

Psyc 51A-2: 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, and 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 (and repeated during class time). If you experience difficulties accessing course materials and have trouble keeping up with the lectures and assignments, please let me know as soon as possible.

Meeting Times/Locations

Classes

Monday/Tuesday/Wednesday/Thursday 9:10AM – 11:20AM

<https://brandeis.zoom.us/j/95191173469>

Student Hours

By appointment (set up via email)

<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 - brandeis.edu/accessibility.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 to understand the complex world around us. Psychology and other sciences rely heavily on using statistics in empirical research. Understanding statistics has additional practical benefits, as it helps us build a 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 the appropriateness and validity of statistics in research reports.
- To learn to select correct statistics for proposed studies (in the 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 the combined total of in-class and outside-of-class work of 36 hours per week for a five-week course (lectures, readings, reviewing, writing). The condensed format of summer semesters means that there will be more work that needs to be done faster. If you feel that you are falling behind, we need to act fast, so contact me as soon as possible and I will do my best to help you.

Course Requirements

Attendance

Synchronous participation is strongly encouraged. 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 recorded Zoom meetings will be made available after each class. If you must miss a class, please make sure to make up the required work as soon as possible.

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**, scheduled for June 20 and July 3. 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. I do not require you to have the cameras on during our classes, but please bear in mind that they 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. We will be completing **worksheets** in almost all classes, typically due the same day.

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 three 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 alternative version of the quiz asynchronously.

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 29:** SPSS can be installed on your personal PC or Mac from here: <https://brandeis.onthehub.com> [brandeis.onthehub.com]. 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.



| Class | Topic / Reading (due before class) | HW Due | SPSS Reports |
|-------|---------------------------------------------------------|---------|-----------------------|
| 06/03 | Introduction to Course; Data collection and SPSS basics | | |
| 06/04 | Introduction to Statistics (Ch 1) | Ch 1 | <i>Install SPSS!!</i> |
| 06/05 | Frequency (Ch 2) | Ch 2 | |
| 06/06 | Central tendency (Ch 3) | Ch 3 | |
| 06/10 | Variability (Ch 4) | Ch 4 | |
| 06/11 | Z-Scores (Ch 5) | Ch5 | |
| 06/12 | No class: Shavuot Religious Holiday Observed | | |
| 06/13 | No class: Shavuot Religious Holiday Observed | | |
| 06/17 | Probability (Ch 6) and Sampling (Ch 7) | Ch 6, 7 | |
| 06/18 | Hypothesis testing (Ch 8), Introduction to t-test | Ch 8 | |
| 06/19 | No class: Juneteenth | Ch 9 | |
| 06/20 | EXAM 1 | | <i>SPSS report #1</i> |
| 06/24 | The t-test: independent groups (Ch 10) | Ch 10 | |
| 06/25 | The t-test: related samples (Ch 11) | Ch 11 | |
| 06/26 | Introduction to ANOVA (Ch 12) | Ch 12 | |
| 06/27 | Two-factor ANOVA (Ch 13) | Ch 13 | <i>SPSS report #2</i> |
| 07/01 | Correlation & Regression (Ch 14) | Ch 14 | |
| 07/02 | Chi-square (Ch 15) | Ch 15 | |
| 07/03 | FINAL EXAM | | <i>SPSS report #3</i> |

Evaluation and Grading

Calculation of course grades:

- Proportion of participation in worksheets, **10%** grade.
- Proportion of homework assignments handed in ON TIME, **10%** of the grade.
- SPSS report grades will be added together and entered as one grade, **30%** 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 exams are worth **15%** of the grade each.

N.B. There will be no extra credit assignments for this class. The final grade will be calculated using the following formula (all grades calculated as percentages):

Final grade= .10*worksheets + .10*homework + .30*SPSS reports + .20*mastery quizzes + .15*exam 1 + .15*final exam.

You can use this formula to estimate your final grade. The final grade will be distributed like this:

A+ (97% and up), A (93 – 96.5), A- (90 – 92.5), B+ (87 – 89.5), B (83 – 86.5), B- (80 – 82.5), C+ (77 – 79.5), C (73 – 76.5), C- (70 – 72.5), D+ (67 – 69.5), D (63 – 66.5), D- (60 – 62.5), E (below 60%).

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 subject 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](#),

Policy on the use of generative AI tools

The use of an AI content generator such as ChatGPT to complete an assignment without proper attribution and documentation violates academic integrity. By submitting any work as your own in your class, you pledge to affirm that this is indeed your work and that any additional tools and sources are properly credited.

The following are the approved uses of AI for this course:

- Brainstorming and finetuning your ideas
- Checking style and grammar, finding an expression

Learning how to use AI tools ethically and responsibly is quite important these days.

However, be aware of their limitations and the need to properly cite them in your work. To do so:

- Assume that any AI output is the product of its imagination (no matter how convincing it may seem)

and fact-check each argument. Errors and omissions are your responsibility.

- Fully acknowledge the use of AI. First, make sure to cite it. For example, text generated with the help of ChatGPT-4 should be credited using the following format: ChatGPT-4. (YYYY, Month DD of query). Text of your query. Generated using OpenAI. <https://chat.openai.com/>. Content generated using other tools should follow a similar citation format. Next, include a paragraph explaining how you used AI. Include the full list of your prompts and the AI-generated responses. This should be submitted as a separate document. Failure to fully acknowledge the use of AI is a violation of academic integrity.

IMPORTANT: The use of the generative AI in quizzes and exams is not allowed. I will be requiring proof of your work for all the questions where this is appropriate.

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](#).

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.