

Spring 2020 – ITV course list

PS 919 Seminar Advanced Methodology section 002

Alicia Uribe-McGuire “Agent Based Modeling”

Email: aburibe@illinois.edu

Wednesdays 1:30 pm – 3:30 pm CST 2:30 pm – 4:30 pm EST.

Description: This course will cover the role of computational game theory in complex systems. We will explore examples of simulation based and agent based models in political science and discuss the importance, evolution, and necessity of such models. Students should have familiarity with game theory and be comfortable with at least one coding language (R, Matlab, Python, etc.). The final project for this course will be a paper utilizing an agent based model or a similar simulation based model.

PS 917 – Time Series Analysis

John Freeman and Jon Pevehouse "Time Series – 1 & 2 modules"

Email: [freeman@umn](mailto:freeman@umn.edu); pevehouse@polisci.wisc.edu

Fridays 11 am - 1 pm CST, 12 pm - 2 pm EST.

Description: This course studies statistical techniques used to analyze social processes occurring through time. We begin by discussing social problems that are inherently dynamic in nature and also how time series are measured. We then review the calculus of finite differences. We move next to the study stationary ARMA models, "reduced form" methods (granger causality and vector autogression), unit root tests, near-integration, fractional integration, cointegration, and error correction models. Time series regression is briefly discussed. We address not only how to construct these models but also how to use time series models in social science analyses.