Introduction to Game Theory
Tuesday 9:30-12:30
Batts First Floor

Professor: Terry Chapman
Office: Batts 3.104
Office hours: Wed. 2-3:30, Th 9:30-11:00
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Texts:


Note: M&M has several errors in examples and problem sets; erratum can be found here: http://www.princeton.edu/~ameirowi/

(Optional) Jeff Gill. Essential Mathematics for Political and Social Sciences. Cambridge University Press.

Grading:

Homework 30%
Midterm 25%
Final Exam 25%
Paper 20%

Homework: Weekly problem sets, due at the beginning of class the following week. Make your work clear and concise.

Paper: 10 page paper due the last day of class. The paper must introduce a political science topic, explain how existing work leaves a theoretical question or set of questions about that topic unexplored, and set up a formal theoretical model designed to help answer that question. The model should be introduced by describing the relevant players, their preferences and utility functions, and a sequence of moves. You are not required to solve the game, merely specify it fully. Papers will be graded on the basis of whether the writing demonstrates a clear understanding of the topics introduced in this class as well as the degree to which the proposed model would further theoretical understanding in the relevant area.

Exams: two take-home exams, one at midterm, and one at the end of the course.
Course Outline

**Topic 1: Introduction and Formal Theory Building**


**Topic 2: Choice and Utility**

Chapters 1-2 in M&M

**Topic 3: Choice Under Uncertainty**

Chapter 3 in M&M

**Topic 4: Normal Form Games, Nash Equilibrium**

Chapter 5 in M&M

**Topic 5: Extensive Form Games, Subgame Perfect Equilibrium**

Chapter 7 in M&M


**Topic 6: Repeated Games**

Chapter 9 in M&M


**Topic 7: Bayesian Games, Belief Updating, Bayesian Equilibrium**

Chapter 6 in M&M
Topic 8: Signaling and Perfect Bayesian Equilibrium

Chapter 8 in M&M

Topic 9: Comparative Statics and Model Testing

Topic 10: Extensions