Psychology 610: Quantitative Research Design and Analysis  
Fall, 2010

Instructor:

Mark Stasson, Ph.D.  
Metropolitan State University - Midway campus  
Suite 101  
1450 Energy Park Drive  
St. Paul, MN 55108-5218

Phone/VM: (651) 999-5830  
FAX: (651) 999-5822  
E-mail: mark.stasson@metrostate.edu  
Course Web Site: http://psyc610.stasson.org

Competence Statement:  
The student will understand the concepts, theories and practices associated with the  
design and analysis of quantitative applied psychological research well enough to apply  
this knowledge at an intermediate to advanced level.

Course Objectives:  
1) Understand the role of quantitative research methodologies in applied psychology.  
2) Know the roles of sampling, measurement, reliability, and validity in research design  
and evaluation of research.  
3) Increase understanding of statistics and their utility in applied/basic research, program  
evaluation and community based research.  
4) Be able to develop a plan for applied research involving quantitative measures and  
know the steps necessary for appropriate analysis and interpretation of results.

Required Texts/Resources:  

Additional Readings will be Assigned on a weekly basis

We will use the Software Program SPSS, available in University Computer Labs (you  
may also get a “student version” for use at home)

Students must have and use a “Net Direct” computer account (and University e-mail).

Assignments:  
1) Two Exams (each worth 100 points)  
2) Group and Individual Research Projects/Proposal (worth a total of 150 points)  
3) Regular Homework assignments (worth a total of 100 points)  
4) In class participation and assignments (worth a total of 50 points)

Evaluation/Grades: 500 total points – at least 90% overall expected for a grade of “A”; at  
least 80% for “B”
Tentative Course Schedule

Topics will vary slightly depending on class members’ interests and experiences. The first several meetings are “set” and subsequent sessions will be mapped out or modified as the course projects are selected. Exam dates: October 5 and November 30.

Tuesday, August 24

Topics: Introductions, orientation to the course, overview of quantitative research and evaluation; what are research and evaluation, and why do we do them? Terminology, history, measurement, and overview. Exploration of research topics. What is SPSS?

Reading Due in advance: None (the only time this happens)

Assignment Due Today: None (another rarity)

Tuesday, August 31

Topics: Overview of project design using quantitative measures. Library research and resources. “Traditional” research design

Readings due in advance:

Units 1-2 in Green and Salkind (SPSS) book. (Install SPSS, if applicable)

Chapter 1 from Shadish, Cook, & Campbell (2002 -- copy provided in class).

Zechmeister, E. B., & Shaughnessy, J. J. (1992). Practical Introduction to Research Methods in Psychology (Unit 1, pp. 1-11). This is a very, very basic review of concepts you should have covered in a previous methods course (Provided in class).


Assignment due at start of class: Written idea regarding one possible project and answers to questions, and more – see weekly assignment sheet

Tuesday, September 7

Topics: Validity in Research Design; instrument selection/development; descriptive data analysis

Readings due in advance:

Chapters 2 and 3 in the Shadish, Cook, & Campbell (2002 – copy provided).

Units 3-5 in Green and Salkind (SPSS) book.

Human Subject Protection information – available online, see weekly assignment sheet for details

Assignment due at start of class: (See weekly assignment sheet)
Tuesday, September 14

Topics: Reliability, and Measurement in Quantitative Design; instrument selection/development; descriptive data analysis

Readings due in advance:

Lessons 31 and 37 in Green and Salkind (SPSS) book.


One or two research articles from the literature (see weekly assignment sheet)

Assignment due at start of class: (See weekly assignment sheet)

Tuesday, September 21

Topics: Assessing Validity and Reliability. Inferential statistics and data analysis

Tuesday, September 28

Topics: Two-Group Design and Analysis

Tuesday, October 5

First Exam or Topics: Three-Group Design and Analysis

Tuesday, October 12

First Exam or Topics: Three-Group Design and Analysis

Tuesday, October 19

Topics: Survey Construction and Analysis

Tuesday, October 26

Topics: “Two-Way” Research Designs and Analysis

Tuesday, November 2

Topics: Multivariate Designs I

Tuesday, November 9

Topics: Multivariate Designs II

Tuesday, November 16

Topics: Disseminating Research Results

Tuesday, November 23

Topics: Review and Catch-up

Tuesday, November 30

Second Exam