

Research Statistics
Psychology 206 (Sociology 206)
Spring 2015
2:00 – 3:15 p.m. Tuesday and Thursday
Campbell Hall, Room G15

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125 E Bullock Science Center

Office Hours: Monday and Tuesday 3:30 – 4:30 p.m., or by appointment

Basic theory, principles and applications of statistics in behavioral science research. Prerequisite: Any one course from PSY-101 or PSY-102, SOC-100, ANT-101, ANT-202, or any 100-level POL course. This is a 4-credit hour course in which we will meet in the classroom for 3 hours each week. The additional credit hour will allow for course readings and assignments to be completed before class. This course will also involve projects, reading assignments and studying to be completed outside of class time.

After completing this course, students should be able to do the following:

- ❖ Graph or display numbers using a variety of techniques
- ❖ Calculate descriptive statistics for a set of numbers
- ❖ Understand the logic of hypothesis testing and inferential statistics
- ❖ Appropriately use a variety of statistical techniques such as Correlation, *t* Tests, ANOVA, Chi-square
- ❖ Understand statistical significance and decision errors
- ❖ Use SPSS (Statistical Package for the Social Sciences) to analyze data and interpret findings
- ❖ Interpret and apply statistics to social science research

These objectives will be met through applied course assignments involving listening, discussing, reading, and writing.

The Psychology department also developed learning objectives for all of the PSY 200-level courses. They include:

- ❖ Every student will be introduced to the research process
- ❖ Every student will participate in data collection and analyze data as part of the course
- ❖ Every student will learn about statistical tests and when to use them
- ❖ Every student will gain exposure to SPSS
- ❖ Every student will be taught about APA style as it applies to the presentation of statistical results
- ❖ Every student will write about their data and results
- ❖ Every student will take a comprehensive final exam

These objectives will be met through course assignments.

REQUIRED READING MATERIAL

Aron, A., Coups, E.J., & Aron, E.N. (2010). *Statistics for The Behavioral and Social Sciences: A Brief Course* (5th Edition)

Cronk, B.C. (2012). *How to Use SPSS: A Step-by-Step Guide to Analysis and Interpretation* (Seventh Edition).

Pryczak, F. (1999). *Statistics With a Sense of Humor* (2nd Edition). Pryczak, F.

Reading Assignments: In this course the textbook provides a good foundation of research statistics. In class we will apply this material using demonstrations, group discussions, videos, surveys, and lecture. Additional related information not in your textbook will be covered in class.

Students also should be aware of the fact that not all of the material in the textbook can be covered in class, but they are responsible for knowing all of the material in the textbook even if it is not covered in class. To succeed in this course, students should keep up with the reading assignments and come to class.

CLASS COMPONENTS

Attendance “Quiz” Points: It is important to attend lectures in this course, as lectures will involve demonstrations, classroom activities, films, and discussion of material not covered in the textbook. Students are expected to attend class regularly, as regular attendance will contribute to a better overall understanding of course material.

Attendance will be taken at every class meeting. This will be done in the form of a “quiz” at the **beginning of each class**. I will present you with a question(s) and give approximately 5 minutes to make your response without referring to your textbook or notes. Your answer(s) will be submitted with your name and this will serve as your attendance. **IF YOU ARE LATE AND ARE NOT PRESENT BEFORE THE ATTENDANCE QUIZZES ARE COLLECTED, YOU WILL NOT RECEIVE POINTS!**

You will receive ½ point just for being present and another ½ point if you get the correct answer – thus, you can earn up to 1 point

for everyday that you attend class. There are 24 class meetings this semester (excluding test days). As you will see detailed in the “Point Allocation” section, attendance quizzes contribute 20 points to your total score. What this means for you is that if you exceed 20 points (by attending everyday or only missing a few days and getting answers correct), these will be extra points added to your total score. You can miss up to 5 days of attendance quizzes without it impacting your total points. Again, if you are late for class and miss the quiz, you cannot retake it and will forfeit your point for the day. If you have an absence excused by the college (e.g., observed religious holiday, death of an immediate family member, participating in a college sporting event, unplanned hospitalization), see me before the absence to discuss.

This is also a good way for you to help identify areas that you might need to study more. This practice is actually in place to help you! Research suggests that repeated **retrieval** is the most effective way to learn. My goal is that by having you actively retrieve the information throughout the semester, you will better learn and remember the information from the course.

Students are expected to actively participate in class discussions and demonstrations. Students are welcomed and encouraged to share their questions, ideas, and insights during class discussions and lectures as long as they do not dominate the conversations. They are expected to respect the values, beliefs, and rights of others in the classroom. Also, students are expected to pay attention to whomever is speaking in class. Students should NOT text or use computers for reasons other than notes. This means no facebook, twitter, email, itunes, youtube, foursquare, pinterest, or anything unrelated to course material! This behavior not only distracts from your ability to learn in my class, but it disrespects and violates the right of other students to attend class and learn in a focused environment. Any students involved in side-conversations unrelated to class discussion, any of the above activities, or in any other behavior that is potentially disruptive to other students’ learning may lose their attendance quiz point for the day at the Professor’s discretion.

Tests and Final Exam: There will be 3 in-class exams, each worth 100 points. You may drop your lowest in-class exam grade. There is also a cumulative final exam to be taken during finals week. You may NOT drop the final exam. Students are prohibited from using cell phones or other electronic devices (with the exception of calculators) during exams.

Students are expected to take all tests on the scheduled dates. If an extreme circumstance (illness and workload do not apply) arises then the student should contact the professor prior to the test and the professor will decide what will be done. Otherwise, if you miss an exam, this will be counted as your “lowest” score and dropped.

To do well on the tests, students must come to class and read the class materials very carefully. Historically, students that have done the best have read the textbook carefully several times, taken notes from the textbook, and studied several days prior to the tests.

Journal: You will be expected to create a statistics journal for this class. The journal should consist of explanations of the various topics we discuss in class, definitions, hints, formulas, tables of significant values, and anything else you think will help you master the material we will cover. The journal must be in your own words, and it should also be organized so that you can find things easily. Organization is important because you may use the journal on the exams. I will evaluate your journal on the basis of accuracy and clarity during the semester. We will do a journal check during the semester to make sure you are keeping up with it and I can offer you suggestions for how to best organize your journal at any time. Just ask and I’m always happy to help!

Workbook Assignments: Throughout the semester, you will be given assignments to complete in the workbook, Statistics with a Sense of Humor. On a workbook check day, you should bring your workbook to class and we will grade them together.

“Laboratory” Assignments: There will be 6 “lab” assignments requiring you to analyze a set of data using SPSS, interpret the results of the analysis, and answer a series of questions about the data. The tutors for this class will be available for consultation for this set of assignments. You should also use the textbook entitled “How to Use SPSS.” These labs should be completed on your own time, outside of class. Each lab is worth 25 points for a total of 150 points. Bring a **printed** copy of ALL lab assignments with you to class on the due date listed on the syllabus. **Late projects (not turned in when collected in class) will be accepted for half-credit for 24 hours past the original due date. Late assignments should be emailed to the professor.**

OTHER INFORMATION ABOUT THE CLASS

Communication: I will send updates about course content via email and Moodle, so please check your accounts regularly (at least every 24 hours) for updates.

Disability Accommodations: Agnes Scott College seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in this class, please contact Kelly Deasy in the Office of Academic Advising (X6174) to make complete the registration process. Once registered, please contact me so we can discuss the specific accommodations needed for this course.

Departmental Tutors will be located in the Data Analysis Room 1 - 124 E (center of Psychology department) in the Bullock Science Center.

Located in: Data Analysis Room 1 (center of Psychology department) BSC

Ore Adekunle
Monday and Wednesday 2-3:15pm
Tuesday 4:05-6:35pm

Aishwarya Murthy
Monday and Wednesday 9:30-10:30am
Tuesday and Thursday 12-1pm
Friday 2-3pm

Course Evaluations: Students' feedback about this course is extremely valuable to the professor, the psychology department, and the college administration. Students' comments are taken seriously and the comments are used to improve the course in the future. Students will be asked to complete evaluations of the course at the end of the semester.

ACADEMIC HONESTY

The Agnes Scott College honor code embodies an ideal of character, conduct, and citizenship, and is an important part of the College's mission and core identity. This applies especially to academic honesty and integrity. Passing off someone else's work as your own represents intellectual fraud and theft, and violates the core values of our academic community. To be honorable, you should understand not only what counts as academic dishonesty, but also how to avoid engaging in these practices. You should:

- review each course syllabus for the professor's expectations regarding course work and class attendance.
- attribute all ideas taken from other sources; this shows respect for other scholars. Plagiarism can include portraying another's work or ideas as your own, buying a paper online and turning it in as if it were your own work, or not citing or improperly citing references on a reference page or within the text of a paper.
- not falsify or create data and resources or alter a graded work without the prior consent of your professor. This includes making up a reference for a works cited page or making up statistics or facts for academic work.
- not allow another party to do your work/exam, or submit the same or similar work in more than one course without permission from the course instructors. Cheating also includes taking an exam for another person, looking on another person's exam for answers, using exams from previous classes without permission, or bringing and using unauthorized notes or resources (i.e., electronic, written, or otherwise) during an exam.
- not facilitate cheating, which can happen when you help another student complete a take home exam, give answers to an exam, talk about an exam with a student who has not taken it, or collaborate with others on work that is supposed to be completed independently.
- be truthful about the submission of work, which includes the time of submission and the place of submission (e.g., e-mail, online, in a mailbox, to an office, etc.).

You should understand that penalties result from dishonest conduct, ranging from failure of the assignment to expulsion from the college. You should speak with your professors if you need clarification about any of these policies.

Modified Pledge

Students pledge that they have completed assignments honestly by attaching the following statement to each test, quiz, paper, overnight assignment, in-class essay, or other work:

I pledge that I have neither given nor received any unauthorized aid on this assignment.

(Signed) _____

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|--|------------|---------------|----------------|
| Two in-class exams (the lowest of 3 will be dropped) | 200 | A = 93 - 100 | A - = 90 - 92 |
| Final Exam | 100 | B+ = 87 - 89 | B = 83 - 86 |
| Attendance "Quiz" Points (can earn up to 24***) | 20 | B - = 80 - 82 | C+ = 77 - 79 |
| Lab Assignments | 150 | C = 73 - 76 | C - = 70 - 72 |
| Workbook Checks | 30 | D+ = 67 - 69 | D = 63 - 66 |
| | | D - = 60 - 62 | F = 59 or less |
| Total Points | 500 | | |

***Reminder – there are 24 days on which attendance quizzes will be given. So by attending class every day, you can earn up to 4 extra points added to your total points score.

Research Statistics

(Although every effort will be made to follow the syllabus, I reserve the right to make changes.)

| Class Date | To Read Before Class | General Topic | Project Due Dates |
|---|------------------------------|---|--------------------------------|
| Th-Jan 22 | | Introduction | |
| T-Jan 27 | Chapter 1 & SPSS Chapter 1-2 | Displaying Numbers | |
| Th-Jan 29 | | Displaying Numbers | |
| T-Feb 3 | Chapter 2 & SPSS Chapter 3-4 | Mean, Standard Deviation, Z-Scores | Lab Assignment 1 |
| Th-Feb 5 | | Mean, Standard Deviation, Z-Scores | Workbook Check |
| Drop without W: T-Feb 10 | Chapter 3 & SPSS Chapter 5 | Correlation and Prediction | Lab Assignment 2 |
| Th-Feb 12 | | Correlation and Prediction | Journal Check - Bring to Class |
| T-Feb 17 | | Test 1 | |
| Th-Feb 19 | Chapter 4 | Normal Curve, Sample/Population, Probability | |
| T-Feb 24 | | Normal Curve, Sample/Population, Probability | Lab Assignment 3 |
| Th-Feb 26 | Chapter 5 | Introduction to Hypothesis Testing | |
| T-Mar 3 | | Introduction to Hypothesis Testing | Lab Assignment 4 |
| Th-Mar 5 | Chapter 6 | Hypothesis Tests with Means of Samples | |
| T-Mar 10 | | Hypothesis Tests with Means of Samples | |
| Th-Mar 12 | | Test 2 | |
| T-Mar 17 | SPRING BREAK | | |
| TH -Mar 19 | SPRING BREAK | | |
| T-Mar 24 | Chapter 7 | Statistical Significance | Workbook Check |
| Th-Mar 26 | Chapter 8 & SPSS Chapter 6 | Introduction to the t Test | |
| T-Mar 31 | | Introduction to the t Test | |
| Drop with W: Th-April 2 | | To be announced | |
| T-April 7 | Chapter 9 | $T t$ Test for Independent Means | Lab Assignment 5 |
| Th-April 9 | | $T t$ Test for Independent Means | |
| T-April 14 | Chapter 10 | Analysis of Variance | Lab Assignment 6 |
| Th-April 16 | | Analysis of Variance | |
| T-April 21 | | Test 3 | |
| Th-April 23 | Chapter 11 & SPSS Chapter 7 | Chi-Square Tests and Non-Normal Distributions | Workbook Check |
| T-April 28 | SPARC – NO CLASS | | |
| Th-April 30 | | Chi-Square Tests and Non-Normal Distributions | |
| Last Day!: T-May 5 | Chapter 12 | Statistics and Research | |
| May 8 – May 15 (Seniors: May 7 - May 14) | Final Exam Week | | |