

## Measurement and Evaluation – Fall 2009

Dr. Bethany Shifflett; Department of Kinesiology

Office: SPX 83; phone: 924-3016; Email: [bethany@bshifflett.com](mailto:bethany@bshifflett.com)

Web: <http://bshifflett.com/kin175/>;

Office hours: T, 1:30-2:30; Wed, 1:30-3:00, Fri 1:30-2:30; & by appointment

Course description: Designed to develop an understanding of measurement and evaluation concepts and applications relevant to research and assessment in the psychomotor, cognitive and affective domains. Activities include collection and computer analysis of data.

Texts: Course Supplement at Maple Press - *Required*. How to Use SPSS by Cronk – *Optional*. Measurement for Evaluation in Physical Education and Exercise Science by Baumgartner, Jackson, Mahar, Rowe; 8th edition.– *Optional*.

Software: SPSS (Student Version) - *Optional*. If your time on campus is limited you should strongly consider purchasing the software. Various purchase options available [online](#). Recommend purchase from SJSU Help Desk (\$15) on ground floor of Clark Hall.

Prerequisites: GE math and KIN 70. By the 2nd class meeting you must bring a transcript or grade report in to demonstrate you have met these prerequisites. If you want to add into the class, you must show completion (or co-enrollment) of prerequisites before you can add.

Course Objectives: Following lectures, assigned readings, and practice, students will be able to demonstrate through exams, labs, and a project

- ▶ knowledge of measurement and statistical concepts and their application.
- ▶ the ability to explain the research process, read and evaluate research/reports, and select appropriate analytical processes for specific research questions.
- ▶ the ability to 1) construct, evaluate, and administer cognitive and skills tests, 2) carry out, interpret, and report statistical analysis of data for both formative and summative evaluation, 3) select appropriate techniques for assessment of performance in various situations, 4) assess objectivity, reliability and validity of classifications and data, 5) use software (SPSS) to analyze data, and 6) make criterion referenced (CR) and norm referenced (NR) interpretations of data.
- ▶ knowledge of techniques and issues (test construction, administration, evaluation; objectivity) surrounding assessment in psychomotor, cognitive and affective domains.
- ▶ the ability to discern when and how to take into consideration group characteristics (eg age gender, culture) when analyzing group data.

### *Grading Plan*

### *Grading Scale*

Exam 1	20%	90 - 100%	A- A+
Exam 2 (SPSS)	20%	80 - 89%	B- B+
Exam 3 (comprehensive)	30%	70 - 79%	C- C+
Labs	10%	60 - 69%	D- D+
Project	15%	below 60%	F

Notes:

- ▶ From the course [web site](#) complete the general information survey. Make sure to provide your preferred email address.
- ▶ Set aside time each week (6hr) for this class. You should not take this course in a semester when you do not have plenty of time to invest in this class.
- ▶ It is important that you take notes in class even though general information is available on web site. Bring/save work to a memory stick each class.
- ▶ Labs, mastery tests, and practice items are on the web site. Complete all as they are excellent preparation for exams. Note: In groups, students will be responsible for implementation of labs.
- ▶ Labs need to be complete at the start of class. Bring your work on a memory stick or bring a hard copy.
- ▶ SPSS is available in SPX 82, the CASA computer lab (MH 332), on the library's laptops, and in the open use area of the student success center in Clark Hall (ground floor).
- ▶ Take advantage of my office hours (by [appointment](#) or drop in).
- ▶ Bring a scan form (T&E 0200) to the 1<sup>st</sup> and 3<sup>rd</sup> exam.
- ▶ Course grades are not 'posted'. Request grade via e-mail if you would like to know your grade prior to the time the university posts grades.
- ▶ Extra credit work will not be given. Projects may not be turned in late. Exams may not be re-scheduled (extraordinary circumstances considered). Please do not tape lectures.
- ▶ Academic Integrity at SJSU: Your own commitment to learning, as evidenced by your enrollment at San José State University, and the University's Academic Integrity [Policy](#) 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.
- ▶ Campus Policy Related to ADA: Presidential Directive [97-03](#) requires that students with disabilities register with DRC to establish a record of their disability. If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment to see me as soon as possible.

Course Content and Reading in Measurement Text:

Topic	Chapter
Introduction	1
Reliability & Validity (Scores)	3, 4,
Statistics: Scales, FDT, CT, Variability, Percentiles, Standard Scores, Normal Curve, Correlation, Prediction/Regression	2
Profiling; Fitness, Psychomotor, Affective & Cognitive Assessment	5, 10, 11, 12, 13, 16, 17
Mastery Testing (Validity, Reliability - Classifications)	3, 4,
Grading	16
Institutional & program assessment	

## Research Project - Individual or group of 2-3

Conduct an analysis of data (at least 25 cases per group member) that will answer a relationships or differences question. Data can be obtained via observation. You may not interact with the individuals you are collecting data on. The data set must contain five variables:

- Two that will be used to answer a relationship/difference question
- 3 additional variables that are relevant to the main question under examination

Following collection of data you must (using SPSS) conduct appropriate analyses to summarize statistically all the information. The analysis must include (a) error checking and descriptive statistics on all variables, (b) an analysis to address with descriptive statistics your main question, and c) analyses showing the effect of the other 3 variables on the dependent variable.

When complete, turn in:

1. A brief research paper in word format (introduction - include data source; methods; results; conclusions). Submit through turnitin.com – use last name(s) as filename. Note: in the results section, please identify, with headings, each section of the SPSS output: error checking; descriptive statistics; main question; effect of related variables. Next to **every analysis/table/graph** explain what the results tell you (DO NOT simply repeat in words what's in the table/graph).
2. The SPSS data file – submit by email. Use your last name(s) as the filename.

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## Determining your final course grade

Components:	Grades:	Weight
Exam 1	D	25%
Exam 2	C-	25%
Exam 3	C+	25%
Labs	B-	10%
Project	B+	15%

To figure out this person's course grade you:

1. Transform each letter grade to a grade point equivalent score using the scale below

A+	= 12	B+	= 9	C+	= 6	D+	= 3
A	= 11	B	= 8	C	= 5	D	= 2
A-	= 10	B-	= 7	C-	= 4	D-	= 1
						F	= 0

2. Multiply the weight an item receives by the grade point equivalent for the grade earned. Then sum these values.

$$.25(2) + .25(4) + .25(6) + .10(7) + .15(9) = 5.05$$

3. Take the result and put it back on the grade point equivalent scale to determine the letter grade. Course grade = C

KIN 175 – Fall 2009

8/26 Introduction Web info; collect data incubator classroom Definitions, error checking, scales	8/28 Reliability (Scores)	9/2 Lab 1 (Reliability; Objectivity)	9/4 Correlation Validity (Scores)  <b>Note: CFD</b>
9/9 Lab 2 (Correlation, Validity)	9/11 SPSS - FDT, Crosstabs, Connect Scales-analyses, Recode, CT, Variability	9/16 Lab 3 (fdt, ct, var, crosstabs)	9/18 Normal Curve Percentiles Z Scores <b>Note: CFD</b>
9/23 Lab 4 (P, Z, profiling)	9/25 Fitness Assessment, Profiling	9/30 Lab 5 (Fit. Assessment, profiling)	10/2 Cognitive Assessment Item Analysis – Scores <b>Note: CFD</b>
10/7 Lab 6 (testing)	10/9 <b>NO CLASS: DFD</b>	10/14 Exam (conceptual)	10/16 Mastery Testing, Validity & Reliability (classifications)
10/21 Lab 7 (Mastery Testing, V, R)	10/23 Psychomotor & Sport Skill Assessment, rating scales, Affective assessment, Objectivity, survey design	10/28 Lab 8 (psychm. asmnt, affect. asmnt, spt skill assmnt, objectivity)	10/30 Review/Practice
11/4 Exam (SPSS)	11/6 Institution & Program Assessment	11/11 Lab 9 (Institutional & program assessment)	11/13 <b>NO CLASS: DFD</b>
11/18 Grading	11/20 Jeopardy Preparation	11/25 Lab 10 (grading)  Projects Due	11/27 Thanksgiving Break
12/2 Lab 11 (Jeopardy)	12/4 Review/practice		

NOTES: Final Exam (comprehensive) Tuesday 12/15, 9:45-Noon  
DFD: Designated Furlough Day; CFD: Campus Furlough Day