

**Psychology in Education 2018
Statistical Methods I
School of Education, University of Pittsburgh
Fall Term 2020**

Instructor: Dr. Campbell (shanycecampbell@pitt.edu)

Office hours are by appointment: Sign up for an appointment at:
<https://calendly.com/shanycecampbell/office-hours-psyed2018>

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Office Hours: By appointment

Course Overview

This course provides an introduction to statistics for the behavioral sciences and a foundation for more advanced courses in applied statistics. The course covers descriptive statistics, an introduction to statistical inference, t test, correlation, simple linear regression, and chi-square test. All statistical concepts and methods will be illustrated with applications in behavioral sciences. There are no formal prerequisites for the course, other than a good knowledge of basic algebra. At the end of the course, students should be able to: (1) accurately define and interpret basic concepts commonly used in quantitative inquiry processes; (2) flexibly use descriptive and inferential statistics to analyze data and interpret analytical results; (3) use SPSS to conduct basic statistical analysis.

Textbook and Other Resources

Gravetter, F. J., & Wallnau, L. B. (2015). *Statistics for the behavioral sciences*, 10th/9th ed. Belmont, CA: Wadsworth Publishing.

To get prepared for every lecture, especially if you have not had a lot of prior experience with statistics, you should read the appropriate sections from the textbook **before** watching the lecture. Also YouTube and Alan Field's website at <https://www.discoveringstatistics.com> are great resources. There are also exercises/problems at the end of each chapter in the textbook, and you are strongly encouraged to go over them carefully as additional support.

Class Format

The course uses a traditional asynchronous online learning format. One week before the lecture date listed on the schedule (see last page), pre-recorded lectures including slides and ungraded knowledge checks (aka practice quizzes) will be posted on Canvas. In the lectures that are based on the slides, I will introduce the concepts and show how to use statistical methods to address substantive research questions by conducting analyses and interpreting the results. Please read the associated chapters listed on the schedule and slides, watch the videos, and complete the knowledge check before the lecture date. The knowledge checks will not be graded, and they are for helping you make sure you have understood the content from the textbook and lecture.

While the course is asynchronous the assignments are collaborative in a nature and will require that you all connect with each other synchronously.

Software

Statistical computing is an integral part of PSYED 2018. A small portion of lectures will be dedicated to applications of SPSS (Statistical Package for Social Science) for data organization, analysis, display, and interpretation. If you do not currently have SPSS software, you may download the software for free from the Pitt download center (<http://software.pitt.edu/>) or the virtual computer labs (<https://www.technology.pitt.edu/services/virtual-lab>) have SPSS installed on them.

Collaboration and Study Groups

Collaborative learning is central in this course and serves as a way to foster deep learning and leveraging expertise. Students from different disciplines (when possible) will be assigned to a group for the assignments and final project. Discussions about the course materials, knowledge checks, assignments, and final project within study groups are strongly encouraged. Discussion boards are available on Canvas. If you have any questions, please feel free to post them on either the class discussion board (see main menu on the left of your homepage) or the group discussion board in your own group's view (click your group number on the right of your homepage).

Out of Class Assignments

There will be a two collaborative assignments that will be submitted on Canvas by 5pm EST on the listed due date (See course calendar). You will work with 3-4 of peers to complete these assignments.

- Because solutions are made available after the assignment is turned in, **late assignments will not be accepted**. In a valid emergency appropriate accommodations will be made. It is best, if possible, to contact the instructor prior to the due date.
- The assignments should be typed and well-organized with your work fully shown.
- Be sure to place all members names at the top of the assignment.

Final Project

The final project will allow you to apply the key concepts you have learned in the course to address a real world social justice issue (e.g., COVID-19 and racial disparities, anti-Blackness and policing, etc.). Data and analytic guideline will be posted in the middle of the semester. The final project will be due on 12/02/2020.

Grading

You will be evaluated on the basis of your first assignment (25%), second assignment (30%), and the final project (45%). Letter grades will be based on actual points earned as follows:

Point	Letter	Point	Letter
≥ 93	A	77 - < 80	C+
90 - < 93	A-	74 - < 77	C
87 - < 90	B+	70 - < 74	C-
84 - < 87	B	67 - < 70	D+
80 - < 84	B-	64 - < 67	D
		60 - < 64	D-
		<60	F

Academic Integrity

Please make sure you read the university guidelines on Academic integrity (<http://www.pitt.edu/~provost/ai1.html>). Attention to this policy is particularly important in a course like PSYED 2018, in which collaboration with other students is required. If, for instance, you work closely with other students outside of your group during the planning, execution, or interpretation of your data analyses – a process that I encourage and fully support – you should make sure that the other students' contributions are recognized explicitly in your written account. If you have any questions about what constitutes appropriate collaboration, or how to define what constitutes your own work, please contact me.

Special Accommodation and Other Resources

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services, <https://www.studentaffairs.pitt.edu/drs/>, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

Writing Center — One on one appointments (25 minutes) scheduled in advance; Online tutorials. <https://www.writingcenter.pitt.edu/graduate-services>

Pitt Community Assistance and Resources — Library compiled guide to food, financial, health and other resources. <https://pitt.libguides.com/assistanceresources>

Counseling Center/Therapy Assistance Online — Virtual group and individual psychotherapy; Workshops. To schedule: 412-648-7930
<https://www.studentaffairs.pitt.edu/cc/services/>

Course Outline
(subject to change)

Week	Date	Topic	Reading	Assignment	Assignment Due
1	08/19/2020	Course introduction	Coburn, E. (2015). A review of Indigenous Statistics: A Quantitative Research Methodology. <i>Decolonization: Indigeneity, Education & Society</i> , 4(2)		
2	08/26/2020	Basic concepts	Chapter 1		
3	09/02/2020	Frequency distributions Central tendency	Chapter 2 Chapter 3		
4	09/09/2020	Variability Z-scores	Chapter 4 Chapter 5		
5	09/16/2020	Probability Normal distribution	Chapter 6		
6	09/23/2020	Sampling distributions Hypothesis testing	Chapter 7 Chapter 8		
7	09/30/2020	Uncertainty of hypothesis testing SPSS: Data preparation and management SPSS: Frequency & descriptive statistics	Chapter 8	Assignment 1	
8	10/7/2020	T-test	Chapter 9 Chapter 10 Chapter 11		Project Topic
9	10/14/2020	Self-care Day (no class)			Assignment 1
10	10/21/2020	Confidence intervals SPSS: T-test	Chapter 10 Chapter 11		
11	10/28/2020	Correlation	Chapter 15		
12	11/4/2020	Simple linear regression SPSS: Correlation & regression	Chapter 16		
13	11/11/2020	Contingency tables SPSS: Chi-square test	Chapter 17	Assignment 2	
14	11/18/2020	Nonparametric statistics	Chapter 18 Appendix E		
15	11/24/2020	Indigenous Peoples Recess (no class)			Assignment 2
16	12/02/2020	Final project due			