

## GRADUATE COUNCIL: NEW COURSE PROPOSAL

**Originating Unit:** Kinesiology

**Type of action:**  New course  Full online course\*\*

**Semester and year course will take effect:** Fall 2024

**New course title:** Statistics in Kinesiology

**Appropriate computer abbreviation (30 spaces or less):** Statistics in Kinesiology

**Course instructional methodology:** Lecture

course component types: [ugradcouncil.tcu.edu/forms/Course Component Types.pdf](http://ugradcouncil.tcu.edu/forms/Course%20Component%20Types.pdf)

**New course number:** 60113

**Prerequisites for new course:** *include an attachment if additional space is needed*

Instructor / Graduate Director Permission

**Click here to attach a file**

attached files can be seen and managed in Acrobat Pro by clicking on View > Show/Hide > Navigations Panes > Attachments

**Description of new course (catalog copy):** *include an attachment if additional space is needed*

This course is designed to provide students w/ knowledge & experience w/ statistics & scientific methods. Frequency distributions, descriptive statistics for summarizing measures of central tendency & variability, measures of association, variance, statistics for testing hypotheses, & statistics used to evaluate validity & reliability will be emphasized. Students will participate in several lab projects requiring the use of statistics.

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## Fully Online Courses\*\*

All online courses, and /or distance learning offerings must meet State Compliance regulations as defined by specific state legislation. TCU Distance Learning is any for-credit instruction provided to a TCU student outside the State of Texas. This includes internships, clinical, video conferencing, online, or any other delivery format that crosses state lines. Contact the Koehler Center for Teaching Excellence for guidelines. Include a letter of support from the Koehler Center with this proposal.

**Supporting evidence or justification:** (For a new course, attach proposed syllabus, including course objectives, course outline, and representative bibliography.)

**Describe the intended outcomes of the course and how they will be assessed:** *include an attachment if additional space is needed*

Attached

**Click here to attach a file**

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**Additional resources required:**

**Faculty:** None

**Space:** No New Space

**Equipment:** N/A

**Library:** N/A

**Financial Aid:** N/A

**Other:**

**Change in teaching load:** No change in teaching loads. This has been taught since 2017 as a "Spa

**Does this change affect any other units of the University?**  Yes  No

*If yes, submit supporting statement signed by chair of affected unit.*


**If cross-listed, provide evidence of approval by all curriculum committees appropriate to both the originating and the cross-listed units.**

**Chair of Originating Unit:**

**Name:** Peter Weyand

**Unit:** Kinesiology

**Signature:** **Peter Weyand**

 Digitally signed by Peter Weyand  
Date: 2023.10.12 16:10:45 -05'00'

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**Texas Christian University**  
**Harris College of Nursing & Health Sciences**  
**Department of Kinesiology**  
**KINE 60113 Statistics in KINE (3 hours)**

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**Instructor:** Phil Esposito, PhD  
**Semester/Year:** Fall 2023  
**Class location:** Rickel Building Room 257  
**Class schedule:** 4:00p–6:20p (W)  
**Course site:** <http://www.d2l.tcu.edu>  
**Final exam date & time:** W 12/13 @ 2-4:30

**Email:** p.esposito@tcu.edu  
**Office:** Rickel 172 G  
**Office phone:** (817) 257-6866  
**Student hours:** M&T 9-10a & by negotiation  
**Schedule office hrs:** calendly.com/pesposito  
**Zoom office:** <https://tcu.zoom.us/j/347778545>

*This syllabus represents my current plans & objectives. As we go through the semester, those plans may need to change to enhance the classroom learning experience. Such changes, communicated clearly, are not unusual & should be expected.*

**DESCRIPTION:** This course is designed to provide students w/ knowledge & experience related to statistics & scientific methods. Frequency distributions, descriptive statistics for summarizing measures of central tendency & variability, measures of association, variance, statistics for testing hypotheses, & statistics used to evaluate validity & reliability will be emphasized. Students will participate in several lab projects requiring the use of statistics.

**COURSE PREREQUISITES:** Instructor / Graduate Director Permission

**COURSE AIM & OBJECTIVES:**

**Aim:** This course is designed to give the student the essential principles of statistics in kinesiology, specifically the movement sciences so that they can work independently as researchers or informed professionals.

**Specific Learning Objectives:**

By the end of this course, students will be able to:

1. Recognize assumptions, violations, & appropriate statistical procedures
2. Organize & describe data using descriptive & simple inferential statistics for research & evaluation in physical education, sport, & exercise science.
3. Apply correct statistical techniques to answer a given question.
4. Interpret a research design.
5. Synthesize statistical output.
6. Critically analyze the strengths & weaknesses of research
7. Apply measurement theory (reliability, validity, objectivity, & sensitivity) to the sub disciplines of kinesiology.
8. Develop an understanding & ability for the communication of numeric data including the computation & interpretation of summative statistics.
9. Develop the ability to collect data through appropriate measurement procedures, perform evaluations & generate conclusions that may be made regarding the tested group.
10. Demonstrate the ability to present & interpret graphical representations of data in the area of kinesiology.
11. Read, discuss, & debate current research articles that are relevant to the field & that display methods of data collection, statistical analysis & presentation.

**REQUIRED TEXTBOOK**

Weir, J. P., & Vincent, W. J. (2020). Statistics in kinesiology. Champaign, IL: Human Kinetics.

NOTE: You may also be given handouts or literature citations for additional course readings. If so, you will be expected to read them prior to the next class meeting.

**REQUIRED TECHNOLOGY**

For students who might need to attend class online, students will need access to Zoom (via computer, phone, or tablet) and high-speed internet. Visit the following website on the device you intend to use for instructions on accessing / downloading the Zoom platform (<https://zoom.us/>).

**COURSE REQUIREMENTS:**

Your final grade will be determined by the following:

Assignment	% of grade	Your points	Due
Opportunity to excel # 1	20%	/	9/20/2023
Opportunity to excel # 2	20%	/	10/25/2023
Opportunity to excel # 3	20%	/	11/29/2023
Opportunity to excel # 4	20%	/	12/13/2023
Statistics lab activity #1 (Descriptive statistics)	5%	/	9/13/2023
Statistics lab activity #2 (t-testing & effect size)	5%	/	10/11/2023
Statistics lab activity #3 (Correlation & Regression)	5%	/	11/1/2023
Statistics lab activity #4 (ANOVA's & post-hoc testing)	5%	/	11/15/2023
Total	100%	/	

**Opportunities to excel (80%):** Three semi-cumulative opportunities to excel will be administered during the term. They are intended to assess your knowledge, understanding, & comprehension of the material presented in lecture, discussion, assigned readings, etc. (& hopefully an opportunity to improve your grade). 10-15% of topics/concepts from earlier material will be present. These opportunities will include true/false, multiple choice, & short answer questions.

Currently all students are enrolled as Face-to-Face. All exams will occur in the classroom at our regularly scheduled class time. If at any time we switch to online instruction, exams will be found in the "Quizzes" section of D2L. Students will need access to a computer and high-speed internet. Exams will feature components similar to Face-to-Face exams.

**Individuals who fail an opportunity to excel need to meet w/ me to discuss their grade & work on strategies for studying moving forward.**

**Statistics lab activities (20%):** You will need to use various statistical techniques learned in class to answer specific research questions. You should include your statistics, results, & one graph, table or figure. Lab activities will be submitted in the "Assignments" area of D2L.

**\*\*I will not discuss individual grades in class\*\***

**Three generic philosophies guide grading**

1. Grades will only be changed when a computational error has been made.
2. Expect grades to be rounded to the nearest whole number.
3. 24/7. Wait 24 hours after a grade before discussing it. You have 7 days to question it.

**GRADING SCALE**

Grades will be in D2L's gradebook. The grading scale for the course will be as follows:

Exceeds expectations	100-89.5%	A	4.0	Outstanding work
Exceeds requirements	89.4-79.5%	B	3.0	Very good work
Meets requirements	79.4-69.5%	C	2.0	Satisfactory work
Does NOT meet requirements	<69.4%	F	0.0	Failure

**COURSE POLICIES & EXPECTATIONS**

**Attendance:** Regular attendance is expected. Understand material covered in class is designed to supplement & illuminate the text. By missing class, you could miss key topics. I will be taking attendance for those attending class Face-to-Face. There is no grade attached to your attendance.

If you are unable to attend, please let me know ahead of time. I do not want to put myself in a position to decide what counts as an excused or unexcused absence (your reason for missing class is your reason & irrelevant to me). Prior approval does not cancel your absence, but it will allow you to make up any missed assignments.

Students may request to attend class online for any reason. I ask you to inform me of your intent ahead of time. Zoom will always be active for synchronous class attendance and will be made available within 24-48 hours after class for students to view asynchronously.

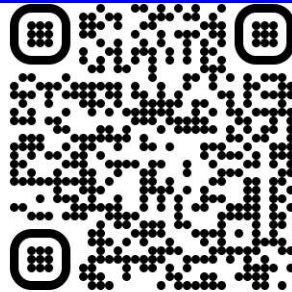
**Participation:** Attendance & active engagement provide evidence of your professional disposition. Students are expected to attend class regularly & participate in class discussions. This includes preparing for class by completing the assigned reading prior to each class session. In order to fully engage in the class, attendance is essential. Participation (in some form) is expected by everyone. This class is a shared endeavor; to maximize learning my goal is to engage you w/ the material, each other, & myself. It is your responsibility to come to class prepared. If you have questions or need help w/ content of the course, it is your responsibility to seek help & guidance. I am willing to help in any way w/in my limits as an instructor.

**Late work:** Work will be due at the beginning of class & will be considered late thereafter. If you know you will be missing a class, you need to submit the assignment ahead of time. Work submitted late regardless of lateness will be lowered by 10% for each week it is late (i.e., if you turn in an assignment one hour to one week & earn a 94%, your grade will be an 84%, two weeks [20% penalty], etc.). I will **NOT** accept assignments once I have graded & posted grades for the class. I allow one extension at your request *prior* to the original due date. Although I am sensitive to problems w/technology (i.e., computer crash, printer malfunction, internet connectivity issues, etc.), these are not acceptable excuses for submitting late work. Exceptions to this policy are rare & individually determined.

**Make-up work:** Each student is responsible for all material covered (both in class & assigned readings). Any foreseeable absences, religious holiday, etc. should be discussed beforehand. Make-ups (labs, assignment, exams, etc.) will require prior notification or official documentation. Students who expect to miss an exam due to an excused University activity must notify the instructor in advance to arrange to take the exam.

**Grade Grievance Policy:** Students should first consult w/ the instructor to review grade concerns. If we are still in disagreement, I can bring your concerns to a third party for another opinion. Differences between grade received & grade expected of less than a full letter grade will not be considered unless it is between a D- & a failing grade.

<https://cte.tcu.edu/tcu-syllabus-policies/>



Date (Day)	Topic(s)	Reading <sup>a</sup>	Misc.
<i>Each class will be delivered 100% synchronously. Classes will be recorded for students to engage with asynchronously</i>			
8/23 (W)	Measurement, Statistics, & Research AND Org. & Displaying Data	1 & 2	
8/30 (W)	Percentiles AND Normal Curve*	3 & 6	
9/6(W)	Central Tendency AND Variability	4 & 5	
9/13 (W)	Black Flag		Lab #1 Due
9/20 (W)	<b>Exam #1</b>		
9/27 (W)	Fundamentals of inference & start t-test	7 & 10	
10/4 (W)	Correlation	8 & 9	
10/11 (W)	Regression		
10/18 (W)	Black Flag		Lab #2 Due
10/25 (W)	<b>Exam #2</b>		
11/1 (W)	ANOVA	11	
11/8 (W)	Repeated Measures ANOVA, Factorial ANOVA & ANCOVA	12, 14 & 15	
11/15 (W)	ANOVA Catch-up day if necessary		Lab #3 Due
11/22 (W)	<b>No Class – Thanksgiving Holiday</b>		
11/29 (W)	<b>Exam #3</b>		
12/6 (W)	Black Flag		Lab #4 Due
12/13 (W)	<b>Final Exam (cumulative)</b>		
Time permitting - reliability, non-parametric data, clinical measures of association			
<sup>a</sup> . Weir, J. P., & Vincent, W. J (2020). Statistics in Kinesiology, 5 <sup>th</sup> ed.			