

**San José State University**  
**College of Applied Sciences and Arts**  
**Department of Kinesiology**  
**Fall 2013**

**Quantitative Research Methods in Kinesiology**  
Kin 250  
Tuesdays from 7:00 pm-9: 45 pm  
SPX 077

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**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 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 as indicated by your instructors).

**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.

**Required Materials and 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, DC: Author.

**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 as the final manuscript assignment that must conform to APA format; a portion of the manuscript grade is related to 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 items

### **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 SPX 082 (The Motor Behavior Lab), the CASA Computer Labs, on library laptops, and in the open use area of the Academic Success Center on the ground floor of Clark Hall.
- Engagement in group activity is expected, including: individual and group interaction, e-mail communication, and various classroom activities.
- Papers should be original compositions written specifically for this course.

## Library Liaison

Silke Higgins is our library liaison. She can be reached at: [silke.higgins@sjsu.edu](mailto:silke.higgins@sjsu.edu) or by phone [408 808 2020](tel:4088082020).

## 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 off all cell phones, pagers, PDA's or other electronic device. The use of anything that beeps or vibrates during class is disruptive and will not be tolerated. If you are caught using a phone (even silently, e.g., texting), you will be asked to leave the classroom.

## Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, and others. Refer to the current semester's [Catalog Policies](#) 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](#) at [http://www.sjsu.edu/provost/services/academic\\_calendars/](http://www.sjsu.edu/provost/services/academic_calendars/). The [Late Drop 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](#) 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.

- “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.”

## **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 in the appropriate assignment dropbox 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, Canvas, and textbook readings.

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

The research project/final manuscript for the course will be developed across the semester by continuously advancing ideas through summaries of relevant scholarship and formation of ideas. As well, the final manuscript will include a fabricated data set (used only for educational purposes) and should be created for publication 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 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 or 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 that will 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 variables and real 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 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	
Paper Project 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

## University Policies and Resources

### 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/>.

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU's Academic Integrity Policy S07-2 requires approval of instructors.

#### **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 [Disability Resource Center](http://www.drc.sjsu.edu/) (DRC) at <http://www.drc.sjsu.edu/> to establish a record of their disability.

#### **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. Computer lab and study spaces 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>.



## Quantitative Research Methods in Kinesiology Calendar, Fall 2013

*Tuesday, 7:00 pm-9: 45 pm*

### Course Calendar

Assignments and readings are due on the day assigned according to this calendar. Any changes will be reflected on updated versions of the calendar and will be made available through Canvas. Changes will be determined through class discussion.

Date	Topics	Assignments
Part 1: Quantitative Research Methods Designs		
August 27	Introduction to the course; overview of research in kinesiology	Ch. 1
September 3	Nature and purpose of research; understanding research and developing a research plan; systematic approaches to kinesiology research; research ethics	Ch. 1, 2
September 10	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 17	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 in appropriate dropbox on the Assignment page by midnight on September 17	Ch. 5, 7, 9
September 24	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 by midnight to Canvas on Assignments page	Ch 15
October 1	Measurement issues in research <b>DUE:</b> Critique 1 and 2 on Descriptive Research	Ch. 16, 17 APA Manual
October 8	Experimental research designs; understanding probabilities	Ch. 8
October 15	Experimental research designs; writing hypotheses	
October 22	Midterm Exam	
Part II: Statistical Applications for Quantitative Research Methods		
October 29	Using Microsoft Excel and SPSS statistics; categorizing information	
November 5	Using Microsoft Excel and SPSS statistics; categorizing information; descriptive data analyses; chi square analysis <b>DUE:</b> Summary 2	Ch. 13
November 12	Inferential data analysis <b>DUE:</b> Critiques 3 and 4 on chi square analysis	Ch. 14
November 19	Inferential data analysis; nonparametric equivalents to parametric data analyses <b>DUE:</b> Critiques 5 and 6 for correlation and t-tests	
November 26	Inferential data analysis application for manuscripts	
December 3	Presentation and critique of class projects – group activity <b>DUE:</b> Publication style manuscript	
December 16	Final Exam is scheduled by the <a href="http://artic.sjsu.edu/web-dbgen/narr/catalog/rec-1190.html">University Schedule of Classes</a> that can be found at <a href="http://artic.sjsu.edu/web-dbgen/narr/catalog/rec-1190.html">http://artic.sjsu.edu/web-dbgen/narr/catalog/rec-1190.html</a>	