

COURSE ANNOUNCEMENT

GAME THEORY

MATH 486/686

Fall Semester 2008
MW 2:30-3:45 PM
AB 206

Prof. Thomas Quint
784-1366
quint@unr.edu

Game theory is the mathematical modelling and analysis of conflict situations involving two or more players. It is mostly used in the social sciences of economics (e.g., analyzing the competition among firms in a market) and political science (e.g. modeling the arms race, or measuring the relative power of political parties within a legislature), but has other applications as well.

In this course we provide a mathematical introduction to game theory. No prior knowledge of the subject will be assumed. TOPICS COVERED: Extensive and strategic form games; Nash equilibrium; repeated games; matrix and bimatrix games; minimax theorem; TU/NTU solution; marriage, college admission, and houseswapping games; core; Shapley value; power indices; NTU games.

Text: Shapley, L. (1994) *Lecture Notes*, UCLA. Available in the bookstore.

Prerequisites: Linear Algebra (Math 330), or consent of instructor. Background in linear programming would be helpful but is not required.

Coming Spring 2009:

MATH 485/685 Combinatorics and Graph Theory

MATH 752 Operations Research II – Stochastic Models