Health Behavior Statistical Methods
HP 340L

Fall 2015, Section 40574R

1. General Information

Lectures and assignments will be posted and updated on the blackboard system (http://blackboard.usc.edu).

Class time: 2:00 – 3:20 pm Tuesdays and Thursdays, **Location:** LVL (Leavey Library) 17

Instructor: David Conti, Ph.D.
E-mail: dconti@usc.edu
Office hours: By appointment
Office location: SSB 202S (Soto Building, Health Science Campus)
Teaching Assistants: Pingye Zhang and Meng Liu
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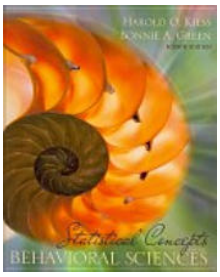
Office hours: Wednesday, 1-2 pm
Office location: Student Union

2. Class Description

Throughout this class students will learn statistical methods to organize, summarize, and interpret health related behavior data. This course will familiarize students with different types of statistics, review the underlying assumptions, and teach students to critically review and understand statistical analysis used in health related fields. Students will also get experience selecting and employing appropriate statistical procedures for data analysis in these areas.

Required Text:



Kiess, H.O. & Green, B.A. (2008) Statistical Concepts for the Behavioral Sciences (4th ed.). Boston: Allyn and Bacon.

Supplemental Text:

Diez, D.M., Barr, C.D., Cetinkaya-Rundel, M. (2015) OpenIntro Statistics (3rd ed).
https://www.openintro.org/stat/textbook.php

The electronic version of this text is free, and you may order a hard copy on Amazon for ~$10. There are many supplemental materials with this text including videos and labs that you may find useful.

3. Performance Objectives

During the course of the semester students will:

- ✓ complete weekly homework assignments.
- ✓ participate in class.
- ✓ successfully pass two exams.

4. Learning Methods to be used

The following educational tools will be used during the semester:

- ✓ Lectures
- ✓ Reading assignments
- ✓ Class discussion
- ✓ In-Class assignments

5. Evaluation Methods and Grading

Grade Components	
Homework/Lab Assignments	30%
In class participation	5%
Mid-term Exam	30%
Final Exam	35%

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

Exams:
There will be a midterm and a final. These exams are designed to test your ability to choose an appropriate statistical test to answer a specific research question, to test your knowledge of statistical concepts, and to test your ability to use a statistical test to obtain a correct conclusion to the research question.

Note that the exams will also test the ability for you to integrate the knowledge you have learned in various ways. In order for you to perform well on the exams, it is imperative that you complete the readings and work the practice problems and chapter problems in the book, in addition to your homework.

Homework/Lab Assignments:
Homework will be available for download off the course blackboard. They are assigned after each topic is covered and will typically be due the following week. The due date will be indicated on the assignment instruction sheet. Homework must be turned in at the **end of the day** (**by Midnight**) it is due. **Late homework will be accepted in blackboard BUT will not be graded or accepted for the class.** Therefore, plan to complete all assignments early in case unforeseen circumstances arise.

In Class Participation:
Attendance and engagement in classroom and blackboard discussion will contribute to this portion of the overall grade.

Rules for Homework and Lab Assignments

1) **Show all of your work.** All steps that led up to your answer must be shown.
2) **Write clearly.** Sloppy/illegible work will receive no credit.
3) For questions requiring an interpretation or conclusion, **phrase these in your own words**. If students are suspected of plagiarizing (i.e., having the exact same wording of a free response answer) they will receive no credit for that problem.
4) **Scan or take a picture of your written work**: homework will be submitted as an electronic file via blackboard. Please make sure that the scan/picture is clear!

5) **Put all work into a single file for uploading on blackboard**. If you have multiple pages/pictures of your work, please consolidate into a single file (e.g. merge multiple pdfs into a single pdf, or paste pictures into a word document). Multiple pages of the homework may become lost and will not be graded.
6) Again, ***late homework will not be accepted***.

6. Important Reminders

What You Will Need in Class:

- ✓ **Calculator.** You will need a hand calculator that takes square roots and has memory to do problems throughout the semester and during exams. **You will not be able to use a graphing calculator on your exams.**
- ✓ **Textbook**. The textbook is recommended for reference during class exercises and discussion
- ✓ **Paper and writing instrument**. These are necessary for working practice problems and submitting in-class assignments.

What You Will NOT Need In Class:
Please turn off your cell phones or any other device that would disrupt the class.

E-Mail:
Please use your USC e-mail account as a default. Blackboard communications are delivered through e-mail and use your USC e-mail address. Check your USC e-mail account to ensure you receive these announcements.

Disability Services and Programs:
Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure that the letter is delivered to your professor or TA as early in the semester as possible. Students are responsible for completing their blue sheets on time and not the last minute. The DSP office is located in STU 301 (213-740-0776). Please visit: http://www.usc.edu/disability for more information.

7. Tentative Class Schedule

Week	Date	Topic	Readings (K&G Chapter)	Homework Due
Week 1	8/25 8/27	Introduction to statistics Statistics in scientific research	1 2	
Week 2	9/1 9/3	Data Description I: Frequency distributions, graphical representations of data (scatterplots, histograms) Data Description II: Measures of Central Tendency	 3 4	
Week 3	9/8 9/10	Labor Day (no class) Data Description III: Variability	 5	HW1
Week 4	9/15 9/17	Probability, The Normal Distribution, Standard Scores (z)	6	HW2
Week 5	9/22 9/24	Using statistics for inference and estimation	7	HW3
Week 6	9/29 10/1	Statistical Hypothesis Testing: z-tests and one-sample t-tests	8	HW4
Week 7	10/6 10/8	Basic experimentation and testing for a difference between means: independent samples t-tests, dependent samples t-test	9	HW5
Week 8	10/13 10/15	**Midterm Review** **Midterm**		
Week 9	10/20 10/22	ANOVA I: One-factor between-subjects design analysis of variance	10	
Week 10	10/27 10/29	ANOVA II: Two-factor between subjects design analysis of variance	11	HW6
Week 11	11/3 11/5	ANOVA III: One-factor within-subjects design analysis of variance	12	HW7
Week 12	11/10 11/12	Correlation (Pearson's and Spearman's)	13	HW8
Week 13	11/17 11/19	Regression Analysis	14	HW9
Week 14	11/24 11/26	Regression Analysis (continued) Thanksgiving (no class)	14	
Week 15	12/1 12/3	Nonparametric statistical tests (Chi-square) Final Exam Review	15	HW10
Final Exam	**12/10**	**Final Exam:** **2 – 4 p.m.,** LVL (Leavey Library) 17		