

APPLICATION FOR NEW COURSE

1. Submitted by College of Arts and Sciences Date March 23, 2005

Department/Division offering course Political Science

2. Proposed designation and Bulletin description of this course

a. Prefix and Number PS 572 b. Title* Introduction to Quantitative Political Methodology

*NOTE: If the title is longer than 24 characters (including spaces), write
A sensible title (not exceeding 24 characters) for use on transcripts Intro to Quant Pol Meth

c. Lecture/Discussion hours per week 3 d. Laboratory hours per week _____

e. Studio hours per week _____ f. Credits _____

g. Course description

Introduction to quantitative research methods used by political scientists. The course introduces students to data sets and statistical software commonly used in political science, and basic analysis techniques used to analyze political data.

h. Prerequisites (if any)

For undergraduates, completion of PS 245.

i. May be repeated to a maximum of _____ (if applicable)

4. To be cross-listed as

Prefix and Number

Signature, Chairman, cross-listing department

5. Effective Date Fall 2006 (semester and year)

6. Course to be offered Fall Spring Summer

7. Will the course be offered each year? Yes No
(Explain if not annually)

8. Why is this course needed?

This course is regularly offered each fall as a special topics course (PS 711). It has become an important course for our first year graduate students as it prepares them for the more rigorous methodology courses in the second and third semesters. The course is not required of our graduate students if they have taken an equivalent course elsewhere, but at least 90 per cent take the course each fall. It is important to recognize that our students' needs cannot be met by courses offered in other departments (like Statistics). We have allowed our students to do that on a couple of occasions due to schedule conflicts, and it has worked out poorly. We offer fairly specialized training in datasets used by political scientists, assign a fair amount of political science reading, and train our students in software that is used throughout our research methods sequence in our graduate program. Students cannot get such specialized training elsewhere. Finally, we would like to keep the course open to advanced undergraduates who have successfully completed our undergraduate research methods course (PS 245). We have let a few of them take it in the past, and they have all done very well. It has also helped some obtain good jobs with their B.A.

9. a. By whom will the course be taught? Political Science faculty - Fording, Voss, Walker
- b. Are facilities for teaching the course now available? Yes No
If not, what plans have been made for providing them?

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10. What enrollment may be reasonably anticipated? 15-25
11. Will this course serve students in the Department primarily? Yes No
Will it be of service to a significant number of students outside the Department? Yes No
If so, explain.
Patterson School students have regularly taken this course over the years. We also attract Martin School students on occasion.
-
- Will the course serve as a University Studies Program course? Yes No
If yes, under what Area? _____
12. Check the category most applicable to this course
 traditional; offered in corresponding departments elsewhere;
 relatively new, now being widely established
 not yet to be found in many (or any) other universities
13. Is this course applicable to the requirements for at least one degree or certificate at the University of Kentucky? Yes No
14. Is this course part of a proposed new program: Yes No
If yes, which? _____
-
15. Will adding this course change the degree requirements in one or more programs? Yes No
If yes, explain the change(s) below

-
16. Attach a list of the major teaching objectives of the proposed course and outline and/or reference list to be used.
17. If the course is a 100-200 level course, please submit evidence (e.g., correspondence) that the Community College System has been consulted. Check here if 100-200.
18. If the course is 400G or 500 level, include syllabi or course statement showing differentiation for undergraduate and graduate students in assignments, grading criteria, and grading scales. Check here if 400G-500.
19. Within the Department, who should be contacted for further information about the proposed course?
Name Richard Fording Phone Extension 7-9256

*NOTE: Approval of this course will constitute approval of the program change unless other program modifications are proposed.

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Signatures of Approval:

Richard Zaly DGS

Department Chair

March 24, 2005

Date

William

Dean of the College

MAY 22 2005

Date

Sharon Dix

*Undergraduate Council

MAR 24 2005

Date of Notice to the Faculty

Oct. 4, 2005

Date

*University Studies

Date

*Graduate Council

Date

*Academic Council for the Medical Center

Date

*Senate Council (Chair)

Date of Notice to University Senate

*If applicable, as provided by the Rules of the University Senate

ACTION OTHER THAN APPROVAL

ARTS AND SCIENCES
EDUCATIONAL POLICY COMMITTEE
INVESTIGATOR REPORT

INVESTIGATING BODY Behavioral & Social Science COURSE, MAJOR, DEGREE or PROGRAM COURSE/PS 572

DATE FOR COUNCIL REVIEW (Area) 4/22/2005 (department or college)
CATEGORY: NEW, CHANGE, DROP

INSTRUCTIONS: This completed form will accompany the course application to the Graduate/Undergraduate Council(s) in order to avoid needless repetition of investigation. The following questions are included as an outline only. Be as specific and as brief as possible. If the investigation was routine, please indicate this. The term "course" is used to indicate one course, a series of courses or a program, whichever is in order. Return the form to Leonidas Bachas Associate Dean, 275 Patterson Office Tower for forwarding to the Council(s). ATTACH SUPPLEMENT IF NEEDED.

1. List any modifications made in the course proposal as submitted originally and why.
2. If no modifications were made, review considerations that arose during the investigation and the resolutions.
3. List contacts with program units on the proposal and the considerations discussed therein.
4. Additional information as needed.

5. A&S Area Investigator Recommendation:

APPROVE, APPROVE WITH RESERVATION, OR DISAPPROVE

6. A&S Council Recommendation:

APPROVE, APPROVE WITH RESERVATION, OR DISAPPROVE

7. 
A&S Council Investigator, Sung Hee Kim

Date: 4/22/2005

PS 572 (Sample syllabus) Introduction to Quantitative Political Methodology

Course Time and Location: varies

Course Website: varies

Instructor: varies (more than a half-dozen faculty could teach); sample syllabus from Dr. Fording

Office Hours: varies

Email: varies

Phone: varies

Teaching Assistant: varies

Office Hours: varies

Office number: varies

Learning Objectives

The purpose of this course is to introduce students to basic quantitative concepts and techniques as commonly applied in political science research. Although it is primarily oriented toward preparing graduate students in Political Science for methodological training within the discipline – and therefore reflects the needs of academic professionals – it also is a useful way for the most advanced undergraduate concentrators in Political Science to learn hands-on research skills. We will begin with some basic techniques such as cross-tabulation, difference of means, analysis of variance, and others, and conclude with an introduction to correlation and regression analysis. Although you will be expected to demonstrate your understanding of the concepts introduced in this course through the completion of computational exercises, this course will place a heavy emphasis on applying these techniques using statistical software.

Learning Outcomes

At the end of this course, students will have learned:

- (1) Basic mathematical & statistical skills needed to study Political Methodology at the graduate level.
- (2) Theories behind the analytical approaches used in Political Science disciplinary research, and
- (3) How to perform quantitative analysis using the software and statistical methods published in Political Science journals.

Required Texts (Available at UK Bookstore and Kennedy's)

- (1) A core text in quantitative methods from Political Methodology, Econometrics, or introductory Statistics. This examples uses: *Introductory Statistics*. Wonnacott & Wonnacott, Wiley and Sons, 5th Edition.
- (2) A book illustrating how to implement the methods studied within a software package. This examples uses: *Statistics with Stata 7*. Lawrence Hamilton, Duxbury Press.
- (3) A supplementary book on linear regression as used specifically within the political science discipline. This example uses: *Applied Regression*. Michael Lewis-Beck, Sage Publications.

Recommended/Optional Texts

Stata Reference Manual Extract. Stata Press (Available from Stata website)

Statistical/Computer Skills Needed For This Course

This course assumes *no* prior training in statistics or *advanced* mathematics, but does require that you have taken college algebra. It also assumes that students have, or will get, access to a computer that connects to the Internet and that they have basic computer skills such as familiarity with Windows, with a word processor. Finally, you must have or get an active email account that you check on a regular basis.

The statistical software used in this course is STATA 8.0 for Windows. This software is available in our departmental computer lab, which is accessible 24 hours a day, 7 days a week (although you can't get into the building after 11 p.m).

Class Format

The class sessions for this seminar will involve a few different types of formats. Most of the time this will be the traditional lecture format, in which I will present material to the class. On some days, I will demonstrate how to implement the techniques you have learned using STATA. On several occasions, we will also examine how these techniques have been applied in published examples from leading social science journals that you have been assigned to read for that week. Finally, on some days students may present results from assigned exercises.

Course Requirements

Reading: For most weeks, the amount of reading is rather light by graduate school standards (in terms of the number of pages). This is deceiving. I expect that it will often take two or three readings to thoroughly comprehend the material (especially from the main text), especially as the semester progresses. Even after reading the material, you still may have questions. It is therefore important that you get started early in the week so that any questions you have can be resolved before class.

Homework Assignments: Throughout the semester, you will be required to complete three types of assignments. First, you will be asked to complete computational exercises based on the reading for the week. Second, you will be required to complete computer-based exercises using STATA (usually applying the techniques covered in the text). Third, on occasion you will be required to evaluate a published example of social science research that applies the technique we are studying. Computational assignments (usually exercises in the textbook) may be NEATLY hand written or done in a spreadsheet (or you may type them). No hand-written work will be accepted for other types of assignments. Late assignments will not be accepted.

Note: Links to all assignments will appear on the version of the syllabus that is posted on the course website.

Research Project (Due 12/15): You are to write a research paper relying on a statistical technique covered in this course. ~~Graduate students are required to present their final paper to the class.~~ The paper should include the following:

- (a) A presentation of hypotheses about the causal relationships among a set of theoretical concepts, and a minimal justification for the hypotheses.
- (b) A discussion of the indicators used to measure the concepts in the hypotheses, and a brief defense of the appropriateness of the indicators as measures of the theoretical concepts.
- (c) Predictions about the results of your analysis [values of coefficients, etc.], assuming your hypotheses are true.
- (d) The statistical results obtained by applying the technique to a sample of data, and a precise interpretation of the results.
- (e) To the extent that you can, you should be sure to provide diagnostic information and discuss the consequences of possible violations of the assumptions we have studied throughout the course of the semester.
- (f) At some point be sure to describe exactly where your data come from (if more than a paragraph, then an appendix may be best).

A short (1-2 pages) proposal for this paper is due no later than October 30th.

Additional Comments: I *don't* expect an article length piece here (i.e. 30-40 pages). Something more along the lines of a research note (see *Journal of Politics* or *Social Science Quarterly* for a good example) is probably more reasonable (15-20 double-spaced pages, plus tables and figures). You are free to go beyond this, however, particularly if some of the work (literature review, data collection) has already been done, or if some of the work can be applied to another class you are taking this semester (especially PS 671). I will be happy to discuss possible topics with you and review drafts at any point in the semester.

Participation: We regularly review the homework assignments in class and occasionally will work through problems together. You are expected to contribute to these exercises regularly.

Exams: There will be two exams – a midterm exam and a cumulative final exam.

Grading (Graduate Students)

Midterm Examination: 20%
Final Examination: 30%
Homework Assignments: 20%
Research Paper, including in-class presentation: 20%
Participation: 10%

Grading (Undergraduate Students)

Midterm Examination: 20%
Final Examination: 30%
Homework Assignments: 25%
Research Paper: 15%
Participation: 10%

Students will be graded on a 10-point scale, with 90-100 an A, 80-89 a B, 70-79 a C. Undergraduates receiving a course grade from 60-69 will receive a D. All others receive an E, failing the course.

Topical Outline and Reading Assignments

9/2-4 (T,Th) Introduction

W&W Chapter 1

9/9-11 (T,Th) Descriptive Statistics – Central Tendency & Dispersion

W&W Chapter 2

9/16-18 (T,Th) Probability

W&W Chapter 3

9/23-25 (T,Th) Probability Distributions

W&W Chapter 4

9/30-10/02 (T,Th) Probability Distributions

W&W Chapter 5

10/7-9 (T,Th) Sampling and Sampling Distributions

W&W Chapter 6

10/14-16(T) Confidence Intervals

W&W Chapter 8

10/21 (T) Review for Midterm Exam

10/23 (Th) MIDTERM EXAM

10/28-30 (T,Th) Hypothesis Testing

W&W Chapter 9

RESEARCH PROPOSAL DUE 10/30 (1-2 pages)

11/4-6 (T,Th) Analysis of Variance

W&W Chapter 10

11/11-13 (T,Th) Hypothesis Testing With Nominal & Ordinal Variables

W&W Chapter 17

11/18-20-25 (T,Th, T) Bivariate Regression/Correlation: Point Estimation & Hypothesis Testing

W&W Chapters 11, 12, 15-1, 15-2
Lewis-Beck pp. 9-38

11/25 (T) Bivariate Regression/Correlation: Residual Analysis

W&W Chapter 14-5
Lewis-Beck pp. 38-47

11/27 (Th) THANKSGIVING – CLASS CANCELLED

12/2-4 (T,Th) Multiple Regression

W&W Chapter 13, 15-4, 15-5
Lewis-Beck pp. 47-66

12/9 (T) Dummy Variables in Regression Analysis

W&W Chapter 14-1
Lewis-Beck 66-74

12/11 (Th) Review for Final Exam

Monday 12/15 RESEARCH PAPER DUE by 4:30pm

Thursday 12/18 FINAL EXAM (10:30 am, BE 306)