PSC 571
Quantitative Approaches to International Politics

Prof. Kevin Clarke
317 Harkness Hall
Office Hours: By Appointment
kevin.clarke@rochester.edu
275-5217

Prof. Curtis S. Signorino
303 Harkness Hall
Office Hours: By Appointment
curt.signorino@rochester.edu
273-4760

PURPOSE: This course examines statistical issues relevant to the study of international politics. We will consider issues such as self selection, strategic decision making, geographic interdependence, temporal dynamics, and the operationalization of major concepts, such as power, democracy, and the similarity of states' interests. Of particular interest will be the use and limitations of dyadic data and cross-sectional time series data. This course may be used to fulfill either the methods or IR comp, but not both simultaneously.

PREREQUISITES: Students must have taken PSC 505 and PSC 572 (or a similar general IR course).

COURSE REQUIREMENTS:

- Participation and Weekly Assignments (40%). Each week, students will be responsible (1) for having done all the required readings, (2) for presenting one of those readings, and (3) for participating in our discussions. The student presentation should be in the form of LaTeX'd notes, a Beamer presentation, or a Powerpoint presentation. The presentation should include (a) a summary of the article’s main points/contributions, (b) a detailed walk through the main model and/or technique, (c) a summary of the results, and (d) a short critique of the paper. Applied or theoretical problems will also be assigned from time to time based on the required readings. Students will be expected to have completed the assignment and should be prepared to present their results in class.

- Final Paper (60%). A final paper is due the last day of final exams. The paper should either develop a new statistical technique or apply advanced methods to the study of international relations. Except in very rare circumstances, the paper should employ real data and make a substantive contribution.

COURSE SCHEDULE AND READINGS:

0. Course Organization

- Students should be familiar with methods literature on linear models, MLE, duration models, grouped binary duration models, selection models, and strategic models.

1. Measuring Power

- Singer, J. David, Stuart Bremer, and John Stuckey. 1972. “Capability Distribution, Uncertainty,


2. Measuring Democracy


Recommended Reading:


3. Binary Data and Cross-Sectional Time Series Dependence


4. Geography and Spatial Interdependence


- Poast, Paul. 2010. “(Mis)Using Dyadic Data to Analyze Multilateral Events.” Political Analysis.
- Boemhke, Fred and Olga Chyzh. Working paper.

6. Rare Events


7. Measuring the Similarity of States’ Interests


8. Ideal Point Estimation in International Relations

9. Residualization


10. Markov Transition Models


11. Machine Learning


12. Forecasting in IR


13. Surveys and Experiments

Quarterly 41(3):403-433.


14. Structural Breaks


Student presentations last class: May 1
Paper due last day of final exams: May 13