University's mission is the need to embrace and value the diversity of its members. Acknowledging the uniqueness of each individual, we seek to cultivate an environment that encourages freedom of expression. Because the University is a community where inquiry is nurtured and theories are tested, every individual has the right to feel safe to express ideas that differ from those held by other members of the community. However, all persons who aspire to be part of our campus community must accept the responsibility to demonstrate civility and respect for the dignity of others. Recognizing that the proper balance between freedom of expression and respect for others is not always apparent or easy to achieve, we must continually challenge ourselves and each other in an atmosphere of mutual concern, good will and respect. Therefore, expressions or actions that disparage an individual's or group's ethnicity, gender, religion, sexual orientation, marital status, age or disability are contrary to the mission of Weber State University and will be not acceptable in classroom discussion.

Use of Technology:

The use of cell phones, smart phones, or other mobile communication devices is disruptive, and is therefore prohibited during class. Students using cell phones,

tablets, or laptops for anything other than course work will be asked to leave. Students are permitted to use devices during class for note-taking and other class-related work only.

Emergency Closure Statement:

Due to the applied nature of this course, if for any reason the university is forced to close for an extended period of time, class will be cancelled and assignments will be adjusted accordingly. This may include dropping an assignment altogether or rearranging delivery of course topics to cover more in any one class. Look for announcements from the university on Weber e-mail or the website and from the instructor on the course Canvas page. Code Purple is a good way to be alerted to campus closures, and you are encouraged to sign up for it.

Contacting the Instructor:

If at any point any student has questions or problems during the course of the semester, please feel free to contact the instructor. Use of the Canvas email system as the initial contact point for the instructor is recommended. Please allow 24-48 hours for a response.

ASSIGNMENTS & GRADING

Course Requirements:

Canvas: All correspondence with students outside of class time will be through use of Canvas, which can be found using the following link: canvas.weber.edu

APA Note: *Please note that all assignments are expected to be double-spaced, and follow correct APA format.*

Attendance (5pts x 13):

Due to the applied nature of this course, attendance is required. Assignments will be discussed during class. Each day of participation will be worth 5 points for a total of 70 points. 65 points make up the attendance portion of your final grade, leaving the potential for 5 extra points for students with perfect attendance.

Weekly Book Assignments (25pts x 12):

There will be 13 weekly assignments. Each assignment will require running a statistical analysis, graphically displaying results, and describing these results in a written description formatted to meet APA guidelines. There will be a conceptual and application component to each assignment. Assignments are due a week and a day after being assigned. It is to your benefit to have as much of your assignment completed by the class prior to the due date, as the last 15 minutes of class will be dedicated to answering assignment related questions. Your lowest assignment score during the semester will be dropped. The remaining 12 assignments will be worth 25 points each.

APA Writing Assignments (25pts x 2):

One of the main outcomes for this course is to improve student written communication about psychological problems, in this case via statistical language. APA is required in all book assignments, but these two additional assignments will focus specifically on the writing rather than the computations. Writing assignments will require students to take a statistical result, write about it in appropriate language, provide a graphic representation of the analysis, explain the graphic, and provide a real-world interpretation of the results. Writing assignments will be 1-3 pages in length and graded via a rubric.

Statistics Exams (100pts x 4):

Four exams will be given during the semester. These exams will assess conceptual understanding of the concepts covered up to the exam date. Exams are not intended to be comprehensive, although many of the concepts in statistics build upon one another, or are otherwise related. Exams are worth 80 points and consist of both an online multiple choice/short-answer format (30pts) and a take home portion (70pts). No late work will be accepted for exams.

Late Work Policy:

Late assignments are accepted with a penalty. Assignments turned in prior to the next class period will receive a 10% penalty. Those turned in within two class periods of the due date will receive a 20% penalty. Late work will not be accepted beyond this range. No late exams will be accepted.

Points Breakdown

Attendance (5pts x 13)	65 pts
Weekly Book Assignments (25pts x 12)	300 pts
APA Writing Assignments (25pts x 2)	50 pts
Exams (100pts x 4)	400 pts
Total	815 points

Grading Scale:

A	93-100%	C	73-75%
A-	89-92%	C-	69-72%
B+	86-88%	D+	66-68%
B	83-85%	D	62-65%
B-	79-82%	F	Below 62%
C+	76-78%		

Extra Credit Opportunity (up to 10 pts):

Throughout the semester, extra credit points will be available for students who find data used by the media to share with the class. This will entail finding a newspaper or other media article, sharing it with the class, and identifying the important elements in the article for the class (independent and dependent variables, methods

used, what was found, how reliable is the information?). Class time will be left open at the beginning of each period for students to share this information. Depending on how well a student identifies these pieces, one point of extra credit is possible for each shared article.

Changes in Course Assignments and Schedule:

The instructor reserves the right to adjust course readings, assignments, and test dates to best attain the objectives of the course. Any changes will be announced in class. Canvas should be considered the official source for all due dates and information.

COURSE CALENDAR

Date	Topic	Due Date	Assignment Due
2-Sep	Introduction & Descriptives		
9-Sep**	<i>Mean, Median, Mode & Variability**</i>	10-Sep	Assignment 1
16-Sep	Graphing	17-Sep	Assignment 2
23-Sep	Hypothesis Testing	24-Sep	Assignment 3
30-Sep	Probability & the Normal Curve	1-Oct	Assignment 4
7-Oct	Significance Testing	8-Oct	Assignment 5
13-Oct	Quiz 1 DUE		
14-Oct	z-Scores & One-Sample t-Test	15-Oct	Assignment 6
21-Oct	NO CLASS		
28-Oct	Independent-Samples t-Test	29-Oct	Assignment 7
4-Nov	Paired-Samples t-Test	5-Nov	Assignment 8 APA Assignment 1
10-Nov	Quiz 2 DUE		
11-Nov	One-Way ANOVA	12-Nov	Assignment 9
18-Nov	One-Way & Factorial ANOVA	19-Nov	
25-Nov	Factorial ANOVA	26-Nov	Assignment 10
1-Dec	Quiz 3 DUE		
2-Dec	Correlation	3-Dec	Assignment 11
9-Dec	Simple Linear Regression	10-Dec	Assignment 12
		17-Dec	Assignment 13
19-Dec	Quiz 4 DUE, APA Assignment 2 DUE		

****Note:** Class will start at 6:30 on Sept 9th.