University of Colorado at Denver
Department of political science
Revised Syllabus for PSC 3011-001 Research Methods

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'Thus my design is not here to teach the method which everyone should follow in order to promote the good conduct of his reason, but only to show in what manner I have endeavored to conduct my own.'   -Descartes

In this course students will learn the essential steps in and the basic methods of social science research. The course will cover elementary techniques of research design, data gathering, analysis and presentation. The goal of this coverage is to make students aware of the necessity and accustom with the applicability of available tools in theoretical or applied research. Specifically the students will explore the process of scientific reasoning, methods of collecting their own data or gathering them from secondary sources, analyses of the data using quantitative or qualitative techniques and presentation of the results in a visual manner.
It is expected that the students will actively participate in the classroom discussions. Students are expected to complete the assigned readings before the class. The sequential nature of the topics demand regular attendance from the students.

Method of Delivery
The course will be delivered through lectures and discussions. To aid the lecture, visual presentation in the forms of charts and data tables will be used.

Computer Lab for Data Analysis
There will be five (5) lab sessions where students will have an opportunity to use computer applications for data analysis. One of the lab sessions will be devoted to Microsoft Excel ® and three to SPSS ®. The final lab session will be to help students using the application in their presentation.

Using Internet for Research
One of our sessions will be held at the library to increase students familiarity on research using the world wide web. One of the Auraria reference librarians will share his or her expertise with us in the session.

Using Blackboard
CU Denver's online Blackboard® will be used extensively as a supplemental tool.

Reading Material
1. Pollock, Phillip H. 2003. *The Essentials of Political Analysis*. Washington, DC: CQ Press

2. Shively, W. Phillips. 2001. *The Craft of Political Research* (5th edition), Prentice Hall, New Jersey.

3. Scheuren, Fritz et. al. 2004. *What is a Survey?* (Second edition of an American Statistical Association booklet). ASA, Virginia. Available online in Acrobat Reader .pdf format at http://www.amstat.org/sections/srms/pamphlet.pdf

4. Nachmias, Chava and David Nachmias, *Research Methods in the Social Sciences*, 5th Edition, Worth, New York 1996. Selected Chapters. Book will be put on reserve.

Additional readings, if any, are mentioned in the detail course schedule.

Evaluation

Exams: Students will have to sit for two in-class exams, mid-term and final, on the dates marked in the course schedule. Mid-term exam will be a 60 minutes exam consisting of multiple-choice questions, short answer questions and a short problem. Final exam will be a 90 minutes one with a similar format. Bring your own bluebooks please.

Assignments: There will be three short assignments. These assignments will generally be problems on topics covered immediately before the day of assignment. Assignments must be submitted on the due date.

Presentation: Students will gather qualitative or quantitative data either from an authentic secondary source (e.g., online data repositories, newspapers or archives) or on their own, around any topic of their choice. Groups of no more than three students can be formed for the purpose of this presentation. Each group or individual will present some observation on, analysis of or results from the data they gathered using the concepts they learned during the course. Each student or group will be allowed a maximum of five minutes for presenting their work.

Grading:
Mid-term: 25%; Final Exam: 25%; Assignments: 30% (@10% for each assignment)
Presentation: 20%.

Final grades: A (90%); B (80%); C (70%); D (60%); F (below 60%)

Policies towards Plagiarism
Please read the department of political science plagiarism policy attached with the syllabus.

Weekly Course Schedule:
Part 1: Logic and Process of Research

This part will introduce the enterprise of social research to the students. The scope, types, logic and process of research will be discussed in detail. In this part, students will also acquire familiarity with basic concepts like conceptual and operational definition, hypothesis, levels of variable and units of analysis.

Week 1: Introduction
Class 1 on 08/24/04, Tuesday: In this class we survey the purposes of the course, our approaches to the topics and the course requirements. We learn about each other.

Class 2 on 08/26/04, Thursday: Overview of political theory building process. The scientific approach. Roles of methods.
Reading: Shively Chapters 1 and 2; Pollock: Introduction Chapter

Week 2: The Building Blocks
Class 1 on 08/31/04, Tuesday: Questions, Concepts, Operational definition, Variables
Reading: Pollock: Chapter 1 (pp 6-19)

Class 2 on 09/02/04, Thursday: Levels of measurement, Dimensions, Units
Reading: Pollock: Chapter 1 (pp 19- 23); Shively: Chapter 3, 4

Week 3: The Causal Path
Class 1 on 09/07/04, Tuesday: Causal thinking, explanations, dependent and independent variable, hypothesis
Reading: Pollock: Chapter 2 (pp 26-35); Shively: Chapter 6 (pp 72-76)

Class 2 on 09/09/04, Thursday: Hypothesis testing, Types of experiment
Reading: Pollock: Chapter 2 (pp 35-45); Shively: Chapter 6 (pp 79-85)

Part 2: Tools and Techniques of Analyses
In this part we shall study some tools of single and two variable (univariate or bivariate) analyses. We shall learn to describe the variables in terms of their central tendencies and dispersion, compare them with cross-tabulations and estimate the parameters helping to draw inferences about the relationships between them.

Week 4: Describing and Relating Facts (Descriptive Statistics)
Class 1 on 09/14/04, Tuesday: Central tendencies, frequency distributions, percentage and percentile, skew, graphical representation of data
Reading: Pollock: Chapter 3 (pp 48-58)

Assignment 1 announced
Class 2 on 09/16/04, Thursday: Comparison among variables with different levels of measurement, cross-tabulations, Mean-comparisons, graphical determination of relationships, linear versus non-linear graphs
Reading: Pollock: Chapter 3 (pp 58-70)

Week 5: Controlled Comparison
Class 1 on 09/21/04, Tuesday: Controlled comparison, Spurious/Enhancement/Specification relationship, zero-order and partial relationships, Mean-comparison with control
Reading: Pollock: Chapter 4 (pp 73-93)

Assignment 1 due

Class 2 on 09/23/04, Thursday: Lab at King Center 113
Microsoft Excel ®: Intro to Excel, descriptive statistics, bar/line/pie chart using Excel, data analysis, pivot table

Week 6: Drawing Inferences: Sampling and Distribution
Class 1 on 09/28/04, Tuesday Using sample statistic to estimate population parameter, random sampling, sampling error, standard deviation, normal distribution
Reading: Pollock: Chapter 5 (pp 95-104)

Class 2 on 09/30/04, Thursday Lab at King Center 113
Introduction to SPSS: Descriptive Statistics

Week 7: Drawing Inferences: Hypothesis Testing
Class 1 on 10/05/04, Tuesday: z-score, degrees of freedom, student's t, confidence interval, p value, hypothesis testing, statistical significance, type I and type II error, one tailed and two-tailed test
Reading: Pollock: Chapter 5 (pp 104-119), Chapter 6 (pp 121-130)

Class 2 on 10/07/04, Thursday: Lab at King Center 113
SPSS: Inferential Statistics : T-tests

Week 8: Review and Midterm Exam
Class 1 on 10/12/04, Tuesday: Review of topics discussed so far.

Class 2 on 10/14/04, Thursday: Mid-term exam.

Week 9: Measuring Association: Correlation and Regression
Class 1 on 10/19/04 Tuesday: PRE, Scatter plot, correlation, Pearson's r
Reading: Pollock, Chapter 7 (pp 134-141, pp 144-147); Shively: Ch 7

Class 2 on 10/21/04 Thursday: Dependent and independent variable, regression, bivariate regression, dummy variable, R-square
Reading: Pollock, Chapter 7 (pp 147-158)
Assignment 2 to be announced

Week 10: Qualitative Analysis[1]
Class 1 on 10/26/04, Tuesday: Qualitative information, field research, complete participant versus participant as observer, induction versus deduction, grounded theory
Reading: Nachmias and Nachmias, Chapter 12 (on reserve desk)

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[1] To match with the available lab dates, a week on a different topic is put between the correlation and regression weeks. Thus we will have a chance to refresh ourselves on regression in the class before the lab session.

Class 2 on 10/28/04, Thursday: Qualitative information, case studies, interviews, focus group
Reading: Scheuren, Chapter 5
Assignment 2 Due

Week 11: More on Regression
Class 1 on 11/02/04, Tuesday: Interpretation of regression results, Multiple Regression, Multicollinearity
Reading: Pollock, Chapter 7 (pp 158-165)

Class 2 on 11/04/04 Thursday: Lab at King Center 113
SPSS: Inferential Statistics : Correlation, Regression

Part 3: Data Gathering and Analysis
This part is on collecting data relevant to your research interest. Proper utilization of the tools learned in part 2 of this course, to analyze of the data collected either by the researcher herself or from some other standard source generate the final research findings.

Week 12: All About Data
Class 1 on 11/09/04, Tuesday: Types/sources of data, primary and secondary data, qualitative and quantitative data, discreet and continuous data, longitudinal and cross-sectional data
Reading: Tufte **,** Edward R**, Improving Data Analysis in Political Science** *World Politics*, Vol. 21, No. 4. (Jul., 1969), pp. 641-654. Avialable via JSTOR. Will be put on e-reserve

Assignment 3 to be announced

Class 2 on 11/11/04, Thursday: Scourging the world wide web for Data, Data repositories (online and offline), Academic databases and journals, search tools and techniques
Resource: Web-links provided at blackboard (NCES, GSS and FEDSTAT); Inter-university Consortium for Social and Political Research, University of Michigan, Ann Arbor, Guide to Resources and Services, http://www.icpsr.umich.edu/

Session will be held at Auraria library Room 245

Week 13 Collecting Primary Data : Survey
Class 1 on 11/16/04, Tuesday: Survey research, planning a survey, sampling, and modes of data collection
Reading: Scheuren, Chapter 1,2,3
Assignment 3 due

Class 2 on 11/18/04 Thursday: Questionnaire design, open-ended versus close ended response
Preparing the data for analyses, coding data
Reading: Scheuren, Chapter 6, Nachmias and Nachmias, Chapter 14 (on reserve desk)

Week 14: 11/23/04 and 11/25/04. No class. Happy Thanksgiving!

Week 15: Wrap-up
Class 1 on 11/30/04, Tuesday: Ethics of research, Discussion on the final exam (half of the session)
Reading: Pol. Sci. plagiarism policy (copy supplied with syllabus); Shively: Chapter 1 (Page 11-12)
Class 2 on 12/02/04, Thursday: Lab at King Center 113
SPSS; Lab help on presentation

Week 16: Presentation by students
12/07/04, Tuesday and **12/09/04**, Thursday

Final Exam
Week starting on 12/11/04 (We'll request 12/14/04, Tuesday)