

PSY V0500 – Statistical Methods I (FH)

PSYC 70500 – Statistical Methods in Psychology I

Classes and Locations:

Lecture: Wednesdays 3:00 PM – 4:15 PM

NAC Room # 1/302

Lecture: Wednesdays 4:30 PM – 6:20 PM

NAC Room # 1/302

Instructor: Adriana Espinosa

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Office: Shepard Hall # 1

Office Hours: Mondays 2:00 – 3:00 PM

Course Description:

The goal of the course is multi-fold: To thoroughly cover univariate statistical models; to implement statistical methods in Microsoft Excel and SPSS; and to develop the understanding required to read literature which is based on statistical analysis in the field of psychology. We will begin with an introduction to inferential statistics, and then move into models that compare groups. The course will end with an introduction to simple linear regression.

We will meet once a week on Wednesdays. In most days, the first 1 hour and 15 minutes will be dedicated to lecture. You will then have a short break. We will reconvene at 4:30 PM for lab exercises aimed at practicing concepts using Microsoft Excel and SPSS.

Learning Objectives:

At the end of this course students should be able to:

1. Have working knowledge of SPSS for analyzing data.
2. Understand and apply univariate statistical models for problems in the field of Psychology.
3. Effectively communicate results from data analyses.
4. Feel comfortable reading and discussing empirical journal articles.
5. Formulate own hypotheses, find data to analyze and write an empirical paper targeting a specific journal.

Required Text and Software:

- Myers, J.L., Well, A.D., & Lorch, R.F., Jr. (2010). *Research design and statistical analysis*. (3rd ed.). New York: Routledge.
ISBN-13: 9780805864311
- Discovering Statistics by Hawkes Learning Systems (see attached sheet)
ISBN-13: 978-1-938891-40-3

Recommended Texts:

- Coolican, H. (2009). *Research Methods and Statistics in Psychology*. New York: Routledge.
ISBN-13: 9780340524046
- Grimm, L.G. (1993). *Statistical applications for the behavioral sciences*. New York: Wiley.
ISBN-13: 9780471509820

Recommended Statistical Software:

IBM SPSS – You can purchase a student license (*Standard v21 Student Grad Pack*) for a reasonable price at OnTheHub.com. Other websites also offer the grad pack. I suggest you search the internet to find the most reasonable price.

Lab time (4:30 PM to 6:20 PM):

Generally, we will use lab time for various purposes: to address any unfinished material from lecture, to go over further examples including discussion to empirical papers, to learn how to apply what we discussed the previous week using SPSS (or Excel), for group work, and to answer conceptual questions related to problem set assignments.

Review Undergraduate Statistics: A thorough review of undergraduate statistics is scheduled for the first 5 weeks of classes. The review will cover basic concepts such as descriptive statistics, basic probability, confidence intervals, hypothesis testing, correlation, and Chi-Square test of independence. Given the amount of material included in the review, it will run at a very fast pace. As such, you must make sure you have sufficient time allocated to this class and do not wait until the last minute. You will solidify undergraduate concepts through practice, unless otherwise specified, using the Hawkes product required as well as team exercises (see below).

Team Exercises: During the first 5 weeks of classes I will assign individuals into various teams. The purpose of these teams is to review undergraduate statistics, while solving problems in collaboration with each other. All team members are equal players, but a team leader will ensure all team members actively participate, clearly understand the concepts reviewed, and are able to articulate the solutions of each assignment. **Team leaders will make sure that no one is left behind.** Team exercises will vary on length and level of difficulty. Each team must submit one set of solutions the Wednesday after the assignment has been given in class. Each team will receive one grade for each assignment. The submitted set of solutions must clearly exemplify graduate-level work.

Individual Problem Sets:

Once the review is over, I will begin to assign individual problem sets. Problem Sets will be due at the beginning of lecture the next week or as otherwise indicated. I strongly encourage you to take these problem sets very seriously. All material covered in this

class is only solidified through practice. Solutions to problem sets will be available after class. As such, I will not accept late problem sets.

Assigned Readings:

To supplement our lectures, on occasion I will provide additional handouts that discuss topics covered in class at greater depth than what is covered in Myers et al. If I deem appropriate I will also assign journal articles that apply some of these techniques. The purpose is to get you thinking about research within a practical framework. We may read one paper one week, none the other, and multiple papers the next. The frequency and quantity of articles will vary throughout the course.

Course Materials and Communication: I will regularly send e-mail with special class announcements via Blackboard. Please make sure the e-mail address you have registered with Blackboard is valid and check it frequently. In addition, all relevant course information, assignments, hints for problem sets, and readings will be posted Blackboard.

Study Groups: I strongly encourage you to form/join a study group of 2 or 3 individuals to work on problems, study for exams and generate ideas for your final project. At the very least, this exercise will make your class experience more enjoyable.

Grading Policy:

Your final grade will depend on the following:

1. Exam I: 10% - October 5th in class
2. Exam II: 30% - November 16 in class
3. Final Exam: 30% - December 14th in class – **Please note the time is different than our regular class meetings**
4. Assignments: 30% -Due as indicated

There is no extra credit available for this course.

Grading Scale

I will assign letter grades according to the following scale:

100	≥	A+	≥	96	90	>	B+	≥	86	80	>	C+	≥	76
96	>	A	≥	93	86	>	B	≥	83	76	>	C	≥	65
93	>	A-	≥	90	83	>	B-	≥	80	65	>	F	≥	0

Policy on attendance:

Students are expected to attend every class session of each course in which they are enrolled and to be on time. An instructor has the right to drop a student from a course for excessive absence. Instructor may treat lateness as equivalent to absence. No distinction is made between excused and unexcused absences. The College Bulletin sets the default policy that a student may be dropped if absent more than 4 classes (for classes meeting twice per week) or 2 classes (for classes meeting once a week).

Early in the semester the Registrar requests instructors to report any students who have not attended even a single class. The registrar's office will drop these students from the course.

Withdrawal from the course:

The deadline to officially withdraw from the course is November 10th. Students who unofficially drop from the course will receive a grade of WU.

Policy on Academic Integrity:

As stated in the CUNY Policy on Academic Integrity: 'Plagiarism is the act of presenting another person's ideas, research or writings as your own. The following are some examples of plagiarism:

- 'Copying another person's actual words without the use of quotation marks and footnotes attributing the words to their source;
- 'Presenting another person's ideas or theories in your own words without acknowledging the source;
- 'Using information that is not common knowledge without acknowledging the source;
- 'Failing to acknowledge collaborators on homework and laboratory assignments.
- 'Internet plagiarism includes submitting downloaded term papers or parts of term papers, paraphrasing or copying information from the internet without citing the source, and "cutting & pasting" from various sources without proper attribution.'
- 'A student who plagiarizes may incur academic and disciplinary penalties, including failing grades, suspensions, and expulsion.'
- 'A complete copy of the CUNY Policy on Academic Integrity may be downloaded from the College's home page.'

Instructor will determine academic sanctions. Violations of academic integrity will result in a written report to the Office of Academic Integrity.

Policy on Cell Phone use:

All cellphones must either be off or on vibrate. If you must take a call, please step outside of the classroom as least disruptive as possible. If you need to send a text or check your email, do it outside of the classroom as well. Anyone who is sending texts or emails during class time will be asked to leave. Cell phones must be off and put away during exams.

Accommodation of Disability:

The Office of Student Disability Services (SDS) is dedicated to providing students with disabilities equal access to the College curriculum. The Office ensures that, upon request, qualified students with disabilities are provided reasonable and effective accommodations, as mandated by law, as well as appropriate support services. Students who contact SDS and indicate that they have a disability or believe that they might

qualify for services will be asked to make an appointment for an intake interview with SDS staff. To qualify for services, students must register with SDS by providing appropriate documentation from a qualified professional describing the nature of their disability and functional limitations. Although academic adjustments are mandated by law, the College is not required to alter demonstrably essential academic requirements of a course of study nor is the College mandated to lower or effect substantial modifications of reasonable academic standards. Early planning is essential for many of the resources, adjustments and accommodations; students are asked to contact SDS at the earliest possible date. Forms are due at least one week prior to the test. No form, no accommodations.

Courtesy Policy:

Use of unauthorized hand held electronic equipment is not allowed. In addition, eating, drinking, or use of unauthorized hand held electronic equipment is not allowed in the computer lab.

Course Calendar:

This calendar is subject to change at instructor's discretion.

Aug 31: Myers et al. Ch 1, 2, Hawkes (check progress report): Introduction, Diagnostic Questionnaire, and review of Descriptive Statistics (Central Tendency and Dispersion)

Sept. 7th: Myers et al. Ch 2, 3, Hawkes (check progress report): Continued descriptive statistics and basic probability, conditional probability and probability distributions
Team Assignment # 1 due in class

Sept. 14th: Myers et al. Ch 4, 5, 7.5, Hawkes (check progress report): Confidence intervals and Hypothesis Testing (One sample t-test and dependent sample t-test – equality of tests)
Team Assignment # 2 due in class

Sept. 21st: Myers et al. Ch 7, Hawkes (check progress report): Independent samples t-test, Welch's t-test and effect size
Team Assignment # 3 due in class

Sept. 28th: Myers et al Ch 19, Hawkes (check progress report) Measures of Association – Pearson Correlation and Chi-Square (χ^2) test for independence with corresponding effect size.
Team Assignment # 4 due in class

Oct. 5: Exam # 1 – On Basic statistics (1 hour), power and testing assumptions of parametric t-tests.
Team Assignment # 5 due in class

Oct. 12: No Classes schedule as per CUNY calendar

Oct. 19: Myers et al. Ch 8, 9, 10: Between Subject Designs (One, two and multi-factors)

Oct. 26: Between Subject Designs (continued)

Nov. 2: Myers et al. Ch 13, 14, 15: Repeated Measures Designs (One, two and multi-factors) *Individual assignment 1 becomes available in Blackboard due in class on Nov. 9*

Nov. 9: Myers et al. Ch 16 Repeated Measures (continued) – nested variables
Individual Assignment # 1 due in class

Nov. 16: Exam # 2

Nov. 23: Myers et al. Ch 18, 20: Introduction to Linear Regression (modules also available in Hawkes) *Individual assignment # 2 becomes available due in class on Dec. 7*

Nov. 30: No class – Professor is out of the country

Dec. 7: Ch 21, 22, 23 and 24: Introduction to Multiple Regression (modules also available in Hawkes) *Individual Assignment # 2 due in class*

Dec. 14: Final exam in class 3:30 PM to 5:45 PM – Date has been set by CUNY.