PSC 571  
Quantitative Approaches to International Politics  
Spring 2011  
Thurs, 2-4:40

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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 (30%)**. 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 (70%)**. 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

1. Selection

   Required Readings:

Recommended Readings:

2. Geography and Spatial Interdependence

3. Dyads, Interdependence, and Networks
• Poast, Paul. 2011. “(Mis)Using Dyadic Data to Analyze Multilateral Events.” Forthcoming in *Political Analysis*.

4. Strategic Interaction

Part I
Required Readings:

Recommended Readings:

Part II: Signaling

Part III: Misc

5. Rare Events
6. Duration Models

Required Readings:

Recommended Readings:

7. Binary Data and Temporal Dependence


8. Binary Data and Cross-Sectional Time Series Dependence


9. Measuring Power


### 10. Measuring Democracy

**Required Readings:**


**Recommended Readings:**


### 11. Measuring the Similarity of States’ Interests


12. Ideal Point Estimation in International Relations


13. Causal (not “Casual”) Inference

• Holland, P.W. 1986. “Statistical and Causal Inference (with discussion).” JASA.

14. Markov Transition Models

15. Structural Breaks


16. Surveys and Experiments


17. Split Population Models


18. Neural Nets


19. Residualization


*Paper due last day of final exams.*