

PA 623: DECISION ANALYSIS

University of Kentucky
Martin School of Public Policy and Administration
Fall 2015
5:00-6:15 Tues/Thurs
Whitehall Classroom Bldg. 217

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Office Hours: Thursday 4-5
POT 429

This course has two purposes. First, students will learn how to complete an empirical research project. Though the PA 621 and PA 622 should have prepared students to choose appropriate research designs and perform data analyses, this course will guide students through the more practical side of empirical research. The focus will be on finding and manipulating data, choosing a model specification, and communicating the results. Second, students will learn how to use data to make good decisions. or to give helpful advice. To that end, we will discuss how to use regression results to perform cost-benefit analysis and to analyze decisions involving risk.

COURSE OBJECTIVES AND STUDENT LEARNING OUTCOMES

After completing this course, students should be well-prepared to do the following:

1. Gather and manipulate data;
2. Understand the consequences of model specification choices in a regression context
3. Use the results of an empirical model to improve decisions
4. Effectively communicate methods and results in writing and in presentations

COURSE REQUIREMENTS

TEXTBOOK

The required textbook for this class is:

Christopher F Baum, 2006. "An Introduction to Modern Econometrics using Stata," Stata Press books.

SOFTWARE

Stata is the required software package for this course. Licenses are somewhat expensive, but Stata is available in the Martin School computer lab for your use. Most of you will use Stata to complete your capstones, so if you value working on your own computer at home, you may wish to purchase a license.

ASSIGNMENTS

A breakdown of the assignments and their contribution to the final grade are as follows:

Problem sets (50%) Student will complete weekly problem sets, which will most often consist of data analysis problems to be completed in Stata. Problem sets will be submitted to me via Blackboard before the start of class each Thursday and will include the following:

- A pdf file including the response to each question and any accompanying tables or graphs.
- A Stata .do file from which I can reproduce your analysis.

Students are allowed (and encouraged) to work together on problem sets. However, each student must submit his or her own files and each document must be the student's own work.

Exams (30%) There will be two open book, take-home exams, each worth 15% of the students' grade. Unlike with the problem sets, students are not allowed to help one another with the take-home exam. Submissions will include a pdf file including responses to each question along with tables and graphs, as well as a Stata .do file from which I can reproduce your analysis.

Final paper (20%) Students will complete a final paper which answers an original research question using the methods provided in the course. The paper should be brief (not to exceed 10 pages). A rough outline of a typical paper is as follows:

- Introduction (1 page): State the research question and briefly describe why this question is interesting for public policy or public administration professionals. Cite relevant literature where appropriate, but do not do a thorough literature review.
- Data (2-3 pages): Describe your data. List the dependent and independent variables. Describe (and cite) the source of each variable.
- Methods (1-2 pages): Describe the methods used. Provide a regression equation if it is needed.
- Results (3-4 pages): Present and interpret the results of your analysis. Provide tables and figures when appropriate.
- Conclusions (1 page): Describe the implications of your results for public policy or administration applications.

GRADING SCALE

The course will follow a standard grading scale:

97-100	A+	77-79	C+
93-96	A	73-76	C
90-92	A-	70-72	C-
87-89	B+	67-69	D+
83-86	B	63-66	D
80-82	B-	60-62	D-

LIST OF TOPICS

What follows is a list of the main topics to be covered in this course:

- Data management and organization: Inputting data into Stata, reshaping and merging datasets, coding variables
- Linear regression: Review of the basics, regression assumptions, implementation in Stata
- Model specification in linear regression: How to choose a *good* regression model for your research question
- Regression diagnostics: How to assess violations of the regression assumptions
- Generalized least squares and robust standard errors: What to do when some regression assumptions (independent and identically distributed errors) are violated
- Instrumental variables estimators: Review of instrumental variables, implementation in Stata, diagnostics
- Panel data models: Fixed effects, random effects, other issues related to panel data
- Logit and probit: Special models for binary and ordinal outcomes. When to use these models rather than linear regression.

COURSE POLICIES

ATTENDANCE POLICY

This is a seminar class and attendance is required.

EXCUSED ABSENCES

Students need to notify the professor of absences prior to class when possible. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

VERIFICATION OF ABSENCES

Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

ACADEMIC INTEGRITY

Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website:

<http://www.uky.edu/Ombud>.

A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of Student Rights and Responsibilities, available 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 the question of plagiarism involving their own 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 acknowledgement of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else's work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. 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.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. 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 (Section 6.3.1).

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

ACCOMMODATIONS DUE TO DISABILITY

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. 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, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.