Department: Political Science

Course No: POLS 291Q

Title: Quantitative Analysis in Political Science

Credits: 3

Contact: Jennifer Sterling-Folker

WQ: Q

Catalog Copy: POLS291Q. Quantitative Analysis in Political Science (Q, C). Either semester. Three credits. Open to sophomores or higher. Explanation of the quantitative methods used in political science. Application of these methods for the analysis of substantive political questions.

Course Information:

a. The course is intended to provide the student with the quantitative research methods widely used in conducting research in political science. Within this general goal, there are two particular objectives: 1) developing the ability to use statistics to set up, solve, and interpret political-social science problems and 2) providing the student with the foundation to learn about more advanced statistical procedures in more advanced (graduate) courses.

b.The student is required to read the assigned readings before the class date in which they are discussed, and we review a chapter per class. The final grade is based on homework assignments, quizzes, a mid-term, and the final exam, with the following breakdown: Class Participation 10%, Three Quizzes (5% each) 15%, Four Homework assignments (10% each) 40%, One midterm examination 15% , A final exam 20%

One dataset the course works with is a manual of political data, such as party ID, political socialization, and political interests. This is used to work with the specific concepts and topics of the course. For

example, when reviewing descriptive statistics, students are asked to describe party ID by using pie-charts or bars. If the variable is an interval variable, then we use histograms. When dealing with probability, we use standard deviation in order to know, for example, the probability of voting for a particular political party. And when dealing with inferential statistics, we do regression analysis to explain voter turn-out.

c.The course has been organized around three broad themes: data description, probability theory, and statistics. Under these general themes, the main topics include "Intro to Statistical Analysis," "Organization and Presentation of Data," "Descriptive Statistics," "Probability Theory," "Sampling Distribution," "Hypothesis Testing," "Correlation," ANOVA, and "Regression Analysis" (both OLS and logistic).

Q Criteria : Students are taught at a level beyond basic algebra and are required to master formulas by hand, without the aid of computer technology and software, as described under #3 below. The course teaches the foundation for advanced statistical procedures in the discipline. The course requires the student to work on formulas and apply them to subjects such as mean, median, mode, probabilities, z-scores, t-scores, chi-square, measures of association, statistics (correlation, regression), and analysis of variance. The course also includes concepts such as linear equations, fractional expressions, exponents, powers and roots, problem solving, and word problems. The course does this by having students work out each formula, and applying the chi-square, z-score, t-score, analysis of variance, regression, correlation, and the measures of association. Use of SPSS is only to assist this process as a tool of understanding. Students are required to apply the formulas by hand first and only after they have mastered this is SPSS introduced. Students are also required to learn how to analyze and interpret statistical SPSS results.

Role of Grad Students: This course is offered every semester and is taught either by regular faculty members in the department at Storrs, or advanced graduate students or adjuncts who have a specialization in this field. All political science TAs are required to attend the Teaching Institute's roundtables on pedagogy offered prior to the start of Fall semester. International students are additionally required to take teaching tests and to attend a three-day training session at the Institute. Every Fall the department sponsors a TA information session to offer advice and discuss potential problems they may encounter. The department offers roundtables on pedagogical issues throughout the academic year. Finally, the appropriate faculty member, Department head, and the Department's Teaching Mentor supervise the TAs work throughout the semester.