Course Outline
Economics 1108
Game Theory In the Natural and Social Sciences
Core Honors Section
Department of Economics
University of Connecticut
Professor V. Knoblauch

Prerequisites: A solid background in high school algebra.

Course Description: One-semester introduction to game theory. Applications in the natural and social sciences. The course demonstrates that game theory can be used to understand a wide variety of contemporary social, political, scientific and technological phenomena. Students will be actively engaged in choosing and carrying out research projects. Topics include matching games, evolutionary biology and elections. Not open for credit to students who have passed ECON 2201 or 2202. Open only to honors students.

Course Structure, Requirements and Goals:

Short Introductory Lectures will introduce Homework Problems and Discussion Questions. Homework will be assigned on a regular basis. You will be expected to attend class, participate in class discussion, present solutions to assigned problems on the board and participate in In-class game exercises which will be used to introduce new concepts and to illustrate concepts that have already been introduced. Quizzes and Tests will be used to test your knowledge and help in the learning process. Student Projects will help familiarize students with what research in game theory is and what research is in general. They are also meant to provide a bridge between taking courses and writing the honors thesis. Students will break into small groups (3-4) and carry out two short guided research projects and one final project.

Course Topics:
I. Introduction—Course Objectives
II. Models
III. A Brief History of Game Theory
IV. Games of Imperfect Information: Criminology
V. Games of Perfect Information: Economics
VI. Evolutionary Games: Biology
VII. Auctions
VIII. Location Games: Politics