Statistics for Social Science
PSY 2100 (NETB)
Fall semester, 2026

Instructor: Jaihyun Park, Ph.D.
Office: 8-223 (8th Floor)
Phone: 646-312-3806
Email: jaihyun.park@baruch.cuny.edu
Office hour: Tuesday 1-2 pm (in person or zoom) or by appointment
Zoom link: https://baruch.zoom.us/j/7520344202
Meeting ID: 752 034 4202; Passcode: 3302025

Textbook: Fundamental Statistics for Behavioral Sciences (2001, 8th ed)
Robert B. McCall; Wadsworth (Thomson Learning Inc.)

Note that the textbook is suggested, not required. Students can successfully complete the course without the textbook. Reading from a few chapters will be available through the library reserve (see the relevant section on Brightspace).

Class Information: Online Asynchronous

As this is a fully online course, we do not have specific class time or physical classroom to meet at. Instead, all interactions between students and the instructor will be made through online communications (e.g., Brightspace, email, etc.).

Course Description:

This course is designed to provide students with a basic understanding of the use of descriptive and inferential statistics as research tools in Psychology or other social sciences. Concepts in descriptive statistics include graphic representation of data, central tendency, variability, correlation, and regression. Concepts in inferential statistics include estimation and hypothesis testing of means, correlations, and frequencies. Although students will perform statistical calculations for regular homework assignments, an emphasis will be put on understanding relationships among important statistical concepts, the application of appropriate statistical methods, and the interpretation of statistical analyses.

Course Objectives:

Upon completion of this course, students will:

1) Develop the skills of summarizing and organizing raw data
2) Understand the characteristics of a distribution
3) Be able to describe and interpret the linear relationship between variables
4) Understand the entire process of hypothesis testing
5) Develop skills to conduct statistical analysis for scientific psychology research

6) Obtain proficiency in using SPSS for data analysis
7) Interpret and draw appropriate inferences from quantitative representations, such as formulas, graphs, or tables.
8) Use algebraic, numerical, graphical, or statistical methods to draw accurate conclusions and solve mathematical problems.
9) Represent quantitative problems expressed in natural language in a suitable mathematical format.
10) Apply mathematical methods to problems in other fields of study.

Note: Items #7 through #10 represent Baruch/CUNY pathways learning goals.

Prerequisite:

MTH 1030 (as well as other Mathematics courses as indicated on CUNYFirst) is required to take this course.

Class Routines and Expectations:

As this is an online course (asynchronous), students are strongly encouraged to log in to Brightspace, at least three times a week, for announcements, course materials, assignments, discussions and asking questions. The course materials are organized by the week. Every Monday, the instructor will make an announcement for the week's course materials to cover and for any reminders. Feel free to contact the instructor by sending an email or posting a question on the Discussion Board. Any question asked by students will be answered within 24 hours, but it will be faster if students send an email as the instructor checks his email many times a day. The turn-around time for assignments will be about a week at the most.

Course Materials:

It is suggested that students have the textbook for the course. In addition, many course materials (e.g., syllabus, PowerPoint slides, assignments, etc.) will be provided through Brightspace. On the left side of the Brightspace page, there are menus that you can click on to have access to materials such as "Course Syllabus," "Lecture Notes," "Quizzes and Other Assignments," and so on. Again, it is important that students log into Brightspace 2-3 times per week to keep pace with the course schedule and all the requirements.

Requirements and Grading:

Students are required to take two exams (midterm and final), complete six review quizzes and participate actively in the classes. The final grade will be determined by these requirements as indicated below:

Exams: Midterm (30%) and Final (40%, cumulative)
Students will take two exams through Brightspace during the semester. The

exams will test your knowledge of statistical principles, application of statistical methods, and interpretation of statistical results. Regulations for the exams will be posted on Brightspace and will be strictly applied.

Review Quiz (20%)
Six review quizzes will be assigned throughout the course and must be completed by the due date. The review quiz will concern important concepts and principles that we covered during the online classes. The format of the review quiz will be multiple-choice questions. Some questions may include computations and students may use a calculator for the purpose of computing.

Discussion – Group work (10%)
Students must work on a problem set and post their answers on Brightspace. This assignment is given (almost) every other week. Take this assignment as doing an homework with other students. The instructor may split the class into small groups for this assignment.

Extra-Credit Projects
Before each exam, students have an optional extra-credit project to complete. Students can take advantage of these opportunities to better understand the materials while practicing toward upcoming exams. The extra credits will be added to each exam score.

Grades:

As detailed above, two exams, six quizzes, and discussion posts are required of all the students. If a student also completes the optional extra-credit projects, one can get up to 105 out of 100 for each exam.

Grades will be assigned as a percentage of total points (No rounding)

93.0-100	= A
90.0-92.9	= A-
87.1-89.9	= B+
83.0-87.0	= B
80.0-82.9	= B-
77.1-79.9	= C+
73.0-77.0	= C
70.0-72.9	= C-
67.1-69.9	= D+
60.0-67.0	= D
Under 59.9	= F

New Policy on Grades in PSY 2100 (Starting in Fall 2025)

For those of you who are Psychology majors or intending to major in Psychology,

be aware that, starting in Fall 2025, a grade of C or better in PSY 2100 is required to register for PSY 3001 (Research Methods) which is a required course for the Psychology major. Since Research Methods requires a conceptual and practical understanding of basic statistical principles, including relevant vocabulary, descriptive statistics, and inferential procedures, the Department has implemented this minimum grade requirement of C or better for the statistics prerequisite.

If a student fails PSY 2100 (or STA 2000 or BIO 2100) they may retake it using the F replacement policy. However, if a student earns a C-, D, or D+ they will not be allowed to retake the statistics course at Baruch.

Instead, there are two paths by which a student might be able to demonstrate the necessary mastery of PSY 2100 material and receive departmental permission to enroll in PSY 3001.

Students can take a 2-hour statistics mastery assessment exam (similar to a final) administered through the Psychology Department on the first weekday of classes and pass with a grade of C or better.

Alternatively, students can take a department-approved statistics course at another CUNY (see T-REX equivalency: https://explorer.cuny.edu/) or at a non-CUNY college and receive a C or better to demonstrate the mastery needed to qualify for PSY 3001.

For more detailed information, refer to the document posted on Brightspace.

Academic Honesty

I fully support Baruch College's policy on Academic Honesty, which states, in part: "Academic dishonesty is unacceptable and will not be tolerated. Cheating, forgery, plagiarism and collusion in dishonest acts undermine the college's educational mission and the students' personal and intellectual growth. Baruch students are expected to bear individual responsibility for their work and to uphold the ideal of academic integrity. Any student who attempts to compromise or devalue the academic process will be sanctioned."

The Weissman School takes cheating very seriously. If a student gets caught cheating during the exam or for an assignment, he or she may be penalized according to the policy from the College.

In addition to the College-wide statement about academic honesty, I would like to stress that **I personally have zero tolerance policy for any violation or suspected violation of academic integrity**. If I notice any suspected violation, I may ask for further information from the student(s) involved, and I may report such incidents to the College administration. If I come to obtain evidence indicating that a student has committed any violation of academic honesty (e.g.,

copying another student's work, failing to comply with instructions in the exam, cheating during the exam, etc.), I will give NO credit for the assignment (e.g., exam, homework, etc.) and may make the student fail in this course.

Please take this academic honesty statement very seriously. I really hope that no one makes any violation of academic honesty.

Services for Students with Disabilities

Baruch College provides reasonable accommodation and modifications for students with disabilities to ensure that no student with a disability is denied the benefits of, is excluded from participation in, or otherwise subjected to discrimination under the education program or activity operated by the College because of the absence of educational auxiliary aids for them. Students who require accommodation/modifications should speak with me as soon as possible.

In order to receive services, you must register with the Office of Services for Students with Disabilities. Documentation is necessary for every disability. Please note that the student accommodate procedure has been changed as it is managed by CUNY through "CUNY Accommodate," a new platform on which the student accommodate procedure is carried out. For more information, please contact Patricia Fleming, Director of the Office of Services for Students with Disabilities, Vertical Campus Building, One Bernard Baruch Way, 2nd Floor, Rm 2-270, Phone: 646-312-4590, Email: disability.services@baruch.cuny.edu or disability@cuny.edu

Student Mental Health Statement and Resources:

At Baruch, we acknowledge that as a student, you are balancing many demands. During the semester, if you start to experience personal difficulties or stressors that interfere with your academic performance or day to day functioning, please consider seeking free and confidential support at the Baruch College Counseling Center. For more information or to make an appointment, please visit their website at https://studentaffairs.baruch.cuny.edu/counseling/ or call 646-312-2155. If it's outside of business hours (Monday-Friday 9-5pm) and you need immediate assistance, please call 1-888-NYC-WELL (888-692-9355). If you are concerned about one of your classmates, please share that concern by filling out a Campus Intervention Team form at https://studentaffairs.baruch.cuny.edu/campus-intervention-team.

Privacy Policy, Recording Policy, Webcam Camera On/Off Policy
As this course is run fully online (Asynchronous), these policies are not applicable

Technology Requirements:
As this course is run fully online, students are required to have appropriate access to equipment and internet connections. Specifically, students will need to have access to (a)

electronic equipment (b) reliable internet access and (c) technology skills to access course materials and to upload their work.

Online Learner Resources:
Students can obtain help from the following resources, as needed. BCTC helpdesk (646-312-1010) can provide technical assistance for those who need help. Technology loans will be available for those who need to have necessary equipment for online courses. Library support services are also available through Baruch Newman Library (646-312-1610 or stop by the reference desk).

Course Schedule

Week 1 (Aug 31-Sep 6): Course introduction: What is statistics?
- Reading: Chapter 1 of the textbook
- Contents covered:
  - Why statistics?
  - Psychological measurement
  - Summation Sign
- **Assignment: Group Work - Problem set #1 (due by Sep 6)**

Week 2 (Sep 7-Sep 13): Data organization and presentation
- Reading: Chapters 2 and 4 of the textbook
- Contents covered:
  - Frequency distributions and constructing FR tables
  - Exploratory data analysis
  - Graphs of frequency distributions
- **Assignment: Review Quiz #1 (due by Sep 13)**

Week 3 (Sep 14-Sep 20): Characteristics of distributions
- Reading: Chapter 3 of the textbook
- Contents covered:
  - Indicators of central tendency and variability
  - Populations and samples
  - Central limit theorem
  - Introduction to SPSS
- **Assignment: Group Work - Problem set #2 (due by Sep 20)**

Week 4 (Sep 21-Sep 27): Indicators of relative standing
- Reading: Chapter 5 of the textbook
- Contents covered:
  - Percentile points and ranks
  - Changing the properties of scales
  - Standard scores and the normal distribution
  - Standard normal distribution and problem solving
- **Assignment: Review Quiz #2 (due by Sep 27)**
- **Assignment (Optional): Extra credit project I (due by Sep 27)**

Week 5 (Sep 28-Oct 4): Regression

Reading: Chapter 6 of the textbook

Contents covered:

- Linear relationship
- The principle of least squares
- Regression constants and regression line
- Standard error of estimate

Assignment: Group Work – Problem set #3 (due by Oct 4)

Week 6 (Oct 5-Oct 11): Correlation

Reading: Chapter 7 of the textbook

Contents covered:

- The Pearson product-moment correlation coefficient
- Properties of correlation coefficient
- Sampling factors that change correlation coefficient
- Causality and correlation

Assignment: Review Quiz #3 (due by Oct 11)

Week 7 (Oct 12-Oct 18): Sampling, sampling distributions and probability

MIDTERM EXAM is scheduled early this week

Reading: Chapter 8 of the textbook

Contents covered:

- Methods of sampling
- Sampling distributions and sampling error
- Probability and its application to hypothesis testing
- Estimation

Assignment: Group Work – Problem set #4 (due by Oct 18)

Week 8 (Oct 19-Oct 25): Introduction to hypothesis testing: terminology and theory

Reading: Chapter 9 of the textbook

Contents covered:

- General procedure of hypothesis testing
- Terminologies of hypothesis testing
- Introduction to *t*-distribution
- Statistical decision making and decision errors
- One-sample *t*-tests

Assignment: Review Quiz #4 (due by Oct 25)

Week 9 (Oct 26-Nov 1): Two-samples independent *t*-test

Reading: Chapter 10 of the textbook

Contents covered:

- Inferences about the difference between means
  - Independent *vs.* Correlated samples
  - Independent *t*-tests

Numeric examples of independent *t*-test
Between-participants vs. within-participants design

Assignment: Group Work – Problem set #5 (due by Nov 1)

Week 10 (Nov 2-Nov 8): Two samples correlated *t*-test and other analyses

Reading: Chapter 10 of the textbook

Contents covered:

Correlated *t*-test
Comparing two correlation coefficients
Difference between comparing means and comparing correlations

Assignment: Review Quiz #5 (due by Nov 8)

Week 11 (Nov 9-Nov 15): Analysis of Variance I

Reading: Chapter 14 of the textbook

Contents covered:

Comparing means from more than two groups
Conceptual foundation of analysis of variance
The logic of analysis of variance
Introduction to *F*-distribution

Assignment: Group Work – Problem set #6 (due by Nov 15)

Week 12 (Nov 16-Nov 22): Analysis of Variance II

Reading: Chapter 14 of the textbook

Contents covered:

Computational process of analysis of variance
Conducting and interpreting *F*-tests
Related issues of analysis of variance: comparisons

Assignment (Optional): Extra credit project II (due by Nov 22)

NOTE: No class work and activity during the week (Nov 23-Nov 30)

Week 13 (Nov 30-Dec 6): Beyond hypothesis test

Reading: Chapter 11 of the textbook

Contents covered:

The theoretical foundation of significant test
Effect size: concepts and measures
Interval estimation – confidence interval

Assignment: Review Quiz #6 (due by Dec 6)

Week 14 (Dec 7-Dec 13): Nonparametic statistics

Reading: Chapter 16 of the textbook

Contents covered:

Introducing nonparametric statistics
Contingency tables
Chi-square analysis
Conducting Chi-square analysis

Final Exam (Dec 15-21)

* The final exam is scheduled during the College final exam period