MA 327/ECO 327
Exam #2 Tips

Review the material in Chapters 5 through 8, the class notes that are on the course website, the homework problems and their solutions that are in Canvas, and the various handouts that are on the course website.

Chapters 5 and 6. Be able to:

1. Take a description of a two person zero-sum game and represented it as a matrix.
2. Describe pure strategies and mixed strategies and calculate the associated expected payoffs for R or C or the game.
3. Identify saddlepoints.
4. Recognize when a row (column) dominates or strictly dominates another row (column).
5. Solve certain matrix games by iterated deletion of dominated rows and columns.
6. State what von Neumann solutions are and how to find optimal p, q, and v for certain games, including by using the graphical method.
7. State the Minimax Theorem (but you do not need to know its proof).
8. Know how do use the Certificate of Optimality to confirm the optimality of a given p and q.

Chapters 7 and Section 8.1. Be able to:

1. Describe how to determine utility using von Neumann and Morgenstern's lottery.
2. Take a description of a two person game and represented it as a matrix.
3. Take a description of a two person game and represented it as a tree.
4. Identify random events and information sets in game trees.
5. Describe what strategies rational players would follow in a game represented as a tree.

6. Convert a tree representation of a game into a matrix representation, including handling random events and information sets.
7. Convert a matrix representation of a game into a tree representation.
8. Recognize when a row (column) dominates or strictly dominates another row (column).
9. Calculate best pure and mixed responses to a given pure or mixed strategy.
10. Construct movement diagrams for pure strategies.
11. Identify pure Nash equilibria.
12. State the definition of a Nash equilibrium.
13. Know that every game has a Nash equilibrium.
14. Determine whether proposed p, q is a Nash equilibrium, by checking whether each is a best response to the other.
15. Find Nash equilibria for 2×2 games.