Wilfrid W. Csaplar Jr. Senior Seminar Review Sheet for Exam 1 and assignment #4A

This review sheet is intended to cover everything that could be on the exam. However, it is possible that I may have inadvertently overlooked something. You are still responsible for everything in the chapters covered except anything that I explicitly say you are not responsible for. Therefore, if I left something off of this sheet, it can still be on the exam. There will be no multiple-choice questions. Most of the questions will be like the ones on the homework assignments, and possibly a few definition questions. I am more likely to ask questions that make you use definitions rather than have you recite them.

The optional review session for this test will be held on Monday, 9/29, at 8:45 PM in a room yet to be announced.

The material for this exam will come from the help sheets that you already have. I will try to have the material tested in proportion to the amount of time spent covering that material. For example, we spent the first two weeks on applications of Lagrangian maximization problems. Given that the test will be about 4 ½ weeks into the semester, that topic will be about 40% of the test. We applied it to utility maximization, cost minimization, output maximization, and profit maximization.

Wilf Csaplar Jr. Economics 477 Laboratory #4A To be covered on 9/25

This is a non-graded homework assignment that will be covered during the same class we cover assignment #4. The purpose of this assignment is to give you sample questions for the material we covered after you handed in homework #4. This material will be on the exam.

1) (40 points) Determine if there are one, two, or no Nash equilibria in the following payoff matrix. Prove that you have found all equilibria. Find the cooperative equilibrium and explain how you chose it. If the cooperative equilibrium is not a Nash equilibrium, then explain why it is not Nash.

Payoff Matrix		Player 1	
		High Price	Low Price
Player 2	High Quality	20 18	30 15
	Low Quality	44 17	45 8

2) (20 points) Using the term "best response function (BRF)," explain why a payoff matrix of size m x n, can have no more than MIN(m, n) Nash equilibria. (Assume that no two entries in a row or column are identical.)

3) (25 points) Create a 2 x 2 payoff matrix which has no equilibrium. Prove it has no equilibrium.

4) (15 points) The Bertrand model of duopoly assumes that the two firms choose their prices. It further assumes that each firm assumes the other firm's price to be constant. Would this model qualify as a Nash model? Why or why not?