

San José State University

Kinesiology 250-1: Fundamentals of Quantitative Research Method in Kinesiology

College of Applied Sciences and Arts

Department of Kinesiology

Instructor:	Dr. Seung Ho Chang
Office Location:	SPX 115
Telephone:	408-924-8154
Email:	seungho.chang@sjsu.edu
Office Hours:	M 9:30am - 10:30 am & by appointment
Class Day/Time:	M 7:00pm - 9:45pm
Classroom:	SPX 151

Course Format

Canvas and MySJSU Messaging

Course materials such as the course syllabus and major assignment handouts can be found on Canvas, the content management system we use at SJSU. From the SJSU home page you can easily find the Canvas entry page. Your SJSU ID # and password will work with this account and all others at SJSU, called your SJSUOne Account. Upon first arriving on your Canvas home page, be sure to adapt the settings so that your Canvas email is forwarded to your regularly used e-mail account. All announcements for our class will be posted on Canvas and should be checked on a regular basis; students may choose an option to be alerted to their regular e-mail that announcements have been made. Moreover, be sure to regularly check your MySJSU messaging system (or other communication system as indicated by your instructors).

Technology Intensive, Hybrid, and Online Courses

Kin 250 is delivered in a format that is technology intensive. You may find that having a laptop helps you to interpret information presented on slides or you might find that written notes are favored. Every class will be associated with a set of slides found on the modules page of Canvas and that may serve as a base for more in depth note taking. Use your own personal systems for elaborating on the information provided in the slides and various other materials. Arrangements must be made for computer and Internet access. SPSS is available through the university for use on your own computer; please follow directions on the page found at this link

<http://www.sjsu.edu/it/services/collaboration/software/instructions.php> to download SPSS Statistical Software from IBM, and other software available to the SJSU community.

Course Description

The description of the course is: design, analysis and interpretation of quantitative research. Specifically, Quantitative Research Methods focuses on the research process from the formulation of a research problem through analysis of data. Topics include: ethics in research, research design and analysis issues and techniques, psychometrics, descriptive statistics, parametric and non-parametric inferential statistics, critiquing research. Prerequisite: KIN 175 (or equivalent).

Note: This course satisfies graduate-level GWAR in this master's program. A grade of B or better in KIN 250 satisfies the SJSU Graduate Writing Assessment Requirement (GWAR).

Learning Outcomes

Department Graduate Program Learning Outcomes (PLOs)

Upon completion of the Master's degree program in the Department of Kinesiology, students should be able to:

- ✓ Demonstrate the ability to conduct and critique research using theoretical and applied knowledge (PLO #1)
- ✓ Interpret and apply research findings to a variety of disciplines within Kinesiology (PLO #2)
- ✓ Effectively communicate essential theories, scientific applications, and ethical considerations in each student's Kinesiology program concentration (PLO #3)
- ✓ Interpret and apply research findings through acquired skills in order to become agents of change to address issues in Kinesiology through the application of knowledge and research. (PLO #4)

Course Goals and Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Explain the fundamental characteristics of quantitative research methods and their relevance to the field of kinesiology (GPLO1)
 - Measured in specific essay items presented on the midterm and final exam.
2. Design research incorporating various quantitative modes of inquiry (GPLO 1 and GPLO 2).
 - Measured in specific essay items presented on the midterm and final exam; as well, this is measured by the final manuscript assignment in which students are required to develop a publication style manuscript of an empirical research study
3. Identify a research problem in kinesiology best addressed with a quantitative or mixed-methods approach (GPLO3).
 - Measured by the final manuscript assignment that addresses all aspects of the course
4. Apply APA style in writing (GPLO3).
 - Addressed in the final manuscript assignment rubric on style and format
5. Demonstrate competence in utilizing library resources for research (GPLO1).
 - Met in that the accumulation of scholarly source materials required for the final manuscript assignment
6. Articulate ethical issues in research.
 - Met through completion of on-line IRB tutorial; met through essay item on midterm examination
7. Develop critical analysis tools for conducting quantitative research in kinesiology (GPLO1).
 - Measured by final exam essay that involves critical analysis of a quantitative design
8. Understand quantitative research issues that affect the quality of research.
 - Met in an essay item on the final examination that involves the article critiques
9. Demonstrate competence in data analysis (GPLO2).
 - Met by conducting and interpreting a quantitative analysis in response to a problem in the final manuscript
10. Demonstrate proficiency in written communication.
 - Addressed in essay items and final manuscript assignment
11. Discern when and how to take into consideration group characteristics (e.g., age, gender, culture) when analyzing data (GPLO4).
 - Addressed in essay item on final exam

Required Materials:

- Baumgartner, T.A., & Hensley, L.D., Zhu, Weimo., & Kulinna, P.H. (2021). *Conducting and reading research in kinesiology* (6th ed.). Burlington, MA: Jones & Bartlett Learning.
- American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). Washington
6th edition is also acceptable but if you have not yet purchased the manual then purchase the 7th edition
- SPSS is available in the Applied Motor Behavior Lab, on library laptops, and in the open use area of the Academic Success Center on the ground floor of Clark Hall.

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in [University Policy S12-3](http://www.sjsu.edu/senate/docs/S12-3.pdf) at <http://www.sjsu.edu/senate/docs/S12-3.pdf>. All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.

Class Protocol

All students should demonstrate respect for themselves, each other, and the instructor at all times. In addition, students are expected participate fully in all activities throughout the class period.

- 1) **Communication:** it is a very important aspect of this class (online format). You need to contact an instructor immediately when you have any **questions, issues, concerns, or problems**. Effective communication with the instructor will result in avoiding potential issues associated with your grade.
- 2) **Intellectual property:** Course materials developed by the instructor (e.g., exam/quiz items, videos, lecture notes), are the instructor's intellectual property and **cannot be shared or uploaded** in any form publicly without the instructor's approval.
- 3) Report any accidents to the instructor immediately. If a serious illness or accident occurs that requires an extended absence, the student should obtain a medical statement and/or withdraw from the class.
- 4) **Exams** will be administered **only on the specified dates and times** (these will NOT be re-opened). No make-up exam is administered. However, the instructor reserves the right to give make-up exam because of unforeseen valid emergencies which can be officially documented in writing and notified to the instructor via email within 24 hours. Make-up work is only allowed upon presentation of valid medical or legal evidence. If make-up exam is approved and given by the instructor based on other circumstances other than valid medical or legal evidence a student's grade will be reduced by **40 % of the grade she/he has finally got and extra questions on the exam cannot be graded**.
- 5) **All assignments and class/weekly activities** will be turned in electronically via the course Canvas site unless otherwise stated. It is most beneficial to you to follow all directions carefully to maximize your opportunity to receive the highest grade possible. It is each students responsibility to know when each assignment is due, due dates are listed on the schedule and on Canvas. **NO late assignments and class/weekly activities will be accepted** unless prior arrangements have been made with the professor.
- 6) All written work is intended to be the creation of the individual turning in the assignment and weekly activities; no student may use another student's work and claim it as his/her own. Correctly use

referenced materials. Do not plagiarize. It is the role and obligation of each student to be aware of the **University's Academic Integrity Policy (S04-12)**.

- 7) When communicating with the instructor via email, **you must follow the etiquette below**; otherwise the instructor reserves the right of not replying to your email.
- Be sure to include a meaningful subject line; this helps clarify what your message is about and may also help the instructor prioritize reading your email.
 - Just like a written letter, be sure to open your email with a greeting such as Hello Dr. Chang.
 - Introduce yourself (your name and what class you are taking).

Course Assignments:

1. Institutional Review Board required certification

Institutional Review Board (IRB) approval is required prior to conducting experiments involving people and animals. At SJSU, IRB approval is linked to certification. Please go to the webpage of the Office of Graduate Studies and Research (<http://www.sjsu.edu/research/irb/>) and link to the IRB training found at the following link for researcher training: <http://www.sjsu.edu/research/irb/irb-researcher-training/index.html> . Create an account with CITI Program. Complete the human subjects research training. A certificate of your participation and completion of the training is required for completion of the Kin 250 class. Drop an electronic copy of your certificate by clicking on the appropriate link on the Assignments Page of Canvas. This is a criterion referenced assignment that bears no quantitative credit but must be completed to receive a final grade in Kin 250.

2. Exams

A midterm and final exam will be administered as indicated on the course calendar (last page of this Course Syllabus). Each exam will be developed from classroom and Canvas discussions, and textbook readings.

3. Research Project/Final Manuscript in the form of an APA manuscript for publication

The research project/final manuscript will be developed across the semester by continuously advancing ideas through summaries of relevant scholarship and formulation of ideas. As well, the final manuscript will be no less than 15 pages of text and no more than 20 pages of text (not including Title page, Abstract, References, or Appendices) in APA style. A detailed information for the research project and final manuscript assignment will be posted on Canvas.

4. Weekly and Class Activities

Students should be ready to discuss a range of short research samples to be discussed in class. The due dates for weekly activities are listed on the course calendar. The information of weekly activities will be available on Canvas for students.

Course Activities and Evaluation:

- Institutional Review Board certificate tutorial; complete, save certificate and drop into assignments on Canvas = Criterion referenced
- Exams (Midterm =20 pts & Final Exam=20 pts) = **40pts** (PLO #1, #2, and #4)
- Research Project = **35pts** (PLO #1, #2, #3, and #4)
 - ✓ *Searching articles* = 5 pts
 - ✓ *Summary of searched articles* = 5pts
 - ✓ *Summary of the paper* = 5pts
 - ✓ *Final Manuscript*= 20pts
- Class and weekly Activities = **25pts** (PLO #1, #2, and #4)

TOTAL: 100 points

- *All exams must be taken and all assignments must be accepted for a final grade to be assigned.*
- *Passing grades will not be assigned when tests or assignments are missing.*

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practice. Other course structures will have equivalent workload expectations as described in the syllabus.

Grading

Final course grade will be assigned according to the following scale based on the total accumulated percentage of available points during the semester.

A+ 98-100%	A 93-97%	A- 90-92%
B+ 88-89%	B 83-87%	B- 80-82%
C+ 78-79%	C 73-77%	C- 70-72%
D+ 68-69%	D 63-67%	D- 60-62%
F < 60%		

*** No policy for rounding grades to the nearest integer.**

Library Liaison

Adriana Poo is our library liaison. She can be reached at: Adriana.poo@sjsu.edu or by phone (408) 808-2019.

University policies

To learn more about all of the San Jose State University policies (drop/add) and services (Counseling, Writing) please go to this easy quick link provided by SJSU: <http://www.sjsu.edu/gup/syllabusinfo/>

- General Expectations, Rights and Responsibilities of the SJSU Student
- Dropping and Adding
- Consent for Recording of Class and Public Sharing of Instructor Material
- Academic integrity
- Campus Policy in Compliance with the American Disabilities Act
- Student Technology Resources
- SJSU Peer Connections
- SJSU Writing Center
- SJSU Counseling and Psychological Service

KIN 250 Quantitative Research Methods in Kinesiology, SP 2021
Course Schedule

Date	Topic	Course Materials	Assignments & Deadlines
Part 1: Quantitative Research Designs			
2/1 (M)	Introduction to the course Overview of research in kinesiology	- Zoom session	- Pre-Assessment
2/8 (M)	The nature, purpose, and overall process of research (Ch.1)	- Zoom session - PPT	- Class activity
2/15 (M)	Qualitative & Mixed Methods Research (Ch.4) Historical & Action Research (Ch.5)	- Additional readings - Video resources	- Select topic for the final paper -Due 7:00pm - Weekly activity-Due 11:59pm on 2/18, Th
2/22 (M)	Descriptive Research (Ch.2)	- PPT - Video resources	- Weekly activity-Due 11:59pm on 2/25, Th
3/1 (M)	Experimental Research (Ch.3)	- Zoom session - PPT & Readings	- 5 key search terms for the topic -Due 7:00pm - Class activity
3/8 (M)	Understanding the Research Process (Ch.7)	- PPT & Readings - Video resources	- Weekly activity-Due 11:59pm on 3/11, Th - IRB certificates-Due 11:59pm on 3/12, Fr
3/17 (M)	Reviewing the Literature (Ch.8)	- PPT & Readings - Video resources	- Weekly activity-Due 11:59pm on 3/20, Th - The electronic version of articles -Due 7:00pm
3/22 (M)	Reading, Evaluating, and Evaluating Research Reports (Ch.9)	- Zoom session - PPT	- Class activity
3/29 (M)	Spring Break		
4/5 (M)	Mid-Term Exam		- Review of articles - Due 11:59pm on 4/8, Th - Download SPSS program
Part 2: Quantitative Research Statistics			
4/12 (M)	Ethical Concerns in Research (Ch.11) Identifying, Recruiting, and Selecting Research Participants (Ch.12)	- Zoom session - Additional readings - PPTs	- Weekly activity-Due 11:59pm on 4/15, Th - Class activity
4/19 (M)	Measurement in Research (Ch.13)	- Additional readings - Video resources	- Weekly activity-Due 11:59pm on 4/22, Th
4/26 (M)	Descriptive Data Analysis (Ch.14) Intro to SPSS #1	- Additional readings - Video resources	- Weekly activity-Due 11:59pm on 4/29, Th
5/3 (M)	Inferential Data Analysis (Ch.15) Intro to SPSS #2	- PPT - Additional readings - Video resources	- Summary of the paper-Due 7:00pm
5/10 (M)	Descriptive statistics - SPSS	- Zoom session - PPT	- Class activity
5/17 (M)	Inferential statistics - SPSS Final exam review	- Zoom session - PPT	- Class activity Publication style manuscript - Due 11:59pm

5/24 (M)	Final Exam		
----------	-------------------	--	--

- Subject to change with fair notice.
- Changes will be announced in class and/or posted on Canvas.