

**STAT/ECON 474 Game Theory**  
Midterm 1 Study Guide

- The first midter is on Thursday February 25
- The exam will cover Chapters 1–9, 11 and 13.
- You will have the full 75 minutes for the exam, but I expect most will finish in an hour or less.
- There is a week-by-week syllabus on the webpage:  
<http://www.math.uic.edu/~marker/stat473-S16/wtw.html>
- **Most** of the exam problems will be similar to the problem sets and practice problems, but there will also be several short answer questions like the ones on earlier exams.

Sample Short Answer Questions:

- 1) Consider a two player game where  $A_i$  is the set of actions available to Player  $i$  and  $v_i$  is Player  $i$ 's payoff function. Give complete definitions of the following concepts.
  - a) The strategy profile  $(a^*, b^*)$  is a *Nash equilibrium*.
  - b) The strategy  $a^*$  for Player 1 *strictly dominates* the strategy  $a$ .
- 2) Decide if the following are TRUE or FALSE. If FALSE give an example showing the statement is FALSE.
  - a) A pure Nash equilibrium will never use a dominated strategy.
  - b) If  $(a^*, b^*)$  is the unique IEDS solution to a game then it is a Nash equilibrium.