

**San José State University**  
**College of Applied Sciences and Arts/Department of Kinesiology**  
**Kin 250, Quantitative Research Methods in Kinesiology**  
**Section 1, Fall 2015, 3 units**

**Course and Contact Information**

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<b>Office Hours:</b>	Mondays, 3:00pm-4:00pm; Thursdays, 11:00am-12:00pm; hours arranged
<b>Class Days/Time:</b>	Mondays/ 4:00-6:50pm
<b>Classroom:</b>	SPX 151

**Canvas and MySJSU Messaging**

Course materials such as the course syllabus and major assignment handouts can be found on Canvas, the content management system used at SJSU. From the SJSU home page you can easily find the Canvas entry page. Upon arrival on your Canvas home page, change the settings so that e-mail that is sent to your Canvas account is forwarded to your regularly used e-mail account. Announcements will be posted on Canvas and should be checked on a regular basis; students may choose to be alerted via text or e-mail that announcements have been made. Additionally, be sure to regularly check your MySJSU messaging system (or other communication system indicated).

**Course Description**

This Quantitative Research Methods in Kinesiology course will cover how to design, analyze and interpret quantitative research. Topics include: research ethics, research design and analysis techniques and issues, psychometric procedures, descriptive statistics, parametric and non-parametric inferential statistics, and research critiques.

***A grade of B or better in KIN 250 satisfies the SJSU Graduate Writing Assessment Requirement (GWAR).***

**Course Goals and Student Learning Objectives**

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

- Explain the fundamental characteristics of quantitative research methods and their relevance to the field of kinesiology
  - Measured in specific essay items presented on the midterm and final exam
- Design research incorporating various quantitative modes of inquiry
  - Measured in specific essay items presented on the midterm and final exam

- Identify a research problem in kinesiology best addressed with a quantitative or mixed-methods approach
  - Measured by the final manuscript assignment that addresses all aspects of the course
- Apply APA style in writing
  - Addressed in the final manuscript assignment rubric on style and format
- Demonstrate competence in utilizing library resources for research
  - Met in that the accumulation of scholarly source materials is required for the final manuscript assignment
- Articulate ethical issues in research
  - Met through completion of on-line IRB tutorial; met through essay item on midterm examination
- Develop critical analysis tools for conducting quantitative research in kinesiology
  - Measured by final exam essay that involves the critical analysis of a quantitative design
- Understand quantitative research issues that affect the quality of research
  - Met in an essay item on the final examination in the article critiques
- Demonstrate competence in data analysis
  - Addressed in the final manuscript
- Demonstrate proficiency in written communication
  - Addressed in essay items and final manuscript assignment
- Discern when and how to take into consideration group characteristics (e.g., age, gender, culture) when analyzing data
  - Addressed in essay item on final exam

### **Department Graduate Program Learning Objectives**

- Conduct and critique research using theoretical and applied knowledge
- Interpret and apply research findings to a variety of subdisciplines within kinesiology
- Effectively communicate essential theories, scientific applications, and ethical considerations in kinesiology
- Acquire skills to become agents of change to address issues in kinesiology through the application of knowledge and research

### **General Notes**

- Projects and exams must be submitted and completed when scheduled; only serious and compelling circumstances will be considered for late submissions.
- Students are responsible for checking Canvas for course materials and other specific information including discussion threads that count toward course engagement and to receive help from peers and instructor.
- 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.
- Group engagement is expected, including: individual and group interaction through discussion threads on Canvas, e-mail communication, and various classroom activities.
- Papers should be original compositions written specifically for this course.

## Required Texts/Readings

Baumgartner, T.A., & Hensley, L.D. (2012). *Conducting and reading research in kinesiology* (5<sup>th</sup> ed.). Boston, MA: McGraw-Hill.

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6<sup>th</sup> ed.). Washington

Be sure to get the latest printing of the APA Manual; avoid the first printing of the manual as it contained errors.

## 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/gradstudies/irb>) and link to the IRB 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 consist of essay items 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, must be 20 pages of text (not including Title page, Abstract, References, or appendices). It will include analysis of a fabricated data set (only for educational purposes) and a scientific presentation of research created in APA style.

*Summary* (2 submissions). Early in the semester, students will submit their first attempt at a 250 word summary outlining a research idea. The summary will be written in APA format. The first summary should be supported by a minimum of 5 scholarly sources narrowly focused to indicate a need for the study; the second summary should provide more than two times the source material as the first (10 or more sources) and much greater specificity and depth. In the second summary the variables for the design of the study and the procedures for conducting the experiment should emerge. Identification of variables and a design should begin to lead to a procedure for studying them. The second summary will be submitted approximately 2/3 of the way through the semester. Each summary is worth a total of 5 points: 5=exceeds expectations; 4=meets expectations; 3=somewhat meets expectations; 0=does not meet expectations.

*Final manuscript.* Students will identify a research idea to answer, for example, a relationships or differences question and through the research process lead to a publication style manuscript formatted according to APA, 6<sup>th</sup> edition. A fabricated data set will be designed that parallels real world variables and real world expectations for scores. The research design will include at least one independent and one dependent variable;

additional variables relevant to the question under examination may be identified. Data representing a minimum of 20 participants must be presented. Please increase participant sample size where possible and appropriate. Your analyses should include at least (a) descriptive information on all variables, (b) an analysis to statistically address your null hypothesis, and (c) an inferential statistical analysis to address related questions. Note that the data for this assignment are fabricated only for the purposes of an educational experience. Ethical practice deems the data illegitimate.

#### 4. Article Critiques and Participation (Engagement)

Students should attend class regularly and ready to discuss a range of short research samples (snippets) to be discussed and critiqued in class. The due dates for critiques are listed on the course calendar. The short critique snippets will be available on Canvas for students to observe and critique. Participation in discussion threads on Canvas and activities in class are required.

#### 5. Presentation

On the last night of class students will participate in a group activity to present their research and to engage in critical analysis of research ideas.

#### Course Activities and Evaluation

Student Activity	Points for Assignment	Points Earned
Institutional Review Board certificate tutorial; complete, save certificate and drop into assignments on Canvas	Criterion referenced	
Midterm exam	15	
Final exam	25	
Class Project – Final Paper Component=Summary (5 points * 2 submissions=10 points) Component=Manuscript (35 points) Component=Presentation (5 points)	50	
Article Critiques and Class Engagement	10	
<b>Total Points</b>	<b>100</b>	

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.

Grade Calculator	
Points Earned	Grade Assigned
99-100	A+
93-98.99	A
90-92.99	A-
88-89.99	B+
83-87.99	B
80-82.99	B-
78-79.99	C+
73-77.99	C
70-72.99	C-
68-69.99	D+
65-67.99	D
63-64.99	D-
↓ 62.99	F

## **Library Liaison (Optional)**

Emily Chan is our library liaison. She can be reached at: [Emily.Chan@sjsu.edu](mailto:Emily.Chan@sjsu.edu) or by phone (408) 808-2044.

Note that “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.” See [University Policy F13-1](http://www.sjsu.edu/senate/docs/F13-1.pdf) at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

## **Classroom Protocol**

Students are expected to be courteous during class. Any student engaging in disruptive behavior will be asked to leave. This includes arriving more than 10 minutes late to lecture and lab class. Please turn all cell phones, pagers, PDA's or other electronic devices to vibrate. Be sure that the vibration during class is not disruptive. If you are caught using a phone (even silently, e.g., texting), you will be asked to leave the classroom.

## **University Policies**

### **General Expectations, Rights and Responsibilities of the Student**

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU's policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. See [University Policy S90-5](http://www.sjsu.edu/senate/docs/S90-5.pdf) at <http://www.sjsu.edu/senate/docs/S90-5.pdf>. More detailed information on a variety of related topics is available in the [SJSU catalog](http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12234.12506.html), at <http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12234.12506.html>. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not serve to address the issue, it is recommended that the student contact the Department Chair as a next step.

### **Dropping and Adding**

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester's [Catalog Policies](http://info.sjsu.edu/static/catalog/policies.html) section at <http://info.sjsu.edu/static/catalog/policies.html>. Add/drop deadlines can be found on the current academic year calendars document on the [Academic Calendars webpage](http://www.sjsu.edu/provost/services/academic_calendars/) at [http://www.sjsu.edu/provost/services/academic\\_calendars/](http://www.sjsu.edu/provost/services/academic_calendars/). The [Late Drop Policy](http://www.sjsu.edu/aars/policies/latedrops/policy/) is available at <http://www.sjsu.edu/aars/policies/latedrops/policy/>. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the [Advising Hub](http://www.sjsu.edu/advising/) at <http://www.sjsu.edu/advising/>.

### **Consent for Recording of Class and Public Sharing of Instructor Material**

[University Policy S12-7](http://www.sjsu.edu/senate/docs/S12-7.pdf), <http://www.sjsu.edu/senate/docs/S12-7.pdf>, requires students to obtain instructor's permission to record the course and the following items to be included in the syllabus:

- “Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor's permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.”
  - It is suggested that the greensheet include the instructor's process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis.
  - In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.

- “Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

### **Academic integrity**

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) at <http://www.sjsu.edu/senate/docs/S07-2.pdf> requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at <http://www.sjsu.edu/studentconduct/>.

### **Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. [Presidential Directive 97-03](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) at [http://www.sjsu.edu/president/docs/directives/PD\\_1997-03.pdf](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) requires that students with disabilities requesting accommodations must register with the [Accessible Education Center](http://www.sjsu.edu/aec) (AEC) at <http://www.sjsu.edu/aec> to establish a record of their disability.

### **Accommodation to Students' Religious Holidays**

San José State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed. See [University Policy S14-7](http://www.sjsu.edu/senate/docs/S14-7.pdf) at <http://www.sjsu.edu/senate/docs/S14-7.pdf>.

### **Student Technology Resources**

Computer labs for student use are available in the [Academic Success Center](http://www.sjsu.edu/at/asc/) at <http://www.sjsu.edu/at/asc/> located on the 1st floor of Clark Hall and in the Associated Students Lab on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.

### **SJSU Peer Connections**

Peer Connections, a campus-wide resource for mentoring and tutoring, strives to inspire students to develop their potential as independent learners while they learn to successfully navigate through their university experience. You are encouraged to take advantage of their services which include course-content based tutoring, enhanced study and time management skills, more effective critical thinking strategies, decision making and problem-solving abilities, and campus resource referrals.

In addition to offering small group, individual, and drop-in tutoring for a number of undergraduate courses, consultation with mentors is available on a drop-in or by appointment basis. Workshops are offered on a wide variety of topics including preparing for the Writing Skills Test (WST), improving your learning and memory,

alleviating procrastination, surviving your first semester at SJSU, and other related topics. A computer lab and study space are also available for student use in Room 600 of Student Services Center (SSC).

Peer Connections is located in three locations: SSC, Room 600 (10th Street Garage on the corner of 10<sup>th</sup> and San Fernando Street), at the 1st floor entrance of Clark Hall, and in the Living Learning Center (LLC) in Campus Village Housing Building B. Visit [Peer Connections website](http://peerconnections.sjsu.edu) at <http://peerconnections.sjsu.edu> for more information.

### **SJSU Writing Center**

The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the [Writing Center website](http://www.sjsu.edu/writingcenter) at <http://www.sjsu.edu/writingcenter>. For additional resources and updated information, follow the Writing Center on Twitter and become a fan of the SJSU Writing Center on Facebook. (Note: You need to have a QR Reader to



scan this code.)

### **SJSU Counseling Services**

The SJSU Counseling Services is located on the corner of 7<sup>th</sup> Street and San Fernando Street, in Room 201, Administration Building. Professional psychologists, social workers, and counselors are available to provide consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit [Counseling Services website](http://www.sjsu.edu/counseling) at <http://www.sjsu.edu/counseling>.

# Kin 250, Quantitative Research Methods in Kinesiology, Kin 250

## Fall 2015 Course Schedule

Date	Topics	Assignments
Part 1: Quantitative Research Designs		
August 24	Introduction to the course; overview of research in kinesiology	Ch. 1
August 31	Nature and purpose of research; understanding research and developing a research plan; systematic approaches to kinesiology research; research ethics; discussion of first submission of summary	Ch. 1, 2
September 7	No class – Labor Day	
September 15	On-line class – no in class lecture, Rosh Hashanah For instructions see Canvas on September 15 Searching the literature; reading and evaluating, developing and writing research; using the <i>APA Manual</i> ; meta-analysis designs	Ch. 3, 4, 11, 12
September 21	Descriptive research designs; sampling procedures; survey research; psychometric procedures in quantitative research <b>DUE:</b> First submission of 250 word summary of topic including 5 sources in APA format; summary should be submitted to Canvas by submitting to the appropriate link on the Assignment page by midnight on September 21	Ch. 5, 7, 9
September 28	How to conduct research A-Z: writing proposals, theses, and manuscripts for publication; bring <i>APA Manual</i> to class <b>DUE:</b> IRB certificates submitted to Canvas link on the Assignment page by midnight	Ch. 15
October 5	Measurement issues in research <b>DUE:</b> Critique 1 and 2 on descriptive research	Ch. 16, 17 APA Manual
October 12	Experimental research designs; understanding probabilities; writing hypotheses; discussion of second submission of summary	Ch. 8
October 19	Midterm Exam	
Part 2: Quantitative Research Statistics		
October 26	Using Microsoft Excel and SPSS statistics; categorizing information; descriptive data analyses; chi square analysis <b>DUE:</b> Second submission of 250 word summary of topic including more than 10 source materials should be submitted to Canvas by clicking on the appropriate link on the Assignment page by midnight on October 26	Ch. 13
November 2	Inferential data analysis <b>DUE:</b> Critiques 3 and 4 on chi square analysis	Ch. 14
November 9	Inferential data analysis; nonparametric equivalents to parametric data analyses <b>DUE:</b> Critiques 5 and 6 for correlation and t-tests	
November 16	Inferential data analysis application for manuscripts	
November 23	Applications for manuscripts	
November 30	Applications for manuscripts	
December 7	Presentation and critique of class projects – group activity <b>DUE:</b> Publication style manuscript due electronically by clicking on the appropriate link on the Assignments page on Canvas by midnight, Wednesday, December 10	
December 14 beginning at 5:15pm	Final Exam is scheduled by the University Academic Calendar	