Syllabus

EDD 606 – Quantitative Research Methods
Fall 2017

DOCTORAL PROGRAM IN EDUCATION LEADERSHIP
CALIFORNIA STATE UNIVERSITY, SACRAMENTO

Dr. Lisa Romero
Lisa.Romero@csus.edu
Cell Phone:

Class Meets: 11/17, 11/18, 12/1,12/2, 12/15, 12/16
Fridays 5:30 to 9:30 pm, Saturdays 8:00am to 5:30 pm

Office Hours:
Wednesdays 3:00-4:30 pm
Or by appointment
Office Location: Eureka 220. The best way to reach me is by email.

Course goals:
This course will introduce educational leaders to concepts in quantitative research in preparation for conducting independent research. This course will enable students to critically understand, critique, and develop quantitative research methodology and apply it appropriately to various educational issues.

Learning Objectives:
At the end of EDD 606, a student who successfully completes the course will be able to:

- Demonstrate their understanding of major research methods and their ability to use, and interpret the results of, quantitative research techniques.
- Identify and conduct the appropriate techniques for different kinds of research questions using SPSS (Statistical Package for the Social Sciences).
- Apply their understanding of quantitative research methods in relation to contemporary issues in education.
- Critically assess the utility and appropriateness of different quantitative methods and techniques for the study of relevant research issues in education.

Course requirements:
You each ***must complete all assigned reading before each class***. The following will be used to grade your performance in this class:

Assignments: 35% (Includes Completion of Pre and Post Class Online Survey of Statistics Attitude)
Labs: 40%
Final: 15%
Participation: 10%

Policies and Expectations:
- Course assignments will be completed both in and outside of class, and will require use SPSS.

- Students will be expected to read the assigned material, as specified on the course schedule, ***prior*** to each class session.
- This is not an online or virtual program and, as such, you are expected to be physically present for each class. Skype, FaceTime, Zoom or any other type of virtual or online attendance is not an acceptable alternative.
- Because we meet only a few times, *attendance is essential*. Attendance is graded on whether or not *you are in class and participate*. Each four-hour session missed will result in a whole grade reduction for this portion of your grade (e.g. from A to B).
- If you have a disability and require accommodations, please discuss this with me as soon as possible, after class or during my office hours. I am committed to facilitating student success and will make any appropriate accommodations. You will need to provide disability documentation to SSWD, Lassen Hall 1008, (916) 278-6955.
- No cell phones, texting, reading email, facebook, etc. in class.
- **Bring your laptop with SPSS installed to every class. You will need it to complete in-class labs and assignments.**

Getting help:

If there are concepts or ideas covered in a class session that you do not understand, it is important to your overall success in the course that you get these misunderstandings resolved *before the next time we meet*. You can do this by talking to your fellow classmates (I encourage you to form study groups or electronic study networks), visiting me in office hours, sending an e-mail question to address listed above (please do not send through SacCT because I check that less often), or phoning me at the number listed above. I am generally able to respond to your Monday through Thursday e-mails or calls within 24 hours. Questions, comments, and discussion about material assigned for a class are always encouraged during that class. Office hours are also open for questions or discussion of course content, research ideas, general discussions of the Doctorate in Educational Leadership Program at Sacramento State, or your career plans.

Academic Honesty

We take plagiarism and other acts of academic dishonesty very seriously. We reserve the right to fail students that are academically dishonest and escalate the case to the University. Note that academic dishonesty can be grounds for dismissal from the university. Details are available at the University Policy Manual found at http://www.csus.edu/umanual/student/UMA00150.htm . Plagiarism is one case of academic dishonesty, and here is an excerpt from the manual on plagiarism:

Plagiarism: Plagiarism is a form of cheating. At CSUS plagiarism is the use of distinctive ideas or works belonging to another person without providing adequate acknowledgement of that person's contribution. Regardless of the means of appropriation, incorporation of another's work into one's own requires adequate identification and acknowledgement. Plagiarism is doubly unethical because it deprives the author of rightful credit and gives credit to someone who has not earned it. Acknowledgement is not necessary when the material used is common knowledge. Plagiarism at CSUS includes but is not limited to:

1. The act of incorporating into one's own work the ideas, words, sentences, paragraphs, or parts thereof, or the specific substance of another's work without giving appropriate credit thereby representing the product as entirely one's own. Examples include not only word-for-word copying, **but also the "mosaic" (i.e., interspersing a few of one's own words while, in essence, copying another's work), the paraphrase (i.e., rewriting another's work while still using the other's fundamental idea or theory);** fabrication (i.e.,

inventing or counterfeiting sources), ghost-writing (i.e., submitting another's work as one's own) and failure to include quotation marks on material that is otherwise acknowledged; and

2. Representing as one's own another's artistic or scholarly works such as musical compositions, computer programs, photographs, paintings, drawing, sculptures, or similar works.

Required Materials:

Materials required for this class include *three (3) books and one (1) software package*, listed below.

Urban, T.C. (2016). *Statistics in plain English*, 4rd Edition. New York: Routledge. ISBN: 978-1138838345

Tanner, D. (2012). *Using Statistics to make educational decisions*. Thousand Oaks, CA: Sage. ISBN: 978-1-4129-6977-2

Green, S.B. and Salkind, N.J. (2013) *Using SPSS for Windows and Macintosh*, 7th Edition.

IBM SPSS Statistics SPSS is the statistical analysis software program that we will be using extensively for this course. It is available for free through Information Services and Technology (IRT). Download at: http://www.csus.edu/irt/Software/Personallyowned.html

You need to have SPSS installed and running on your computer on the first day of class. Sometimes it is tricky to get installed. If you have problems downloading or installing, seek help from the IRT Help Desk http://www.csus.edu/irt/index.html (916) 278-7337

Note: Additional supplementary reading may be assigned during the semester.

Recommended:

AERA (2006) Standards for Reporting on Empirical Social Science Research in AERA Publications. *Educational Researcher 35(33.)* *http://www.sagepub.com/upm-data/13127_Standards_from_AERA.pdf*

Tufte, E. (1974). Data analysis for politics and policy. Prentice Hall. Available for download on Tufte's website for $2.

Showmaker, P.J., Tankard, J., & Lasora, D.L. (2004). *How to build social science theories.* Sage Publications

Other Resources:

UCLA Institute for Digital Research and Education (idre) is an excellent resource for SPSS and statistics help. They have annotated examples and videos on a variety of topics, available at no charge. http://www.ats.ucla.edu/STAT/spss/

The Purdue Online Writing Lab (OWL) is a great resource for APA style; see *http://owl.english.purdue.edu/owl/section/2/10/*.

It is important you get that the books and supplemental readings ahead of time and begin reading. Remember, readings and assignments for each Friday/Saturday session are 3 weeks of materials. It will not be possible to thoroughly and thoughtfully read, react to (and retain) this volume of material by cramming shortly before class.

Course Schedule*

*This schedule is subject to modification, depending on the amount of material we are able to cover each week.

Class 1: Friday, November 17th-

Objectives:

Overview of Statistical Methods
Descriptive vs Inferential Statistics
Normal Distribution - Central Tendency, Dispersion, Skewness, Kurtosis
Introduction to SPSS

Required Reading/Assignments (Must be completed before class)	**Homework**
The Myth of 'I'm Bad at Math' Tanner Chapters 1-3 and/or Urdan Chapters 1-5 **Assignments due Friday November 17th:** 1) Download and install SPSS on your computer. Make sure it is working before you come to class. Bring your laptop with SPSS installed to class. 2) A survey will be sent to you via email. Complete and return prior to the first class.	**Recommended for Beginners New to SPSS (or other data analysis software)** Green and Salkind 7th Edition: Lessons 4 – 7, 13 • Lesson 4 - A Brief SPSS Tour • Lesson 5 - Defining Variables Lesson 6 Inserting and Deleting Cases and Variable • Lesson 13 Recording Data and Computing Variables For independent practice only, will not be collected or graded. (But, after you've worked on these assignments, if you need help, let me know and we will schedule a time.)

Class 2: Saturday November 18th

Objectives:

z Distribution and z- Scores
Variables and Measurement
SPSS –Descriptive Statistics, Frequencies, Crosstabs
Introduction to Inferential Statistics, Important Assumptions about Data, P-Values and Error

Required Reading/Assignments (Must be completed before class)	**Homework**
Tanner Chapters 4, 5 and/or Urdan Chapters 6	Assignment: Descriptive Statistics **Due: Sunday November 26th by email** Reading for classes 3 & 4.

Class 3: Friday, December 1st-

Objectives:

Comparing Groups:
T-Test

- One-Sample *t*-test
- Independent *t*-test
- Dependent *t*-test

Required Reading/Assignments (Must be completed <u>before</u> class)	**Homework**
Tanner Chapters 6, 9 p. 221-234 and/or Urdan Chapters 7,8	

Class 4: Saturday, December 2

Objectives:
Comparing Groups: Analysis of Variance (ANOVA)

- One Way ANOVA
- Two Way ANOVA
- Factorial ANOVA

Lab: Green & Salkind, Unit 7 Lessons 25, 26 **(**Hand in before you leave)

Required Reading/Assignments (Must be completed <u>before</u> class)	**Homework**
Tanner Chapters 7, and/or Urban Chapters 9 Recommended: Tanner Chapters 8, 9 Urdan Chapter 10, 11	Assignment: Comparing Means of Two Groups **Due: Sunday December 10th by email** Reading for classes 5 & 6

Class 5: Friday, December 15

Objectives:

Associational Designs: Correlation and Regression
Reliability and Validity

Lab: Green & Salkind Lessons 31, 32 **(**Hand in before you leave)

Required Reading/Assignments (Must be completed before class)	**Homework**
Tanner Chapter 10 and/or Urdan Chapter 12	Review notes on correlation before class tomorrow. Complete reading for tomorrow.

Class 6: Saturday, December 16

Objectives:

AM:

Regression
Brief Review of Methods Learned/Knowing When to Use Them
Overview of Advanced Statistics

PM: Assessment - Final Exam

Lab: Green & Salkind, Lessons 33, 34 **(**Hand in before you leave)

Required Reading/Assignments (Must be completed before class)	**Homework**
Tanner Chapters 11, 12 and/or Urdan Chapter 13 Assignment: Final Exam - In class	