
PSYCHOLOGY 210 (3 MS CREDITS)
STATISTICAL METHODS IN PSYCHOLOGY
SPRING 2019

Instructor: Dr. Sandy Neumann **Office:** STEM 522 **Office hours:** MW 10:00-10:50am
Prereq: C- or better in PSY 202, & concurrent enrollment in MAT 105 (or exemption), or consent of Dr. N

Required materials:

Gravetter, F. J. & Wallnau, L. B. (2007). *Statistics for the behavioral sciences* (7th ed.). Belmont, CA: Thompson Wadsworth.
ISBN-13: 978-0495095200

Recommended resources:

- Study Guide to accompany Gravetter and Wallnau. (ISBN-13: 978-0495096863)

Welcome to the world of Psychological Statistics!

Psychology obviously has many important contributions to make. One way we do that is to publish our research and statistical analyses. This semester we will learn to calculate, read, and understand a variety of descriptive and inferential statistical tests commonly utilized in Psychology. In the end, you will come away with a better understanding of statistics (and research) in Psychology and how you can make your own contribution!

Course format

I will try to make our class sessions as interesting and invigorating as possible. I will utilize lectures, in-class demonstrations, and small group activities to accomplish this. I only ask that you make a contribution as well to help make this a class that you would want to come to.

Course learning goals

By the end of the term, you should be able to:

1. Use quantitative analyses to argue for or against a particular hypothesis.
2. Interpret statistics, graphs, and tables.
3. Communicate conclusions using statistics.
4. Interpret statistical findings in the context of their level of statistical significance, including the influence of effect size, and explain these findings using common language.
5. Understand statistical presentation in published research articles.
6. Use APA style for statistical presentation.

Expectations

Welcome to a community of scholars and learners! The expectations of personal and academic behavior have been raised. So that we are “on the same page”, what follows are some expectations that I have for you as burgeoning scholars, as well as what you can expect from me.

What I expect from you as a student in my class

- You will conduct yourself as a **mature adult**, ready for a college education. Preparing for the day's topic, engaging with the material, asking questions, taking lecture and reading notes are just a few examples of the behavior that is expected. Behaviors such as coming to class unprepared, engaging in side conversations, sleeping, and/or disrespecting any member of this class will not be tolerated. If you act like an adult, I will treat you as such; if you act like a 5-year old...
- Although **laptops** and **tablet computers** are welcome in this classroom for the purposes of class-related work (e.g., note-taking, accessing readings), **mobile/smart phones** are not. Furthermore, I expect that you will turn off these devices to prevent them from disrupting class. If an outside commitment (e.g., first responder duties) mandates you to have a phone on and ready, then be sure to inform me ASAP.
- You will conduct yourself in an **honorable manner** when taking exams or completing other forms of work that will be individually evaluated. For more information, particularly with regards to cheating and plagiarism, please see the Code of Conduct in the Student Handbook.
- You will **not buy into the myth** that it is my responsibility to pass you or to keep you from failing. Whether you pass or fail is up to you.

What you can expect from me as your teacher

- I will come to class prepared to teach you to the best of my ability.
- I will answer your questions to the best of my ability.
- I will prepare and grade assignments in a fair manner.
- I will make every attempt to engage you in your learning.
- I will take seriously my responsibility to help you acquire and develop the skills needed to be successful in this course and to give you opportunities to show that you have mastered the content of this course.
- I will contribute to a respectful learning environment. All students will be treated in a fair and respectful fashion in my classroom. Differences based on social identities such as ability, age, country of origin, ethnicity, gender, gender expression, first language, philosophical and political ideology, race, religion, sex, sexual orientation, and social class are welcomed and honored in my classroom.

Assistance for students

If you are in need of immediate access to food, the campus maintains a small food pantry that you can access with no questions asked. This pantry is for students who cannot afford to buy food, not those who simply forgot to bring their lunch. It is located in Rm 136A (in the lower hallway of the Leopold science building). Simply stop by and take what you need. Students needing emergency menstrual supplies can go to Laurie Petri in the Library or Dr. N to access them. No questions asked.

Accommodations for Students with Learning Disabilities

Students with a diagnosed learning disability and a UW Accommodation Plan may request applicable instructional and testing accommodations. Requests made with an appropriate amount of notice will be honored. See D2L for the form to request accommodations. The following accommodations are provided on this campus:

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Instructional and Campus Access Services

Preferential seating
 Taped lecture
 Note taker
 Audio textbooks
 Enlarged print
 Accessible parking
 Priority registration
 Sign language interpreter
 Braille materials
 Lab assistance
 Library assistance

C-print captioning
 Accessible furniture

Testing support services

Extended time
 Minimal distraction
 Reader
 Scribe
 Enlarged print
 Braille
 Access to adaptive software or equipment

Academic misconduct policy

- Any student found to have engaged in academic misconduct on an exam or quiz, as defined in UWS 14.03, will be failed for that quiz or exam (as allowed by UWS 14.04) and the disciplinary process specified in UWS 14.06 will be followed.
- Any student found to have engaged specifically in plagiarism will be given the opportunity to repeat the work to be graded on its merits [UWS 14.04 (c)] and a written reprimand will be placed in the student's disciplinary file [UWS 14.04(h)].
- Any student found to have engaged in subsequent acts of academic misconduct, further disciplinary sanctions [e.g., UWS 14.049(f) & (g)] will be pursued.
- Every student has the right to appeal any disciplinary sanction. Please refer to UWS 14.05 and UWS 14.06 for details.

**IGNORANCE OF WHAT ACADEMIC MISCONDUCT IS
WILL NOT BE ACCEPTED AS AN EXCUSE.**

Graded opportunities1. Attendance **36 points possible (24 non-exam days @ 1.5 points each)**

You will earn points toward your final grade by attending class. Starting in Week 2, every regular class session is worth 1 point. You may miss 3 class periods without penalty.

You will earn points for:

- ✓ Arriving on time
- ✓ Sleeping in class (But I will make fun of you)

You will NOT earn points for:

- ✓ Arriving late (5+ minutes)
- ✓ Leaving early (5+ minutes)

Exam days do not count toward attendance. If you miss an exam, you have bigger things to worry about than attendance points. If Dr. N misses more than 3 class periods, you will be given additional days to miss without penalty.

Absences due to the following reasons (*if properly documented*) are considered excused and will not count toward your 3 free days: military service, jury duty or other subpoenaed court appearance, inclement weather/college closing, religious observances, federally-protected medical procedures, transfer institution orientation, pregnancy-related complications, and childbirth. It is your responsibility to inform Dr. N of such absences.

Absences for, among other things, travel for events (e.g., music, art, sporting), non-protected illness and doctor's appointments will count toward your 3 free days.

2. **Chapter quizzes 100 points possible (10 quizzes @ 10 points each)**

You will be assigned a set of homework problems for every chapter. You will take a quiz on these problems almost every week. This quiz grade (and not your entire homework set) will count toward your final grade. The first required quiz will cover basic math skills needed for this course; you must then complete 9 of the remaining 13 quizzes. You may take an 11th quiz to drop a low score.

Two suggestions on homework/quiz presentation style:

1. Show all computational work in an ***orderly*** fashion.
2. When there is one final answer to a particular calculation (not including work presented in tabular format), make sure that your ***final answer is clearly noted***.

3. **Exams 150 points possible (3 exams @ 50 points each)**

There will be three exams over the course of the semester. They will be traditional in-class exams and will require you to work with the material both theoretically and computationally. I will utilize a variety of formats including multiple choice, written, and computation questions. The last exam will be administered during finals week and may be cumulative. Any student whose mobile device sounds or is used during an exam should expect an automatic 10% deduction on that exam.

4. **Extra credit Up to 20 extra credit points toward your final grade**

Extra credit will be offered at a variety of times throughout the semester. Stay tuned.

Late and Make-up policy

- ***Class notes***: It is your responsibility to find out what you missed. Check D2L or a peer.
- ***Attendance points***: Points can only be made up in the event of a properly-documented absence for a reason listed above.
- ***Chapter quizzes***: Can be made-up, but with a 10% deduction for every business day it is late. The first late day begins right after class.
- ***Exams***: No make-up exams are given during the semester. Students who miss an exam for some a documented reason listed above may make it up during week 15. Any other reason (e.g., illness) will not be accepted. Make-ups are scheduled around my availability and may not be the same exam that your peers took. There are no make-ups for missed make-ups.

Final grades

| Grade | % of total points | Grade | % of total points |
|-------|-------------------|-------|-------------------|
| A | 100% - 93% | C+ | 79% - 77% |
| A- | 92% - 90% | C | 76% - 73% |
| B+ | 89% - 87% | C- | 72% - 70% |
| B | 86% - 83% | D+ | 69% - 67% |
| B- | 82% - 80% | D | 66% - 63% |
| | | D- | 62% - 60% |
| | | F | 59 % and below |

Course statement of respect for others:

I am a “diversity psychologist”. This is not a traditional sub-field in psychology – it is a given in the field of psychology. Remember: Psychology is the scientific study of humans. All humans, not just select groups of humans that look like us or those with whom we feel most at ease.

Although typical societal and academic discourse about “diversity” focuses almost exclusively on race or gender, we will strive to expand these horizons. Diversity with regard to social identities logically begins with those differences that are readily apparent (e.g., race, gender, sometimes physical ability). But what is often lost is that diversity, by its very definition, is DIVERSE. To that end, I will encourage investigations of a variety of social identities.

As such, it is important to construct a classroom environment that is respectful of and conducive to the learning of ALL THOSE PRESENT. In our efforts to respect and honor each other’s experiences, our guiding mission will be to treat all members of this class, representing diverse backgrounds and social identities including those most saliently based on ability, age, country of origin, ethnicity, gender, gender expression, first language, philosophical and political ideology, race, religion, sex, sexual orientation, and social class, or any other difference, in a fair and respectful fashion. All opinions will be respected in this class. But those that serve to marginalize any person or group – intentionally or unintentionally – will be challenged.

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| COURSE SCHEDULE | | | | |
|---|-----------|---|---|--|
| Week | Date | Topic | Reading Assignment (Skim prior to class) | Homework Problems (Attempt/Complete prior to class) |
| UNIT 1: GETTING STARTED & DESCRIPTIVE STATISTICS | | | | |
| 1 | 1/28 | Welcome & Introductions (Syllabus, Assignments, the text, using D2L) | | |
| | 1/30 | Wednesday: Quiz: Final Exam Assessment Introduction to Statistics | Chapter 1 | Sections 1-5 of the Final Exam Assessment in Appendix A (pp. 696-7) C1: 1, 4, 12, 14, 17, 18 (plus 18e), 21, 22, 23 |
| | 2/1 | | | |
| 2 | 2/4-2/8 | Monday: Quiz: C1 Frequency Distributions | Chapter 2 (stop @ "Interpolation") | C2: 8, 9, 10, 18, 21 |
| 3 | 2/11-2/15 | Monday: Quiz: C2 Central Tendency | Chapter 3 | C3: 2, 5, 8, 23, 26 (add 26c) |
| 4 | 2/18-2/22 | Monday: Quiz: C3 Variability Friday: No class | Chapter 4 (skip 4.2 & 4.6) | C4: 1, 3, 6, 7, 19, 23 (add 23c) |
| 5 | 2/25 | Quiz: C4 Review for Exam 1 | | |
| | 2/27 | Exam 1 (To cover Cs. 1, 2, 3, 4) | | |
| | 3/1 | No class | | |
| UNIT 2: FOUNDATIONS OF INFERENCE STATISTICS | | | | |
| 6 | 3/4-3/8 | z-scores | Chapter 5 | C5: 1, 7, 15, 20, 21 |
| 7 | 3/11-3/15 | Monday: Quiz: C5 Probability | Chapter 6 (skip 6.4 & 6.5) | C6: 5ad, 6bd, 7ab, 16, 20 |
| 8 | 3/18-3/22 | Monday: Quiz: C6 Distribution of Sample Means | Chapter 7 | C7: 4ac, 7ac, 8ac, 9bc, 15, 21a |
| | | Friday: Guest speaker: Chris Nemitz, QPR facilitator | | |

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| 9 | 3/25-3/29 | Spring Break – No Class | | |
| 10 | 4/1-4/5 | Monday: Quiz: C7 Introduction to Hypothesis Testing | Chapter 8 (skip 8.7) | C8: 1, 2, 4, 13, 20 |
| 11 | 4/8 | Quiz: C8 Review for Exam 2 | | |
| | 4/10 | Exam 2 (To cover Cs. 5, 6, 7, 8) | | |
| | 4/12 | No Class | | |
| UNIT 3: INFERENCES ABOUT MEANS AND MEAN DIFFERENCES | | | | |
| 12 | 4/15-4-19 | Introduction to & Application of the <i>t</i> Statistic | Chapter 9 | C9: 1, 3, 5, 16 |
| | | | Chapter 10 (skip 10.4) | C10: 3, 6, 23 |
| | | | Chapter 11 (skip 11.4) | C11: 3, 4, 5, 21, 22 |
| 13 | 4/22 | Monday: Quiz: C9, C10, C11 | Chapter 12 (skip 12.6) | C12: 1, 2, 15, 23 |
| | 4/24 | Introduction to Analysis of Variance (ANOVA) | | |
| | 4/26 | No Class | | |
| 14 | 4/29 | Introduction to Analysis of Variance (ANOVA) | | |
| | 5/1 | | | |
| | 5/3 | Quiz: C12 Correlation | Chapter 14 (skip 14.5 & 14.6) | C14: 1, 9, 12 |
| 15 | 5/6 | Correlation | | |
| | 5/8 | | | |
| | 5/10 | Quiz: C14 Reading research | TBA readings | |
| 16 | 5/13 | Reading research | TBA readings | |
| | 5/15 | Review for Exam 3 | | |
| Finals Week | | Exam 3 (To cover Cs. 9, 10, 11, 12, 14) Date/Time: | | |

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