

KIN 610: Quantitative Analysis of Research in Kinesiology

Department of Kinesiology, Cal State Northridge
Spring 2026 | Tuesday, 7:00-9:40 p.m (RE 276)

Table of contents

Instructor Info	2
Course Overview	3
Course Description	3
Learning Objectives	3
Required Materials & Resources	3
Required eBook	3
Companion eBook	4
Primary Study Materials	4
Other readings	4
Stats Blog	4
Instructional resources	5
Requirements	5
Participation & Attendance	5
Weekly Quizzes	5
Major Takeaways	6
Lab Assignments	6
ePortfolio	6
Exams	6
Course Policies	7
Grading	7
Grading Scale	7
Attendance	8
E-mail	8

Late Assignments	8
Extra Credit	8
Disabilities	9
Academic Dishonesty	9
About Plagiarism	9
Resources & Support	10
How to Access our Course and Get Started	10
Technology Requirements and Support:	10
What I Expect of You:	10
Tips for Success	11
Student Support Services	11
Diversity + inclusion	13
Course Schedule	13
Chapters and Topics	15
References	16

Instructor Info

Dr. Furtado received a B.A. in Physical Education from the Federal University of Parana, Curitiba, PR - Brazil. He earned his M.S. and Ph.D. degrees in Motor Behavior from the University of Pittsburgh, PA. Dr. Furtado’s research focuses on:

1. Validation of observational models in psychomotor assessment instruments
2. The relationship between motor skill competence, perceived motor competence, physical activity levels, and body composition
3. The application of artificial intelligence to enhance movement assessment

Instructor: Ovande Furtado Jr., Ph.D.

Office: RE 289

Email: Use Canvas Inbox for communication

Phone: 818-677-5968

Office Hours:

In person: Tuesdays: 10:00 AM – 12:00 PM - in person

Online: Wednesdays: 10:00 AM – 12:00 PM - via Zoom - <https://csun.zoom.us/j/89269538465>

Meeting Times/Location:

Tu 7:00 PM - 9:40 PM (RE 276 - Computer Lab)

! Important

All course communications will be conducted via Canvas. Please use the Canvas Inbox for all email correspondence. Weekly announcements with assignments and activities will be posted on Canvas. For questions, please reply to the relevant announcement so all students can benefit from the response.

Course Overview

Course Description

This course focuses on the introductory statistical techniques used in social science research. Students will be introduced to concepts such as reliability, validity, measures of central tendency, variability, probability, and statistical techniques, including t-tests (independent & dependent samples), Analysis of Variance (ANOVA), Chi-square, correlation, and regression.

Students are expected to apply the material/concepts presented in this course through a series of homework assignments and quizzes. The overall goal of the course is not only to help students understand the mathematical/statistical concepts presented but also to assist in their application.

Learning Objectives

Upon completion of this course, you will be able to:

1. Introduce statistical concepts utilized in research within the social sciences
2. Apply the mathematical/statistical techniques presented for social science research
3. Demonstrate an ability to analyze and interpret data within the social sciences
4. Provide practical examples as to when the statistical techniques presented are appropriate methods for analysis.

Required Materials & Resources

Required eBook

Weir & Vincent (2021)

! Important

The eBook is available for purchase at the CSUN Bookstore or directly from the publisher (Human Kinetics). Some students prefer the eBook since it is more affordable. However, if you prefer a physical copy of the book, you can order it from the publisher or other online retailers. Also, the eBook may offer features such as taking notes electronically, creating flashcards, and searching for specific terms. But in the end, it is entirely up to you.

Companion eBook

This course uses the companion ebook [Statistics for Movement Science](#) as a primary resource for learning statistical methods and SPSS software. This free, interactive eBook integrates statistical concepts with practical SPSS applications, covering essential topics including measurement, data management, visualization, descriptive statistics, and statistical inference aligned with the course curriculum. You are expected to refer to this eBook throughout the semester, along with the course materials.

i Note

The eBook is a work in progress. Additional chapters will be added and refined as we progress through the semester. Check back regularly for updates and new content.

Primary Study Materials

Please note that throughout the semester, I may designate my blog posts from [Random Stats](#) as the **primary source of study** for certain topics. In these cases, the relevant chapters from Weir & Vincent (2021) will be listed as **optional supplementary material**. This approach allows me to provide customized, concise explanations tailored to the course while still offering the textbook as a resource for deeper exploration if desired.

Other readings

All extra study content for this course can be found on the [course's website](#).

Stats Blog

Throughout the semester, students will be directed to relevant posts from the instructor's blog on statistics, SPSS tutorials, and data analysis: <https://drfurtado.github.io/randomstats/>

Instructional resources

I will post video tutorials on the topics covered in this course related to SPSS, the statistical package used. It is your responsibility to watch AND practice the tutorials.

Requirements

I will adopt the 3 “Ps”¹ in this course. This means that while taking this course, you will be asked to **prepare, practice, participate, and perform.**

You are responsible for the material covered in class prior to attending each class. Note that the week’s readings are specified in the [course schedule](#).

In addition to these readings, the instructor may assign supplemental readings throughout the semester. These supplemental readings do not appear on the schedule; they will be assigned at the instructor’s discretion.

The assignments used to enhance your learning experience in this course include:

Participation & Attendance

Worth 5% of your final grade. Attendance and active participation are fundamental to your success in this course. You will earn a perfect score by attending all scheduled class sessions, completing unannounced in-class activities, and submitting exit tickets when assigned. Attendance is taken at the beginning of every class, and in-class activities **cannot be made up**, even with an excused absence. Your two lowest scores will be dropped to provide flexibility for emergencies.

[View full Attendance & Participation guidelines →](#)

Weekly Quizzes

Worth 5% of your final grade. Before each class, you will complete a 10-question multiple-choice quiz covering that week’s assigned readings. Quizzes are timed (20 minutes per attempt) but you may take unlimited attempts while the quiz is open, with your highest score recorded. Quizzes help you assess your understanding before class and identify areas needing clarification. Your two lowest quiz scores will be dropped.

[View full Weekly Quizzes guidelines →](#)

¹Inspired by Mine Çetinkaya-Rundel’s teaching philosophy.

Major Takeaways

Worth 5% of your final grade. Before each class, you will submit at least 10 major takeaways from the assigned readings, written in your own words. This assignment helps you actively engage with course material, identify key concepts, and prepare for class discussions. Takeaways must represent your own understanding—copying from sources or using AI undermines the learning purpose and constitutes academic dishonesty. Your two lowest scores will be dropped.

[View full Major Takeaways guidelines →](#)

Lab Assignments

Worth 25% of your final grade. Labs provide hands-on practice applying statistical concepts to real data using SPSS. Each lab includes research questions, step-by-step SPSS procedures, data interpretation questions, and APA-formatted results sections. While lab content varies by topic, all labs share the goal of developing your practical data analysis skills. You may discuss concepts with classmates, but all written work must be your own. Specific instructions for each lab will be posted separately.

[View full Lab Assignments guidelines →](#)

ePortfolio

Worth 10% of your final grade. You will maintain an ePortfolio throughout the semester in a shared Google Doc, organizing course materials, concept summaries, SPSS procedures, and worked examples. This portfolio serves as a comprehensive reference you can use during exams and revisit after the course ends. The ePortfolio has three checkpoints (Weeks 6, 11, and Finals Week) to ensure steady progress. Only share this with the instructor when requested.

[View full ePortfolio guidelines →](#)

Exams

Each exam worth 25% of your final grade (50% total). You will complete two exams assessing your understanding of statistical concepts, interpretation of results, and SPSS skills. Exam 1 (Week 10) covers material through Chapter 10; Exam 2 (Finals Week) focuses on Chapters 11-16. Exams are open book/notes but must be completed in the allotted class time. Each exam has 6-10 questions worth 10 points each, covering concepts, interpretation, and computational skills. Exams are not cumulative, but earlier concepts may be needed to answer questions on new material.

[View full Exam guidelines →](#)

Course Policies

I will detail the policies for this course below. Basically, don't cheat and try to learn stuff.

Grading

Assignment	Percentage
Participation & Attendance	5%
Weekly Quizzes	5%
Major Takeaways	5%
Labs	25%
ePortfolio	10%
Exam 1	25%
Exam 2	25%

In addition to attendance, participation points will be awarded for in-class activities through exit tickets at the end of some classes. These assignments cannot be made up.

The two lowest quiz, major takeaways, and participation activity scores will be dropped when calculating the final grade.

Grading Scale

Grade	Range	Grade	Range
A	100% – 94%	A-	<94% – 90%
B+	<90% – 87%	B	<87% – 84%
B-	<84% – 80%	C+	<80% – 77%
C	<77% – 74%	C-	<74% – 70%
D+	<70% – 67%	D	<67% – 64%
D-	<64% – 61%	F	<61% – 0%

i Note

In recognition of the fact that grading, however carefully done, will always be imperfect, this class will utilize a “round up” rule for assigning final grades. I will round up from .5% and above, but anything below this will round down. In other words, 79.5 will round up to 80, while 79.4 will round down to 79.

! Important

Requests for an Incomplete (I) must conform to [university policies](#). Among other requirements, “I” is possible only for instances in which you are demonstrating passing work in the class.

Attendance

Showing up is 80 percent of life – Woody Allen.

Attendance will be taken at the beginning of every class; please plan accordingly. Students are expected to attend all class meetings. If you miss a class, it is your responsibility to obtain any notes, assignments, or announcements made during your absence. Late arrivals and early departures will be noted and may affect your participation grade.

E-mail

Please use the built-in Canvas email (Inbox). Do not use your CSUN Gmail to communicate with me.

If your message concerns a non-private matter (e.g., assignments, content, deadlines, etc.), then please post your question to the **Weekly Announcements** in Canvas. Every week, I will post an announcement with the assignments and activities for the week. **If you have a question about something mentioned in the announcement, please reply to that announcement so that all students can benefit from the response.**

Late Assignments

It is important to note that late assignments are assessed a 5% deduction for each day they are late, up to a maximum of 4 days. After the fourth day of the deadline, no assignments will be accepted. Therefore, it is important to plan ahead and submit all assignments on time to receive full credit. The instructor reserves the right to make exceptions to this policy on a case-by-case basis. An exception to this rule is documented emergencies. Also, exit ticket assignments cannot be made up.

Extra Credit

No individual extra credit is granted. Therefore, do not plan to make up poor grades at the end of the semester by asking to do extra credit work. I might offer extra credit opportunities, but they will be available to the entire class, not to individuals.

Disabilities

Federal law mandates that services be provided at the university level to qualified students with disabilities.

This instructor, in conjunction with California State University Northridge, is committed to upholding and maintaining all aspects of the federal Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973.

If you are a student with a disability and wish to request accommodations, please contact the Office of Students with Disabilities Resources, located in 110 Student Services Building, or call (818) 677-2684 to schedule an appointment. Any information regarding your disability will remain confidential. Because many accommodations require advance planning, requests should be made as early as possible. Any requests for accommodations will be reviewed promptly to determine their appropriateness for this setting.

Academic Dishonesty

TL;DR: Don't cheat!

*Please, **stop** and read the information below; this is important!*

! Important

Each student is expected to be familiar with and abide by the conditions of student conduct, as presented in the CSUN Catalog, with emphasis on sections entitled Student Conduct Code, Academic Dishonesty, Faculty Policy on Academic Dishonesty, and Penalties. Any student engaging in academic dishonesty (e.g., cheating, fabrication, facilitating academic dishonesty, plagiarism) is subject to disciplinary action, which may include a failing grade in the course and may result in more severe disciplinary action by the University. Students are encouraged to visit the link below and become familiar with the Standards for Student Conduct.

<http://www.csun.edu/a&r/soc/studentconduct.html>

About Plagiarism

Plagiarism means using words, ideas, or arguments from another person or source without citation. Cite all sources consulted to any extent (including material from the internet), whether or not assigned and whether or not quoted directly. For quotations, four or more words used in sequence must be set off in quotation marks, with the source identified.

Plagiarism is a serious violation of the CSUN Student Conduct Code. Any form of cheating will immediately earn you a failing grade for the entire course. **By remaining enrolled, you consent to this policy.**

Turnitin (see below) will detect such misconduct by checking every submission against a database of papers and the Internet.

What is Turnitin?

Turnitin is an automated system that instructors can use to quickly and easily compare each student's assignment with billions of websites and an enormous database of student papers that grows with each submission. Accordingly, you will be expected to submit assignments through the Canvas Assignment Tool in electronic format. After the assignment is processed, as an instructor, I receive a Turnitin report indicating whether and how another author's work was used in the assignment.

Resources & Support

How to Access our Course and Get Started

- Log into Canvas: <https://canvas.csun.edu>
- Under "My Courses," locate our course and click on it.
- This will take you to the course home page.

Technology Requirements and Support:

- A computer and access to the internet (reliable connection)
- Firefox, Safari, etc. (web browser)

What I Expect of You:

1. Plan your schedule to ensure you have several hours per week to spend on this class and take time to identify where and when you'll do your learning.
2. Review the due dates for the assignments (refer to our Course Schedule in Canvas) to orient yourself to the flow of the learning.
3. This course requires regular engagement and practice using [SPSS](#) (Statistical Package).

Tips for Success

Consider the goals you have for this course as you determine how to allocate your time to complete the course requirements.

Each student has a different pace when studying for a course. Thus, I will let you figure out how many hours you need to reserve each week for this course. Regardless of the number of hours chosen, try to divide your time so that you devote more time to **assignments** and **assigned readings**.

Student Support Services

CSUN aims to make all learning experiences as accessible as possible and offers a variety of resources to support students. If you believe the design of this course poses barriers to effective participation or to demonstrating your learning, please contact me to discuss possible options and adjustments.

- The IT Help Center (818)677-1400, helpcenter@csun.edu, is available to help with Canvas, CSUN e-mail, SOLAR/Portal, and other technical issues.
- CSUN Device Loaner Program (<https://bit.ly/3t1G0An>) provides devices that can be checked out, including laptops, webcams, hotspots, and headsets
- The Learning Resource Center (818) 677-2033 The mission of the LRC is to enable students to improve their academic performance through a variety of learning programs, including workshops, one-on-one and group tutoring, supplemental instruction classes, and interactive subject area computer programs and videos. Students who use the LRC learning programs will develop and strengthen their critical thinking, study, and writing skills, and improve their performance in subject-matter courses.
- University Counseling Services (818) 677-2366, Bayramian Hall 520. UCS provides resources and information to help students address a range of psychological obstacles, from small to large, that may interfere with academic progress and/or relationship satisfaction. Services include individual, group, and crisis counseling.
- In accordance with the CSUN Accessibility Policy (<https://bit.ly/3yqGHE9>), CSUN is working to ensure that campus communication and course materials are accessible to everyone. Please reach out to me if you have any difficulty with any of the course materials.
- If you have a disability and need accommodations, please register with the Disability Resources and Educational Services (DRES) office or the National Center on Deafness (NCOD).
 - The DRES office can be reached at (818) 677-2684.
 - NCOD can be reached at (818) 677-2611.
 - Reasonable accommodations and services will be provided to students if requests are made in a timely manner and with appropriate documentation

– If you would like to discuss your need for accommodations with me, please drop in office hours or contact me to set up an appointment.

- Food Pantry (<https://bit.ly/38nTsVH>) at CSUN: Anybody who faces challenges securing food or housing and believes this impacts course performance should contact CSUN's Food Pantry website and the corresponding contacts. If you also feel comfortable contacting me, the department chair, or the Dean's Office, we can also facilitate assistance. You don't have to be alone in this moment.
- Emergency MataCare grants (<https://bit.ly/2WAZkIz>), one-time grants to prevent evictions, urgent child care issues, etc. - DACA (Deferred Action for Childhood Arrivals) Resources: Check out the Central American Resource Center facebook page (<https://bit.ly/2Yg0p9z>), legal resources listed on CSUN's Educational Opportunity Program (EOP) Dream Center that was created to support all undocumented students & allies (Dream Center flyer). CSUN President Harrison issued a support statement on the CSUN homepage for DACA and resources.
- Help lines (<https://bit.ly/3sYbMOo>)(after hours when the University Counseling is closed) for numerous topics/needs (e.g., suicide, drug, rape, LGBTQ, military, or any crisis). You don't have to manage these feelings alone.
- Pride Center (<https://bit.ly/3jqNZUi>) offers support and resources to lesbian, gay, bisexual, transgender, queer, & questioning students, faculty, & staff.
- Klotz Student Health Center (<https://bit.ly/3zx1Y0s>): Numerous health services, including primary care, dental, nutritional counseling, acupuncture, massage, and much more.
- Career Center (<https://bit.ly/3jtTcL2>) for resume writing & interviewing and much more; Matty's Closet (<https://bit.ly/3jAResx>) has free professional clothes for students who need interview or professional attire.
- USU 9(<https://bit.ly/38uz59j>) for more student services; Clubs & Organizations (<https://bit.ly/38tBhOa>): Hopefully, a dozen people have already advised you to "get involved" (<https://bit.ly/3ysqYVb>) at CSUN in something that interests you.
- Associated Students (<https://bit.ly/3yuWjGT>) offers recycling, and a Children's Center providing child care
- Financial Aid & Scholarships (<https://bit.ly/3sYFzqr>) offers aid for applications
- University Library (<https://bit.ly/3yuIEQ9>) for many additional academic resources
- Veterans Resource Center (<https://bit.ly/38qYtg7>) assists CSUN students as they transition from military service to academic success.

Title 5, California Code of Regulations, § 41301. Standards for Student Conduct – (a) Campus Community Values: The university is committed to maintaining a safe and healthy living and learning environment for students, faculty, and staff. Each member of the campus community should choose behaviors that contribute toward this end. Students are expected to be good citizens and to engage in responsible behaviors that reflect well upon their university, to be civil to one another and to others in the campus community, and contribute positively to student and university life.

CSUN with A HEART. If you are facing challenges related to food insecurity, housing precarity/homelessness, mental health, access to technology, eldercare/childcare, or healthcare, you can find guidance, help, and resources from CSUN with A HEART (<https://www.csun.edu/heart>).

Diversity + inclusion

It is my intent that students from diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity students bring to this class be viewed as a resource, strength, and benefit.

! Important

To help me create an inclusive learning environment, please consider the following: - If your name differs from the one on your official CSUN records, please let me know! - If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you. If you prefer to speak with someone outside of the course, your advisers and deans are excellent resources. - I (like many people) am still in the process of learning about diverse perspectives and identities. If something was said in class (by anyone) that made you feel uncomfortable, please talk to me about it.

Course Schedule

Week ²	Date ³	Topic	Primary Reading ⁴	Optional (but recommended)	Assignments ⁵
Wk01	Jan 20, 2026	Introduction to SPSS	Basics of SPSS	(Furtado, 2026, Appendix-A)	Read Syllabus; Watch SPSS Video Tutorials
Wk02	Jan 27, 2026	Measurement, Statistics, and Research	(Weir & Vincent, 2021, p. Ch.1)	(Furtado, 2026, p. Ch.1)	Quiz; Major Takeaways
		Organizing and Displaying Data	(Furtado, 2026, p. Ch.3)	(Weir & Vincent, 2021, p. Ch.2)	Quiz; Major Takeaways

Week ²	Date ³	Topic	Primary Reading ⁴	Optional (but recommended)	Assignments ⁵
Wk03	Feb 3, 2026	Measures of Central Tendency	(Weir & Vincent, 2021, p. Ch.4)	(Furtado, 2026, p. Ch.4)	Quiz; Major Takeaways
		Measures of Variability	(Weir & Vincent, 2021, p. Ch.5)	(Furtado, 2026, p. Ch.5)	Quiz; Major Takeaways
Wk04	Feb 10, 2026	The Normal Curve	(Weir & Vincent, 2021, p. Ch.6)	(Furtado, 2026, p. Ch.7)	Quiz; Major Takeaways
Wk05	Feb 17, 2026	Fundamentals of Statistical Inference	(Furtado, 2026, p. Ch.8) & (Furtado, 2026, p. Ch.10)	(Weir & Vincent, 2021, p. Ch.7)	Quiz; Major Takeaways; Lab 1 Due
Wk06	Feb 24, 2026	Correlation and Bivariate Regression	(Weir & Vincent, 2021, p. Ch.8)	(Furtado, 2026, p. Ch.11)	Quiz; Major Takeaways
Wk07	Mar 3, 2026	Multiple Correlation and Multiple Regression	(Weir & Vincent, 2021, p. Ch.9)	(Furtado, 2026, p. Ch.12)	Quiz; Major Takeaways
Wk08	Mar 10, 2026	The t Test: Comparing Means From Two Sets of Data	(Weir & Vincent, 2021, p. Ch.10)	(Furtado, 2026, p. Ch.13)	Quiz; Major Takeaways
Wk09	Mar 17, 2026	Spring Recess	—	—	Take a rest!
Wk10	Mar 24, 2026	Exam 1	Study covered content	—	Refer to Canvas; ePortfolio Check 1
Wk11	Mar 31, 2026	Holiday: Cesar Chavez Day	—	—	—

Week ²	Date ³	Topic	Primary Reading ⁴	Optional (but recommended)	Assignments ⁵
Wk12	Apr 7, 2026	Simple Analysis of Variance: Comparing the Means Among Three or More Sets of Data	(Weir & Vincent, 2021, p. Ch.11)	Coming soon	Quiz; Major Takeaways; Lab 2 Due
Wk13	Apr 14, 2026	Analysis of Variance With Repeated Measures	(Weir & Vincent, 2021, p. Ch.12)	Coming soon	Quiz; Major Takeaways
Wk14	Apr 21, 2026	Factorial Analysis of Variance	(Weir & Vincent, 2021, p. Ch.14)	Coming soon	Quiz; Major Takeaways; Lab 3 Due
Wk15	Apr 28, 2026	Analysis of Nonparametric Data	(Weir & Vincent, 2021, p. Ch.16)	Coming soon	Quiz; Major Takeaways
Final's Week	May 9, 2026	Exam 2	Exam 2 ⁶	—	Refer to Canvas; ePortfolio Final

Chapters and Topics

Weir & Vincent (2021) covers the following chapters/topics:

- CHAPTER 1 — Measurement, Statistics, and Research
- CHAPTER 2 — Organizing and Displaying Data
- CHAPTER 4 — Measures of Central Tendency

⁶Exam 2 focuses on material after Exam 1 (Ch.11–16).

²The schedule is subject to change.

³Class dates: Jan 20, 2026 – May 9, 2026 (finals week begins May 9).

⁴Students are expected to read and study the assigned chapters prior to attending each class meeting.

⁵Quizzes and Major Takeaways assignments are due **before** class; other assignments are due after class.

- CHAPTER 5 — Measures of Variability
- CHAPTER 6 — The Normal **Curve**
- CHAPTER 7 — Fundamentals of Statistical Inference
- CHAPTER 8 — Correlation and Bivariate Regression
- CHAPTER 9 — Multiple Correlation and Multiple Regression
- CHAPTER 10 — The t Test: Comparing Means From Two Sets of Data
- CHAPTER 11 — Simple Analysis of Variance: Comparing the Means Among Three or More Sets of Data
- CHAPTER 12 — Analysis of Variance With Repeated Measures
- CHAPTER 14 — Factorial Analysis of Variance
- CHAPTER 16 — Analysis of Nonparametric Data

! Important

As noted above, some chapters may be designated as optional supplementary material when blog posts from [Random Stats](#) are assigned as the primary study material.

References

- Furtado, O., Jr. (2026). *Statistics for movement science: A hands-on guide with SPSS* (1st ed.). <https://drfurtado.github.io/sms/>
- Weir, J. P., & Vincent, W. J. (2021). *Statistics in kinesiology* (5th ed.). Human Kinetics.