

## **Proposal to Satisfy the Quantitative Reasoning Requirement: Statistics**

(A) Department(s) / Program(s): **Political Science**

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(C) Course Number & Title: **Political Science 102, Empirical Political Analysis**

(D) Course Syllabus: Include syllabi from all sections of this course; each syllabus must include, at minimum, course objectives, assigned readings, and assignments with means of assessment.

(E) Objectives: Please explain how the proposed course fulfills each of the following objectives for the Quantitative Reasoning: Statistics Requirement. Point to where in the syllabus each objective is demonstrated. If there are multiple sections that meet the objectives in different ways, specify how, using examples from each syllabus.

1. Teach students the basic elements of statistics including frequency distributions, measures of central tendency, measures of dispersion, the normal distribution, confidence intervals, hypothesis testing and significance.

**A course text (see syllabus) covers all of these topics. Material from the text is covered in class with examples, discussion questions, and further explanation if needed. Activities using SPSS to analyze data (descriptive, bivariate and multivariate analysis assigned progressively) are done outside of class with students briefly presenting their results during class time. Statistical significance is covered in a separate section. Confidence intervals are covered in course section on survey research/sampling.**

2. Examine how quantitative reasoning and evidence are used in constructing substantive arguments.

**As part of their research paper assignment on a substantive topic of their own choosing, students must review relevant professional literature in books and academic journals, all of which use empirical data and statistical analysis to test substantive hypotheses. These findings must be summarized in a section of the paper titled "literature review". The research paper further requires students to test an original hypothesis (using data about individuals, American states, or nations in SPSS files provided by the instructor) employing appropriate statistical techniques to accept or reject the hypothesis.**

3. Evaluate quantitative claims according to conceptual, statistical, and mathematical criteria.

**During both class discussion and assigned activities prepared outside of class, results of different types and levels of data analysis are presented, generally in the form of SPSS output files. The data analysis itself is sometimes done in the classroom as well. These data are examined relative to a stated hypothesis -- the theory from which the hypothesis was deduced, the validity and reliability of the variable measurements, and the empirical test of the hypothesis. Students do the same when**

**writing their research paper and answering questions on the final examination.**

4. Demonstrate ways of responsibly communicating quantitative information in graphics and in writing.

**Students must present results of data analysis in graphic and/or table form in their research papers. The course textbook, as well as sample student papers from previous semesters posted on Angel, provide examples of how this done. Students are required to read tables showing results of data analysis as part of the final examination.**