

PSYC 241: Statistics for the Behavioral Sciences

Self-paced Enroll Anytime Online Course

Instructor & Course Information

Credits 4 undergraduate credits

Prerequisites PSYC 111: Introduction to Psychology, and MATH 103: College Algebra

Instructor Heather Terrell*

*If you have any course questions prior to enrollment, please email und.online@und.edu

Course Description

This course will introduce you to descriptive and inferential statistics as applied to psychological measurement and experimentation. This course is an essential studies (ES) course that fulfills the goal of thinking and reasoning in quantitative domains at the University of North Dakota. By the end of this course you should strengthen your thinking and reasoning skills, be able to apply these skills as appropriate in various situations, and be able to move among them depending on purpose. You will improve your quantitative reasoning skills by applying empirical data to problems, analyzing data to solve problems, and drawing conclusions based on quantitative information.

The prerequisites for this course are PSYC 111: Introduction to Psychology, and MATH 103: College Algebra. You need a working knowledge of algebra to be successful in this course. Because this is a psychology course, you should also be familiar with the basic theories used to explain human behavior as covered in PSYC 111.

Textbook

Gravetter, F. J. & Wallnau, L. B. (2014). *Essentials of Statistics for the Behavioral Sciences, 8th edition.*

Technical Requirements

The [UND Technical Support webpage](#) contains information on your UND email and how to download a free version of Microsoft Office.

- Students are expected to use their official UND email in the course.
- You are NOT required to have access to SPSS (a statistics software package) for this course. Although you will learn about SPSS, you will not be expected to use the program yourself. You will instead learn how to read output from the program.
- [View the basic technical requirements](#) for every online course.

Course Goals

By the end of this course, you should:

- 1) Understand the concept of statistics.** Statistics are a set of tools that can be used to answer questions about group tendencies. By the end of the course you should understand how statistics are used and you have an understanding of the types of questions that statistics can be used to answer.

- 2) Understand the limitations of statistics.** Because statistics are used to uncover group tendencies they will tell us nothing about individuals. By the end of the course you should understand the meaning of this limitation and know when statistics should *not* be used.
- 3) Be able to use descriptive statistics.** Descriptive statistics are ways of summarizing and organizing large sets of data. By the end of the course you should be able to calculate basic descriptive statistics and know how to use them properly.
- 4) Be able to use basic inferential statistics.** Inferential statistics are statistical “tests”. By the end of the course you should be able to calculate basic inferential statistics and know how to use them properly.
- 5) Be able to choose the correct statistical procedure to answer a research question.** By the end of the course you should be able to choose the proper descriptive and inferential statistics to answer specific research questions in any basic research situation in psychology.
- 6) Be able to put the results of inferential statistical tests into words.** Statisticians use mathematics to answer questions. By the end of this course you should be able to explain what these results mean. This is the most important and also the hardest part of the course.
- 7) Be able to evaluate statistical findings.** By the end of the course, you should be able to understand the “Results” section of many psychology journal articles.
- 8) Be familiar with SPSS.** By the end of the course you should be familiar with SPSS, a computer software package that enables the user to perform many statistical computations more efficiently. You will not be required to use SPSS, but will be asked to watch lecture presentations about the program and interpret output from the program.
- 9) Be prepared for PSYC 303 and future research.** By the end of the course you will have the preparation you will need to successfully complete PSYC 303: Research Methods in Psychology and a basic understanding of how to analyze data and interpret SPSS output.

Student Responsibilities

- 1) You are responsible for your grade.** Despite what you may think, teachers do not want students to fail! I want you to succeed and I’m here to help you do it. Ultimately, however, you have to do the work to get a good grade. The grade you receive should tell you something about yourself. Poor grades at the college level are generally due to two factors: lack of study skills and/or lack of motivation. If you get a lower grade than you expect it probably means that you have never really learned *how* to learn or that maybe this just isn’t the best time of your life for you to be in college.
- 2) You are responsible for learning.** Learning is hard work. It is not something that is going to happen automatically. You are responsible for doing the work to learn. Here are basic things you can do:
 - Watch Lectures.** Since this is an online course, taking the time to view the lecture presentations in an environment free of distractions is imperative. **You are responsible for knowing everything that is said in lectures, including information that is not covered in the textbook.**
 - Pay Attention.** Pay attention and really think about the material that is presented in the lecture presentations. Take this opportunity to learn.
 - Ask Questions.** If you don’t understand something, ask me to explain it. You can email me, call me, or just drop by my office (if you are in the Grand Forks area). Don’t be afraid that you will look stupid. There is a good chance that at least a dozen other people have had the same question.

3) You are responsible for knowing and following all policies described in the syllabus. Claiming you were unaware of a policy described in the syllabus will not be an acceptable excuse for not following that policy. Don't put yourself at risk for failing simply because you did not read the syllabus. My overall guiding principle is treating all students fairly and equally...that's what this syllabus is all about. I will not do anything for you that I'm not willing or able to do for everyone. It does not matter what your excuse is (i.e. getting sick, children sick, job demands, out of town, captured by pirates, etc.)—the policies and deadlines in the syllabus still apply to you. That is also why I won't answer questions concerning class procedures if they are already covered in the syllabus. Psychology is all about research and learning how to discover information. I will not do your work for you.

4) You are responsible for reading the textbook. The textbook contains most of the information you need to know about statistics for this course. Make use of your textbook! The lectures are not intended to be a substitute for reading but are instead designed to help you understand what is written in the textbook.

5) You are responsible for getting help if you need it. If you find you are having trouble with the course material, **do something about it now.** The longer you wait the worse things will get. You can always schedule an appointment with me to talk about the material, how to study, or how to successfully take exams.

Course Organization

This course contains 24 lessons. The full list of lessons appears at the end of this syllabus as well as under the "Course Schedule" link in Blackboard.

Fifteen of these lessons will introduce material related to the textbook chapters. These lessons will typically consist of

- Lesson objectives and to-do list
- Required Reading
- One or more lecture presentations
- Assigned homework problems
- A quiz based on the homework problems
- A homework solution presentation (to be viewed after you have completed the quiz)

Four of these lessons will focus on learning about SPSS. These lessons will typically include:

- Lesson objectives and to-do list
- A lecture presentation
- A quiz about the lecture presentation

The remaining five lessons will contain exams. Four of these exams are midterm exams that focus on a few chapters at a time. Your final exam will be cumulative.

Course Schedule

LESSON	TOPIC	ASSIGNMENT (pts.)
1	Chapter 1: Introduction to Statistics	Lesson 1 Quiz (10)
2	Chapter 2: Frequency Distributions	Lesson 2 Quiz (10)
3	Chapter 3: Central Tendency	Lesson 3 Quiz (10)
4	Chapter 4: Variability	Lesson 4 Quiz (10)
5	Exam 1: Chapters 1-4	Exam 1 (125)
6	Chapter 5: Z-scores	Lesson 6 Quiz (10)
7	Chapter 6: Probability	Lesson 7 Quiz (10)

LESSON	TOPIC	ASSIGNMENT (pts.)
8	Introduction to SPSS	Lesson 8 Quiz (25)
9	Chapter 7: The Distribution of Sample Means	Lesson 9 Quiz (10)
10	Chapter 8: Hypothesis Testing	Lesson 10 Quiz (10)
11	Exam 2: Chapters 5-8	Exam 2 (125)
12	Chapter 9: The t Statistic	Lesson 12 Quiz (10)
13	Chapter 10: Independent Samples t Test	Lesson 13 Quiz (10)
14	Chapter 11: Related Samples t Test	Lesson 14 Quiz (10)
15	SPSS: t -tests	Lesson 15 Quiz (25)
16	Exam 3: Chapters 9-11	Exam 3 (125)
17	Chapter 12: ANOVA I (one-factor)	Lesson 17 Quiz (10)
18	Chapter 13: ANOVA II (two-factor)	Lesson 18 Quiz (10)
19	SPSS: ANOVA	Lesson 19 Quiz (25)
20	Chapter 14: Correlation and Regression	Lesson 20 Quiz (10)
21	SPSS: Correlations	Lesson 21 Quiz (25)
22	Chapter 15: Chi-Square	Lesson 22 Quiz (10)
23	Exam 4: Chapters 12-14	Exam 4 (125)
24	Final Exam (cumulative, chapters 1-15)	Final Exam (250)

Assessment and Grading

Your grade in this course should reflect your knowledge of, and ability to think critically about, the concepts discussed in class and presented in the textbook. Your final grade in this course will be based on the number of points you accumulate during the semester, broken down in the following manner:

Exams 1-4	125 points each	= 500 points
Final Exam	250 points	= 250 points
Chapter (homework) quizzes	10 points each (x15)	= 150 points
SPSS quizzes	25 points each (x4)	= 100 points
TOTAL POINTS POSSIBLE		= 1,000 points

Letter Grading Scale

A	90% to 100%
B	80% to 89%
C	70% to 79%
D	60% to 69%
F	0 to 59%

Exams

There will be four midterm exams and one comprehensive final exam. All exams are proctored, using Honorlock as the proctoring method. All material discussed in class (including lectures, videos, and any other supplemental material), as well as all material in the textbook (whether covered in lecture or not), is considered fair game for exams. Please note that students sometimes find these exams difficult in part because they understand the material only superficially, and in part because they wait too long to start studying (e.g., 2 days just won't cut it for these exams, which cover a lot of material). For extra help, I encourage you to set up a separate meeting time with me.

Each of the **four midterm exams** will consist of three parts:

- 1) Basic definitions and concepts will be tested by use of multiple-choice and/or short-answer questions.

- 2) A calculation sheet will require you to compute, by hand, both descriptive and inferential statistics. This calculation sheet will be available prior to taking the exam, and you should work through all of the problems on the sheet prior to taking your exam. You will bring the calculation sheet with you to the exam and submit it with your exam.
- 3) An interpretation section will require you, through a series of short-answer questions, to explain the results of your computations.

The **final exam** will consist of a series of multiple-choice questions that cover cumulative conceptual information from the entire course, as well as a series of questions that ask you to choose the appropriate statistical test for different research situations.

The exams are proctored using Honorlock as the proctoring method. Visit the exam folders in Blackboard or the [Self-Paced Enroll Anytime Exams webpage](#) for more information on the exam process and technical requirements.

Homework “quizzes”

You will have the opportunity to complete 15 homework assignments. These assignments are set up so that you work through the problems on your own and then complete a Blackboard quiz based on your answers. The homework problems for each chapter are selected from the practice problems at the end of each chapter in your textbook. These quizzes based on your homework do not have a time limit, but must be completed in one session.

About UND Enroll-Anytime Courses

You may work at your own pace and complete the course on your own schedule. You may take one exam per week, finishing the course in as little as 6 weeks or taking up to 9 months from the time of your enrollment.

After you finish your course, your final grade will be posted in Blackboard. Please **allow 3-5 business days for your final grade to appear** on your transcript in Campus Connection. You will receive a confirmation email from the Enroll Anytime staff once the final grade is officially posted on your transcript. You may then order an official transcript, if desired.

If you have an **administrative** question regarding course enrollment dates, extensions, withdrawals, questions regarding your transcript, or need exam assistance, please contact the **Office of Extended Learning** at und.courses@UND.edu or 701-777-0488.

Questions regarding **coursework** should be directed to the **instructor**.

For **technical support** including username and password help, assignment submission, or other technical assistance in the course, contact [University Information Technology](#).

Student Resources

UND cares about your success as a student. For more information, visit the [Student Resources Page](#) for additional information. Students have access to assistance from the [UND Writing Center](#), [tutoring services](#), and more.

Netiquette

Netiquette is a set of rules for behaving properly online. Here are a few basic points to remember when communicating in this course:

- **Be scholarly.** Use proper language, grammar, and spelling. Explain your thoughts, justify opinions, and credit the ideas of others by citing or linking to scholarly resources. Avoid misinforming others when you are unsure of the answer. When discussing something and supplying a guess, clearly state that.
- **Be respectful.** Respect the privacy of others. Do not share personal or professional information about others unless permission has been granted. Respect diversity and opinions that differ from their own. Be tactful when you communicate.
- **Be professional.** Everyone should strive to give their best impression online. Truthfulness, accuracy, and running a final spell check are appropriate expectations for university students. Writing in a legible font and limiting the use of emoticons is considered professional behavior. Profanity and participation in hostile interactions, known as flaming, is unprofessional as well as disruptive.
- **Be polite.** Students should be addressing professors and instructors by the appropriate title or requested name. Students should interact online politely, just as they would be expected to do in a physical environment. Sarcasm, rudeness, and writing in all capital letters (shouting) should be avoided.

University of North Dakota Policies & Resources

Academic Integrity

Academic integrity is a serious matter, and any deviations from appropriate behavior will be dealt with strongly. At the discretion of the professor, situations of concern may be dealt with as a scholastic matter or a disciplinary matter.

As a scholastic matter, the professor has the discretion to determine appropriate penalties to the student's workload or grade, but the situation may be resolved without involving many individuals. An alternative is to treat the situation as a disciplinary matter, which can result in suspension from the University, or have lesser penalties. Be aware that I view this as a very serious matter, and will have little tolerance of or sympathy for questionable practices. A student who attempts to obtain credit for work that is not their own (whether that be on a paper, quiz, homework assignment, exam, etc.) will likely receive a failing grade for that item of work, and at the professor's discretion, may also receive a failing grade in the course. Read more in the [Code of Student Life](#).

Accessibility for Students

The University of North Dakota is committed to providing equal access to students with documented disabilities. To ensure access to your classes and program, please contact [Accessibility for Students](#) to engage in a confidential discussion about accommodations for the classroom, clinical and/or online course settings. Accommodations are not provided retroactively. Students are encouraged to register with Accessibility for Students at the start of their class/program. More information can be obtained by email UND.accessibilityforstudents@UND.edu or by phone at 701.777.2664.

If you receive an exam accommodation from Accessibility for Students, please share the letter with the Office of Extended Learning at UND.courses@UND.edu.

Religious Accommodations

UND offers religious accommodations, which are reasonable changes in the academic environment that enable a student to practice or observe a sincerely held religious belief without undue hardship on the University. Examples include time for prayer or the ability to attend religious events or observe a religious

holiday. To request an accommodation, complete [student religious accommodation request form](#). If you have any questions, you may contact the [Equal Opportunity & Title IX Office](#).

Pregnancy Accommodations

Students who need assistance with academic adjustments related to pregnancy or childbirth may contact the Equal Opportunity & Title IX Office to learn about your options. Additional information and services may be found at [Pregnancy Resources](#).

Resolution of Problems

Should a problem occur, you should speak to your instructor first. If the problem is not resolved by speaking with your instructor, contact the department chair, and next to the Dean's office. Should the problem persist after taking these initial steps, you have the right to go to the provost next, and then to the president.

Notice of Nondiscrimination

It is the policy of the University of North Dakota that no person shall be discriminated against because of race, religion, age, color, gender, disability, national origin, creed, sexual orientation, gender identity, genetic information, marital status, veteran's status, or political belief or affiliation and the equal opportunity and access to facilities shall be available to all. Concerns regarding Title IX, Title VI, Title VII, ADA, and Section 504 may be addressed to Donna Smith, Assistant Vice President for Equal Opportunity & Title IX and Title IX/ADA Coordinator, by calling 701.777.4171 or emailing UND.EO.TitleIX@UND.edu. Concerns can also be directed to the Office for Civil Rights, U.S. Department of Education, 230 S. Dearborn St., 37th Floor, Chicago, IL 60604, or any other federal agency.

Reporting Discrimination, Harassment, or Sexual Misconduct

If you or a friend has experienced sexual misconduct, such as sexual harassment, sexual assault, domestic violence, dating violence, or stalking, please contact the [Equal Opportunity & Title IX Office](#) or UND's Title IX Coordinator, Donna Smith, for assistance: 701.777.4171; donna.smith@UND.edu. You may also contact the Equal Opportunity & Title IX office if you or a friend has experienced discrimination or harassment based on a protected class, such as race, color, national origin, religion, sex, age, disability, sexual orientation, gender identity, genetic information, pregnancy, marital or parental status, veteran's status, or political belief or affiliation.

Faculty Reporting Obligations Regarding Discrimination, Harassment, and Sexual Misconduct

It is important for students to understand that faculty are required to share with UND's Title IX Coordinator any incidents of sexual misconduct or of discrimination or harassment based on a protected class they become aware of, even if those incidents occurred in the past or are disclosed as part of a class assignment. This does not mean an investigation will occur if the student does not want that, but it does allow UND to provide resources to help the student continue to be successful at UND. If you have been impacted by discrimination, harassment, or sexual misconduct, you can find information about confidential support services at the [Equal Opportunity & Title IX Office](#).

How to Seek Help When in Distress

We know that while college is a wonderful time for most students, some students may struggle or have issues that arise. You may experience students in distress on campus, in your classroom, in your home, or within residence halls. Distressed students may initially seek assistance from faculty, staff members, their parents, and other students. In addition to the support we can provide to each other, there are also professional

support services available to students on campus through the Dean of Students and the [University Counseling Center](#). Both staffs are available to consult with you about getting help or providing a friend with the help that he or she may need. For more information, visit the [UND Cares Program website](#).

Land Acknowledgement Statement

Today, the University of North Dakota rests on the ancestral lands of the Pembina and Red Lake Bands of Ojibwe and the Dakota Oyate - presently existing as composite parts of the Red Lake, Turtle Mountain, White Earth Bands, and the Dakota Tribes of Minnesota and North Dakota.

We acknowledge the people who resided here for generations and recognize that the spirit of the Ojibwe and Oyate people permeates this land. As a university community, we will continue to build upon our relations with the First Nations of the State of North Dakota - the Mandan, Hidatsa, and Arikara Nation, Sisseton-Wahpeton Oyate Nation, Spirit Lake Nation, Standing Rock Sioux Tribe, and Turtle Mountain Band of Chippewa Indians.