This review sheet is intended to cover everything that could be on the exam; however, it is possible that I will have accidentally left something off. 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 in the homework assignments, and possibly a few definition questions, but I am more likely to ask questions that make you use the definitions rather than recite them. I will probably ask one of the questions from the book at the end of the chapters.

   The review session will be at a time to be determined in class, probably Mon. 2/13 in the normal room.

Chapter 10: What are *monopoly, monopsony*, *monopoly power* and *monopsony power*? Why isn't D = MR? Be able to prove MR starts where AR starts, but is twice as steep. Prove that MR = MC is profit maximizing but D = MC is socially optimal. What is the formula for rule of thumb pricing and why should it work? What is the equation relating MR and elasticity? Be able to prove a monopoly does not have a supply curve. (Figure 10.4 does it two ways.) Be able to find how a monopoly with two plants determines their output, price, and how much each plant makes. What is the *Lerner Index of Monopoly Power* and how do you calculate it? Be able to find consumer surplus, producer surplus, and deadweight loss. What is *rent seeking* and why is it a problem? How do *price ceilings* affect monopolies? What are *natural monopolies*? Explain why they are called that. What are *rate-of-return regulation* and what are its potential problems? Understand the *monopsony* diagram. Understand why we re-label the lines as ME, AE, and MV and why they take their shapes. Find the deadweight loss. Why can't we draw a diagram for the *bilateral monopoly*? What is meant by *parallel conduct* and *predatory pricing*? Why are they illegal? What are the three ways the antitrust laws are enforced?

Chapter 11: Be able to draw the diagram for *first-degree price discrimination*. Explain how the firm determines its output and whether or not it is efficient from society's point of view. What is *second-degree price discrimination*? Why would a firm do that rather than first-degree price discrimination? How does it help the firm capture consumer surplus? Show that on a graph. What is *third-degree price discrimination*? When will it work? Be able to show it on a graph. What determines the ratio of the prices for the two customers? Be able to explain the graph for *inter-temporal price discrimination* with constant marginal costs. Be able to explain the graph for *peak-load pricing* with increasing marginal cost curve. Understand how a *two-part tariff* works. Understand why the graph of profits takes the shape we drew. For *bundling*, understand how we determine whether to buy the bundle or not. Do the same for *mixed bundling*. For simplicity, assume the marginal costs are zero so do not have to worry about costs. Besides bundling, what is another form of *tying*? Do not worry about advertising.

Chapter 12: What types of industries are *monopolistically competitive*? Why are they called that? Understand the diagram for a firm like that in the short-run and the long-run. Note: profits are found from ATC at quantity Q, not the minimum of ATC. How do they compare to perfectly competitive firms? What is meant by *duopoly* and *oligopoly*? Be able to find the Cournot equilibrium using the graph of costs and demand to get the reaction functions. Then find the Cournot-Nash equilibrium. Find the cooperative and competitive equilibria on the reaction function graph. Why does a Von Stackelberg leader have an advantage? Understand the Bertrand model for an industry with identical products. (The book does it for products which are not identical.)   Understand the **prisoners' dilemma**. What are **non-cooperative** and **cooperative** games? How does the **kinked demand** cause **price rigidity**? Also, be able to explain how we got that demand and its MR curves. Understand the **price leadership**, a.k.a., **dominant firm with competitive fringe** diagram. Be able to explain how **cartels** act.

Note that part of Chapter 12 and all of Chapter 13 were on Exam #2, the last time I taught the course.

Chapter 13: What are **games, payoffs, strategies, dominant strategy,** and **optimal strategy**? How do we find the **Nash Equilibrium** and **maximin, a.k.a., safe or secure strategies**? What are **mixed** and **pure strategies**? Why does it matter how long a **repeated game** is repeated? How can the **tit-for-tat** strategy possibly yield a cooperative equilibrium?

Non-graded Homework Assignment #3A to be reviewed with Assignment #3.

1) (30 points) Draw the diagram for a dominant firm with a competitive fringe. Explain why the dominant firm's demand curve looks as drawn. Find the equilibrium price, quantity for the dominant firm, quantity for the fringe, and quantity for the industry. Explain how you found them.

2) (30 points) Draw the kinked-demand curve. Explain why it takes its shape. Draw the MR curve and explain how you found it. Find the optimal price and quantity. Explain why they may not change even if the cost of production changes.

3) (20 points) Find all Nash equilibria in the following matrix. Prove that you found all and prove they are Nash equilibria. Does either firm have a dominant strategy? Explain your logic. Find the cooperative equilibrium. Explain how you found it. What are the two players' secure strategies? How did you find them?

Payoff Matrix		Sony		
		High price	Medium Price	Low Price
Yamaha	High Price	25 19	24 36	22 33
	Low Price	7 18	20 11	23 35

4) (10 points) In Hotelling's Spatial Model, which the book does not name, why do both firms end up at the same point on the beach?

5) (10 points) Why might the best strategy be a mixed strategy?