Course syllabus
Research design and methods in IR I (IRES 5057)
Fall 2015
MA, 2 credits

Instructor: Kristin Makszin
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Office hours: Thursday, 11:00 – 15:00 or by appointment

Teaching assistant: Felipe Gonzalez Santos
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Course seminars:

Group 1: Friday 9:00 – 10:40
Group 2: Friday 11:00 – 12:40

Course Description and Aims

This course introduces the fundamentals of research design and quantitative methodological approaches with an emphasis on how to present data in charts and tables and how to conduct and interpret more complex statistical analyses. The goal is that all participants in the course develop their abilities to design a sound research project and acquire a basic understanding of how statistics can be used in international relations and social science research. The first section of the course will focus on how to develop research questions and formulate concepts. The remainder of the course focuses on statistical analysis, beginning with how to effectively present descriptive statistics and continuing with how to conduct and interpret the results of regression analyses. The quantitative part of the course focuses on developing the ability to interpret and critically evaluate statistical analyses, which is an important skill even if participants will not use statistical analyses in their own research. The material will be presented in a comprehensible way and will assume no previous knowledge of statistics. Examples during the course will be shown in R and the students will work with the user-friendly R interface Deducer (http://www.deducer.org).

Learning Outcomes

By the end of the course, participants should be able to:

- design a high-quality research project,
- present descriptive statistics clearly and efficiently,
- conduct regression analysis using the R user-friendly interface Deducer,
- interpret the results of publications using statistical analysis, and
- evaluate comparative and quantitative methodological approaches in IR research.

Teaching Method

The course will consist of interactive lectures presenting the material with discussions and group work where participants will be asked to apply new skills and evaluate methodological approaches in published articles. The activities, assignments, readings, and any relevant files for the lectures will be posted on the E-learning website for the course. The registration code for the course will be distributed via email. Most of the readings for the course are recommended (rather than required) and it may be helpful for you to read them after the lectures to reinforce your understanding of the material.

Academic honesty and integrity is taken very seriously. For a summary of plagiarism, see the Cornell University guide: http://plagiarism.arts.cornell.edu/tutorial/index.cfm and Section IV: "Academic

Dishonesty, Plagiarism and Other Offences" of the CEU Student Rights, Rules and Academic Regulations. All submitted assignments are checked using the Turnitin software, which checks the originality of your work.

Method of assessment

Attendance, pre-class activities, and active participation (10%):

Given the cumulative nature of the material, attendance at the seminars is essential. If you will be unable to attend a seminar, please inform the instructor *in advance* via email. Unexcused absences may result in a grade reduction according to the department policy. For some sessions, the students will be asked to do brief pre-class activities on the E-learning site to enable greater interaction during the course sessions.

Assignments (45%):

There will be three assignments during the course (each worth 15% of the final grade), which will be posted on the E-learning site at least one week before the deadline. The assignments will ask participants to design potential research projects, evaluate the methodological approaches in published research, and practice skills learned in class. The second and third assignments will require analysis in Deducer. *Install Deducer on your computer as soon as possible (using instructions provided on the E-learning site) and contact Kristin by October 1 if you have any problems.*

The assignments should be submitted on the E-learning website on time and in the format specified. Late submission of assignments will result in a 5% reduction in the grade for each day after the due date. Unless otherwise indicated, you should work on the assignments independently and submit only your own work. After submitting the assignment, you may be asked to explain your work and the instructor may adjust your grade based on your ability to do so.

Final exam (45%):

There will be a closed book, in-class final exam on December 11 that will cover all material from the semester. The exam will test your ability to evaluate basics of research design and interpret statistical analyses.

Course Structure

Section I: Research design

Session 1 (September 25): From empirical puzzles to research topics and the basics of research design

> *Pre-class activity: Submit two empirical puzzles via the E-learning site by **September 23 at 23:00**. These can be any two examples of things from the social, political, or economic world that you find surprising or interesting. Using the submitted examples, we will demonstrate some strategies for constructing a research topic. More details will be sent via email.*

> ***Required reading:***

> Blaikie, Norman. 2010. *Designing Social Research: The Logic of Anticipation, 2ⁿᵈ Edition*. Cambridge: Polity Press, pg. 56-78. (Chapter 3: Research Questions and Purposes)

Session 2 (October 2): Concept formation; Measurement reliability and validity

Required reading:

Meier, Kenneth, Jeffrey Brudney, and John Bohte. 2009. *Applied statistics for public and nonprofit administration, 7th Edition*. Belmont, CA : Wadsworth, .pg. 14-31.
Chapters 2: Measurement

Adcock, Robert and David Collier. 2001. "Measurement Validity: A Shared Standard for Qualitative and Quantitative Research." *The American Political Science Review*, Vol. 95, No. 3, pp. 529-546

Assignment #1 due on Friday, October 9 by 23:00

Section II: Descriptive statistics

Session 3 (October 9): Introduction to data analysis; Types of data; Descriptive statistics in numbers, tables, and charts

Recommended reading:

Meier, Kenneth, Jeffrey Brudney, and John Bohte. 2009. *Applied statistics for public and nonprofit administration*. Belmont, CA : Wadsworth.
Chapters 4-6: Descriptive Statistics

Session 4 (October 16): Data management and introduction to Deducer
*** If possible, bring a laptop with Deducer installed to follow along during the lecture.

No class on October 23

Session 5 (October 30): Probability distributions and confidence intervals
(led by Felipe Gonzalez Santos)

Recommended reading:

Meier, Kenneth, Jeffrey Brudney, and John Bohte. 2009. *Applied statistics for public and nonprofit administration*. Belmont, CA : Wadsworth.
Chapters 7-8: Introduction to probability and The Normal Probability Distribution

Section III: Hypothesis testing, measures of association, and regression analysis

Session 6 (November 6): Introduction to hypothesis testing, the difference of means test, ANOVA

Recommended reading:

Gupta, Dipak. 2011. *Analyzing Public Policy: Concepts, Tools, and Techniques, 2nd Edition*. CQ Press, pg. 149-176.
Chapter 7: Probability and Hypothesis Testing

Meier, Kenneth, Jeffrey Brudney, and John Bohte. 2009. *Applied statistics for public and nonprofit administration*. Belmont, CA : Wadsworth.
Chapters 12 and 14: Hypothesis testing and Testing the difference between two groups

Pollock, Philip. 2011. *The Essentials of Political Analysis, 4th Edition*. CQ Press.
Chapter 6: Tests of significance and measures of association

Assignment #2 due on Friday, November 13 by 23:00

Session 7 (November 13): Measures of association and introduction to simple linear regression analysis

Recommended reading:

Meier, Kenneth, Jeffrey Brudney, and John Bohte. 2009. *Applied statistics for public and nonprofit administration*. Belmont, CA : Wadsworth.
Chapters 15-16: Analysis of Nominal and Ordinal Data

Pollock, Philip. 2011. *The Essentials of Political Analysis, 4th Edition*. CQ Press.
Chapter 8: Correlation and linear regression, pg. 170-184

Gupta, Dipak. 2011. *Analyzing Public Policy: Concepts, Tools, and Techniques, 2nd Edition*. CQ Press.
Chapter 12: Projection techniques: The Methods of Simple and Multiple Least Squares

Session 8 (November 20): Multiple and logistic regression analyses

Recommended reading:

Meier, Kenneth, Jeffrey Brudney, and John Bohte. 2009. *Applied statistics for public and nonprofit administration*. Belmont, CA : Wadsworth.
Chapters 21: Multiple regression

Pollock, Philip. 2011. *The Essentials of Political Analysis, 4th Edition*. CQ Press.
Chapter 8: Correlation and linear regression, pg. 185-193
Chapter 9: Logistic regression

Session 9 (November 27): Model assumptions, checking your model, and presenting regression output

Recommended reading:

Meier, Kenneth, Jeffrey Brudney, and John Bohte. 2009. *Applied statistics for public and nonprofit administration*. Belmont, CA : Wadsworth.
Chapters 19: The assumptions of linear regression

Assignment #3 due on Friday, December 4 by 23:00

Session 10 (December 4): Displaying data effectively

Recommended reading:

Tufte, Edward. 2001. *The Visual Display of Quantitative Information, 2nd edition*. Cheshire, Conn. : Graphics Press, pg. 13-52.

Session 11 (**December 11**): Final exam