Psyc 51A: Statistics

Contact Details

Sonja Krstic, Ph.D.
Email: skrstic@brandeis.edu Office location: https://brandeis.zoom.us/j/91887681970

Communication
Email is the best way to reach me, outside of office hours. I will do my best to respond within 24-48 hours.

Continuity
This course will be taught remotely in its entirety. All course announcements will be posted on Latte and sent via Latte email. In case you experience difficulties with the access to course materials and/or have trouble keeping up with the lectures and the assignments, please let me know as soon as you are able to do so.

Meeting Times/Locations

Classes
Tuesday/Wednesday/Thursday 11:10AM – 1:40PM https://brandeis.zoom.us/j/95005819154

Labs or sections
TBD

Student Hours
Tuesdays and Thursdays, 1:45PM – 2:45PM https://brandeis.zoom.us/j/91887681970

Accommodations

Brandeis seeks to create a learning environment that is welcoming and inclusive of all students, and I want to support you in your learning. If you think you may require disability accommodations, you will need to work with Student Accessibility Support (SAS) (781-736-3470, access@brandeis.edu). You can find helpful student FAQs and other resources on the SAS website, including guidance on how to know whether you might be eligible for support from SAS. If you already have an accommodation letter from SAS, please provide me with a copy as soon as you can so that I can ensure effective implementation of accommodations for this class. In order to coordinate exam accommodations, ideally you should provide the accommodation letter at least 48 hours before an exam.

Course Description

Course Prerequisite(s):
PSYC 10a (Introduction to Psychology) or my permission

Learning Goals:
Psyc 51A is an introductory statistics course that does not assume prior knowledge of statistics, but it does assume the knowledge of basic high school algebra. Basic statistic concepts will be presented in a way that emphasizes practical knowledge, with some theoretical background. The focus will be on statistics as applied in psychology and other behavioral sciences.

We use statistics to collect, analyze and interpret data in order to understand the complex world around us. Psychology and other sciences rely heavily on the use of statistics in empirical research. Understanding statistics has additional practical benefits, as it helps us build critical and less biased approach to consuming information in our daily lives.
In this course we will cover the essentials of statistics in behavioral sciences, including the basics of measurement, measures of central tendency and variability, probability and sampling, hypothesis testing, t-tests, ANOVA, and chi-square tests.

Course Objectives:

- To understand why and when you need statistics
- To learn to evaluate appropriateness and validity of statistics in research reports
- To learn to select correct statistics for proposed studies (in Research Methods course and beyond)
- To learn how to use SPSS (statistical software)

Credit Hours:

Success in this four-credit course is based on the expectation that students will spend a minimum of nine hours of study time per week in preparation for class (readings, chapter homework, SPSS practice and reports, preparation for exams, etc.).

Course Requirements

Attendance

Synchronous participation is required. Statistics requires plenty of hands-on experience and practice, and we will be practicing during our class time by completing worksheets and other applied exercises. Submitted worksheets will count towards your final grade (graded for completion). I understand that life happens and that there may be times when you are unable to make it to class, so ***two*** absences will be allowed, with no penalty for your grade.

Assignments

Assignments are planned for most of the classes. You will be expected to submit chapter homework before each class (as indicated in the tentative plan below), except for the first class, or as specifically indicated. These assignments will be graded for completion, and it will be your responsibility to check the accuracy of your responses. Solutions will be posted on Latte. ***You will be allowed to miss two chapter homework assignments.*** In addition, we will have three SPSS reports. They are designed to help you practice the use of SPSS and reporting of your findings using APA style. We will practice using SPSS in most classes and before each of these reports, and I will be posting additional resources to help you complete these reports.

Exams/Quizzes

We will have three mastery quizzes, which will take place during class. In addition, there will be two exams, tentatively scheduled for June 15 and July 1. These exams will be taken asynchronously on Latte, and you will have 3 hours to complete them during a given 24-hour period. The quizzes and exams are all open note/open book.

Participation

The lectures will be synchronous, and you are expected to attend them (you can however miss up to two lectures, as indicated earlier). I do not require you to have the cameras on during our classes, but please bear in mind that they do facilitate the interactive portions of the class. I will be recording the presentation and SPSS demonstrations we will have during the class, for your reference. If you miss a class, you are responsible for making sure to cover the class material on your own, including the assigned worksheets, and to submit them in a timely manner.
Although you are not required to attend office hours, this is a great opportunity to address any concerns

and or/questions about the course and the course materials. Additionally, I encourage you to post questions and comments on Latte, where both questions and answers can be accessed by the entire class.

Missed exams: There will be no makeup exams, unless there is a conflict with another exam, or due to documented medical or family difficulties. In case of a scheduling conflict, makeup exam has to be approved at least 48 hours before the originally scheduled start time for the exam.

Late submissions*:* Students are expected to submit their assignments on time unless there's valid reason for the delay.

Missed mastery quizzes. The thre mastery quizzes will be completed during class time. If you have to miss the particular class when the quiz is taking place, let me know as soon as you are able to, and I will have you complete an alternate version of the quiz.

Course Materials

Textbook:
Gravetter, F. J., Wallnau, L. B., Forzano, L.B., Witnauer, J.E. (2021). *Essentials of Statistics for the Behavioral Sciences* (10th ed.). Cengage Learning.

Calculator ($5-$10 variety--adds, subtracts, multiplies, divides, takes square root).

Electronic resources:
• LATTE: http://latte.brandeis.edu. LATTE site will refer you to all the other electronic resources, including the Zoom link.
• SPSS statistical software package, Version 27: SPSS can be installed on your personal PC or Mac from the Brandeis ITS Available Software site (you may have to log in, then choose IBM SPSS, and select SPSS 27 for Mac or Windows). The Help Desk can assist with installation. SPSS is installed on computers in Goldfarb Computer Classroom (26 seats, Goldfarb Library Mezzanine), Farber Computer Classroom (32 seats, Farber Library Level 1), Information Commons (27 seats, Goldfarb Library Level 1), Shapiro Library Cluster (16 seats, Shapiro Campus Center Level 2).
Any additional course materials, including worksheets and assignments will be provided on Latte.

Course Plan

Please note: This course plan is tentative. Some shifts in the schedule are possible, either due to unexpected circumstances, or to make any needed adjustments. Syllabus updates will be uploaded to Latte and you will be alerted to changes.

Brandeis UNIVERSITY

Class	Topic / Reading (due before class)	HW Due	SPSS Reports
06/01	Introduction to Course; Data collection and SPSS basics		
06/03	Introduction to Statistics (Ch 1)	**Ch 1**	***Install SPSS!!***
06/03	Frequency (Ch 2) Central tendency (Ch 3)	**Ch 2, 3**	
06/08	Central tendency (Ch 3)	**Ch 3**	
06/09	Variability (Ch 4)	**Ch 4**	
06/10	Z-Scores & Probability (Ch5 and Ch 6)	**Ch 5, 6**	
06/15	Sampling (Ch 7); Hypothesis testing (Ch 8)	**Ch 7, 8**	***SPSS report #1***
06/16	**EXAM 1**		
06-17	Introduction to t-test (Ch 9)	**Ch 9**	
06/22	The t-test (Ch 10 and Ch 11)	**Ch 10, 11**	
06/23	Introduction to ANOVA (Ch 12)	**Ch 12**	
06/24	Two-factor ANOVA; Interaction (Ch 13)	**Ch 13**	***SPSS report #2***
06/28	Correlation & Regression (Ch 14) : make-up class	**Ch 13**	
06/29	Chi-square (Ch 15)	**Ch 14**	
06/30	No class, Monday class instead	**Ch 16**	***SPSS report #3***
07/01	**FINAL EXAM**		

Evaluation and Grading

This course is structured so that all students who try can attain a grade of C- or better. To ensure this I use a combined mastery-honors approach. Specifically:

- To earn a grade of C- requires that you (a) master a basic knowledge of statistics, (b) know what statistic to use in what situation, (c) demonstrate that you can compute the appropriate statistics using SPSS, and (d) report your results in APA style. You demonstrate this by (a) achieving mastery (at least 80% correct) on all three mastery quizzes (which you may take repeatedly, up to three times), (b) achieving a C grade or higher on the three SPSS reports, (c) completing all required tests and exercises, attending class, and doing yourdaily homework. If you fulfill these requirements, you will earn a C- course grade even if you get Ds on both exams.
- To earn an A or B, you must exhibit (a) mastery of the practical use of statistics, as indicated above and (b) a conceptual understanding of the quantitative concepts underlying statistical reasoning on tests and labs.

Calculation of course grades:

- Proportion of participation in worksheets **10%** grade
- Proportion of homework assignments handed in ON TIME **5%** of the grade.
- SPSS report grades will be added together and entered as one grade, **20%** of the grade.
- A single grade for quizzes will be calculated by adding (a) the number of quizzes mastered (each of which gets 100%), and (b) partial credit for quizzes not mastered (based on best score and number attempts). **20% of the grade.**
- The midterm is worth **20%** and the final is worth **25%** of the grade.

Important Policies and Resources

Academic Integrity

Every member of the University community is expected to maintain the highest standards of academic integrity. A student shall not submit work that is falsified or is not the result of the student's own effort. Infringement of academic integrity by a student subjects that student to serious penalties, which may include failure on the assignment, failure in the course, suspension from the University or other sanctions. Please consult Brandeis University Rights and Responsibilities for all policies and procedures related to academic integrity. Students may be required to submit work via TurnItIn.com or similar software to verify originality. A student who is in doubt regarding standards of academic integrity as they apply to a specific course or assignment should consult the faculty member responsible for that course or assignment before submitting the work. Allegations of alleged academic dishonesty will be forwarded to the Department of Student Rights and Community Standards. Citation and research assistance can be found at Brandeis Library Guides - Citing Sources.

Breaks

Class meetings of 90 minutes include a 10-minute break, while class meetings of 180 minutes include two breaks, at the instructor's discretion.

Classroom Health and Safety

- Register for the Brandeis Emergency Notification System. Students who receive an emergency notification while attending class should notify their instructor immediately. In the case of a life-threatening emergency, call 911. As a precaution, review this active shooter information sheet.

- On the Brandeis campus, all students, faculty, staff and guests are required to observe the university's policies on physical distancing and mask-wearing to support the health and safety of all classroom participants. Review up to date COVID-related health and safety policies regularly.

Course Materials/Books/Apps/Equipment

If you are having difficulty purchasing course materials, please make an appointment with your Student Financial Services or Academic Services advisor to discuss possible funding options, including vouchers for purchases made at the Brandeis Bookstore.

LATTE

LATTE is the Brandeis learning management system. Login using your UNET ID and password. For LATTE help, contact Library@brandeis.edu.

Library

The Brandeis Library collections and staff offer resources and services to support Brandeis students, faculty and staff. Librarians and Specialists from Research & Instructional Services, Public Services, Archives & Special Collections, Sound & Image Media Studios, MakerLab, AutomationLab, and Digital Scholarship Lab are available to help you through consultations and workshops.

Privacy

To protect your privacy in any case where this course involves online student work outside of Brandeis password-protected spaces, you may choose to use a pseudonym/alias. You must share the pseudonym/ alias with me and any teaching assistants as needed. Alternatively, with prior consultation, you may submit such work directly to me.

Student Support

Brandeis University is committed to supporting all our students so they can thrive. If a student, faculty, or staff member wants to learn more about support resources, the Support at Brandeis webpage offers a comprehensive list that includes these staff colleagues you can consult, along with other support resources:

- The Care Team
- Academic Services (undergraduate)
- Graduate Student Affairs
- Directors of Graduate Studies in each department, School of Arts & Sciences
- Program Administrators for the Heller School and International Business School
- University Ombuds
- Office of Equal Opportunity.

N.B. Portions of this course were adopted from Dr. Judith Sims-Knight's work, with her permission. I am forever grateful for all her support and experience.