Advanced Topics in Communication Research Methods: Multivariate Analysis
Fall 2012
3:30 – 6:00 P.M., Monday (3 Credit Hours)
Room 145 – Patterson Office Tower

INSTRUCTOR INFORMATION

Instructor: Anthony M. Limperos, Ph.D.
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Email: anthony.limperos@uky.edu
Office Hours: Tuesday, 12:30PM – 2:00PM; Thursday, 10:00AM – 12:00PM; and by appointment

REQUIRED TEXTBOOKS & OTHER READINGS

There are two required textbooks for class and weekly journal articles/handouts (TBA):

Green, S. B., & Salkind, N. J. (2008). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (5th ed.). Upper Saddle River, NJ: Pearson.

Kline, R B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York, NY: Guilford.

******Please note:*** There are newer versions of both of these textbooks on Amazon.com and other bookseller websites. YOU DO NOT NEED the most current edition of either text. The 5th edition SPSS book and 2nd edition structural equation modeling book are sufficient for the class. Also, both are relatively inexpensive to purchase USED from Amazon.

COURSE DESCRIPTION AND LEARNING OBJECTIVES

To be an effective and well-rounded quantitative researcher, one must be familiar with proper approaches to study methodology and data analysis procedures. Data analysis involves strategy, reflection, and interpretation. There are many steps involved with the process of analyzing data. Topics may include setting up a data file, deciding an appropriate analysis strategy, interpreting results, and effectively presenting them in a paper/during a conference presentation. This course is designed to give you a broad examination of multivariate techniques in data analysis with specific attention being spent on all aspects of handling and reporting data.

Because this course is an "advanced" seminar, my assumption is that you have at least one (or more) basic course in quantitative methods. Although I firmly believe that learning is a process that is mutually beneficial and at times involves going back and reviewing material that helps to aid in the understanding of current material, my assumption is that you have a basic knowledge of how quantitative methods work in communication research and a basic understanding of statistics. If you do not have these background credentials, I would encourage you to take a more introductory course first. This will be to your benefit. Even after you complete this course, I would advise you to continue to take more courses that explore some of the topics we have covered in greater depth. If you intend to use quantitative methods in your future career (academic or otherwise), it is a life long learning process.

We will cover a breadth of topics this semester. *By the end of the semester, you should be able to understand:*

- Best practices associated with multivariate data analysis techniques
- How to select appropriate multivariate statistical techniques which correspond with specific research situations (research questions; hypothesis testing)
- How to run and interpret SPSS (and AMOS) output for various multivariate techniques.
- How to be able to read journal articles and interpret information from those articles that utilize a variety of multivariate techniques.

COURSE MATERIALS, RESOURCES, and POLICIES

Blackboard

We will be using Blackboard in this course throughout the semester. All class notes, selected readings, exams, discussions, and course announcements will be posted in Blackboard. This course should show up in your "My Courses" listing on Blackboard. If you do not have a Blackboard account or are having problems accessing your account, please go to http://www.uky.edu/BlackBoard/ and click on the "Student Help and Resources" link. You must use Blackboard in this course – it is not optional.

Email

During the semester, I frequently send out email using the email tool built into Blackboard. This tool is maintained by the university and utilizes your UK email address. Therefore, you must regularly check this email. It is your responsibility to get your email forwarded to your UK account. Failure to check your university email might mean that you miss important class updates and information. You are responsible for information in these emails.

Reading, Lecture Notes, and Homework

Readings are to be completed before class. For example, if particular reading is supposed to take place on August 27th, then I expect you to have read it before coming to class that day. In addition, I will post PowerPoint slides that are used during class will be posted on Blackboard on a rolling basis throughout the semester.

Use of Computers; SPSS and AMOS

For homework assignments and exams, you will need access to SPSS (and possibly AMOS). There are numerous labs that have the software on campus and I believe you can also obtain a license for a relatively nominal fee from the technology people in the College of Communication and Information. Please bring your computer to class each week, as you will need it to work through various in-class problems.

DESCRIPTION OF ASSIGNMENTS AND COURSE GRADING

Homework

Becoming good at data analysis and quantitative methods and reasoning requires practice. Accordingly, every class will include "homework" exercises. The homework will be directly related to what we are leaning in class during a given week. Homework may require you to interpret results in journal articles, actually work through a data analysis problem, or test your ability to reason and illustrate your decision-making process.

Homework exercises will not be graded. However, I strongly recommend that you complete the homework as if you were receiving a grade on it. You should check your answers with classmates first and then with the answers that I provide. Whether or not you complete the homework is entirely up to you, but working through the problems will improve your understanding of data analysis itself and related topics and will help you to prepare for exams.

Exams
Two exams will be administered during the course of the semester. These exams will ask you to apply concepts you have learned in the course, to justify your decisions in analysis, to present data, or to interpret others' research.

Here is some other information about exams that is worth noting:

-Exams are open-book and open-note. Although this is the case, it is very important that you prepare for the exams by reviewing course exercises, homework assignments, and your texts. If you do not prepared, you run the very real risk of not having enough time to complete the exam in the allotted time.

-Exams are cumulative. That is, the 2nd exam and final project/paper will build on information covered earlier in the semester.

Final Exam/Paper
You will be given a measurement instrument, a data set, and a few questions (hypotheses and research questions). You will then have to determine the best way to answer those questions and write up a complete results/discussion section, much like you would for a thesis or manuscript. This will allow you to demonstrate the knowledge you have gained in this class throughout the year. There will likely be multiple ways that each of the questions can be answered.

COURSE GRADING
Your grade in this class is based on the 3 major assignments/exams in the course

Exam 1: 30% (300 points)
Exam 2: 30% (300 points)

Final Exam/Paper: 40% (400 points)

Grade	Point Range
A	895 - 1000
B	800 - 894
C	700 - 799
D	600 - 699
F	Below 600

**Please note: The final grade will be determined by the total number of points accumulated by the student which is comprised on the score on each assignment. The grade is not based on percentages. Final grades may be curved (to the benefit of the student) if deemed necessary.

COURSE POLICIES

- Attendance in *every class* is expected. This course will proceed at a fairy rapid pace. If you miss a lot of class, you miss a lot of information. Also, please be on time for class. Showing up late or leaving class early is sometimes as bad as missing class altogether. If you are chronically late or miss class, do not expect me to go over entire course lectures or accept late work.
- My expectation for each class is that you have read assigned material/completed all practice problems. Your understanding of methods will be greatly enhanced by completing all readings and work. In short, please come prepared for each class.
- As you will see, I encourage students to work together on homework and other class problems. Learning is always easier when you are proactive and work with others. However, all materials that are turned into me MUST BE YOUR OWN WORK. Collaboration on exams or other materials that are turned in for evaluation may result in a failing grade for the class (See information on Academic Dishonesty and Plagiarism).
- Students are strongly discouraged from requesting an "incomplete" in this course. Incompletes will be awarded only under extreme circumstances. At the time that an incomplete is granted, both you and I must come to an acceptable framework for the successful completion of course materials. Failure to adhere to the agreed upon incomplete time schedule will result in failing grade.
- I will try my best to include as many class examples as possible. Please make a habit of bringing your laptop and course texts to class so you can successfully participate in and complete examples.
- Please do not use your computers (various electronic devices) for personal fulfillment that is unrelated to class. When you are in class, I expect that you use all of your technology for classroom purposes.

UK POLICIES ON ACADEMIC DISHONESTY AND PLAGERISM

Part II of Student Rights and Responsibilities (6.3.1; online at http://www.uky.edu/StudentAffairs/Code/part2.html) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self–expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission. When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work, whether it be published article, chapter of a book, a paper from a friend or some file, or another source, including the Internet. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be. Plagiarism also includes using someone else's work during an oral presentation without properly citing that work in the form of an oral footnote.

Whenever you use outside sources or information, you must carefully acknowledge exactly what, where and how you have employed them. If the words of someone else are used, you must put quotation marks around the passage in question and add an appropriate indication of its origin. Plagiarism also includes making simple changes while leaving the organization, content and phraseology intact. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain.

You may discuss assignments among yourselves or with me or a tutor, but when the actual work is done, it must be done by you, and you alone unless the assignment has been designed to be conducted with a partner or small group of classmates. All work submitted must be new, original work; you may not submit work you have produced for another purpose or class.

STUDENTS WITH DISABILITIES

If you are registered with the Disability Resource Center and have special needs, I am happy to talk with you outside of class about making reasonable accommodations. Please make it a point to see me as soon as possible. In order to receive accommodations in this course, you must provide me with a ***Letter of Accommodation*** from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, jkarnes@uky.edu).

SUMMARY STATEMENT OF STUDENT RESPONSIBILITY

It is the responsibility of every student to know and follow all policies in this syllabus. Failure to know the rules of the class does not excuse any student from any requirements, assignments, or responsibilities. If you have any questions about assignments or policy, just ask and I will be happy to answer.

MY HOPES AND DREAMS FOR THIS CLASS

I am very excited to be teaching this course!!! It is very important to me that everyone in this class feels comfortable to ask questions and contribute to class discussions. I don't think there are any dumb questions, especially when it comes to data analysis and multivariate methods. I will do my best to answer all of your questions, and if I cannot do so during a class period, I would be happy to meet to talk or discuss your questions in my office. My door will always be open and I look forward to helping you realize your potential with regard to this course and beyond.

COURSE SCHEDULE

Note: This schedule is tentative. Some of the due dates and topics of discussion, as well as readings outlined here could change. If there are any changes, I will make sure that we all agree on those changes and that they don't create any undue burden for anyone.

Class	Topic	Readings/Materials Due
August 27th	Course Introduction SPSS overview; Managing Data; Review of Basic Concepts	Green: Lessons 1 - 4
September 3rd	NO CLASS	Complete the work for the September 10th class meeting
September 10th	Descriptive Statistics; Hypotheses Testing; Overview of Multivariate Tests/When to use certain tests	Green: Lessons 5 – 17 (skip lesson 12); 18 – 20; 36 – 37; Limperos et al., 2011
September 17th	One-way ANOVA; Factorial ANOVA	Green Lessons 24 -25; Levine Reading
September 24th	Repeated Measures ANOVA	Green Lessons 28 – 29;
October 1st	MANOVA; ANCOVA	Green Lessons 26 -27; Oliver, Hartmann, & Woolley, 2012
October 1st – 7th	EXAM # 1	**Take Exam # 1 on Bb**
October 8th	Correlation; Multiple Regression	Green Lessons 30 -32; Kline, Chapter 2; Haridakis & Hanson, 2009
October 15th	Regression continued	Green Lesson 31;
October 22nd	Interactions; Mediating and Moderating Variables	Preacher and Hayes, 2008; Hayes, 2009
October 29th	Introduction to The Logic of SEM	Kline Chapter 1; pp. 63 - 77; McPhee & Babrow, 1987
November 5th	Path Analysis I	Kline Chapter 5
November 12th	Path Analysis II	Kline Chapter 6
November 12th -18th	EXAM # 2	**Take Exam # 2 on Bb**
November 19th	Confirmatory Factor Analysis	Kline Chapter 7
November 26th	Structural Equation Modeling I	Kline Chapter 8; Holbert & Stephenson, 2002
December 3rd	Structural Equation Modeling II	Holbert & Stephenson, 2008; Stephenson, Holbert, & Zimmerman, 2006
FINALS WEEK		**Final Exam/Paper Available on Bb**

***Final Exam**: *Please note:* Our final exam time is set by the Office of the Registrar and is not negotiable. Please check the schedule before making travel plans for the end of the semester (http://www.uky.edu/Registrar/finals.htm)