Wilfrid W. Csaplar Jr. Principles of Microeconomics Review Sheet for Exam 3

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 TBD in class, probably Thursday 4/5.

Chapter 8: What are the **residual claimants, team production, shirking,** and **principal-agent problem** and how do they relate to the firm and to **incentives**? What are the differences between **proprietorship, partnership, LLC,** and **corporation**? What are the advantages and disadvantages of them. How do the following affect the behavior of firms: competition for **investment funds**, competition for consumers, compensation and **management incentives**, and threat of a **corporate takeover**? Understand the differences between **explicit costs, implicit costs, accounting costs, economic costs,** and **opportunity costs**. Know the differences between **economic profit** and **accounting profit**. Know what determines if a cost is a **fixed cost, variable cost, or mixed cost**? *If that cost changes when the firm produces more, then it is a variable cost. If it does not change when output changes, it is a fixed cost. Fix costs can vary over the year. For example, the electricity for outdoor security lights is a fixed cost because it is independent of the level of production. However, it will be a lot bigger in December than in June.* Be able to plot **TC, TVC, TFC, AVC, AFC, ATC,** and **MC** and know why they take their respective shapes. *Note that MC must go through the minimum of AVC and ATC. MC must also start where AVC starts. If MC is below AVC then AVC is falling and if MC is above AVC, then AVC is rising. The same is true for MC and ATC. It is easiest to plot AVC, AFC, ATC, and MC in that order. That way you can get ATC to be above AVC by the amount of AFC and MC goes through the two minimum points. If I ask for profits or losses, they are the rectangle whose height is (P-ATC) and width is Q. TFC is (ATC-AVC)*Q.* Be able to plot **TPL (a.k.a. TP)** and **MPL.** Know why they take their shapes and how they relate to the cost curves. Be able to fill in a table for the cost curves. *For the table, there are really only three equations you need to know and they come directly from the definitions of the curves.* *<u>T=F+V, A=T/Q, and MC = ΔTC/ΔQ</u>. From the first one you get TC=TFC+TVC and ATC=AFC+AVC. From the second equation you get ATC=TC/Q, AFC=TFC/Q, and AVC=TVC/Q. From the third one, we can prove that MC = ΔTVC/ΔQ. For example, you can use them to find TC. If you know MC you can find the new TC by* $MC=(TC_1-TC_0)/\Delta Q$. *You will know all the numbers except* TC_1*, so solve for it.* Know why the **LRATC** is the **envelope** of all of the **SRATC**. Know the difference between **short run** and **long run**. What causes **economies of scale a.k.a. increasing returns to scale** and how is it seen on a graph? What causes **diseconomies of scale a.k.a. decreasing returns to scale** and how is it seen on a graph? What are **sunk costs**? Why don't they have any impact on what firms do?

Chapter 9: Understand the difference between **price takers** and **price searchers a.k.a. price seekers. Pure competition a.k.a. perfect competition** has **no barriers to entry, no barriers to exit,** large number of identical firms producing identical products and a large number of customers. Understand why that means producers and consumers are price takers and why firms make no economic profit in the long run. Understand why **MR=MC** is profit maximizing for <u>all</u> firms. *(You will get tired of saying MR=MC this semester.)* Why is MR=D for perfect competition? What are the **short-run shutdown point** and the **long-run shutdown point**? Why are they at those points? Draw the **industry supply curve** for both the short-run and long-run. Understand how we get them from the firm cost diagram. *You* *will note, the book leaves out the straight horizontal section of the short-run supply curve, but I will expect you to know it. It comes about because all firms will close if the price goes below the AVC. For example, if the labor and raw materials cost $10/unit, you will produce nothing if the price is $8/unit.* Know how whether the industry is a **constant cost industry, increasing cost industry,** or **decreasing cost industry** will affect the shape of the industry's LR supply. *The LR supply is at the minimum of the ATC because that is when the firms shut down in the long run. If it is a constant cost industry, that minimum point is not changing so the LR supply is horizontal. If it is an increasing cost industry, then as firms enter, the costs to the already existing firms increases so the minimum of the ATC increases. Therefore, the LR supply slopes up. Similarly, the LR supply slopes down for a decreasing cost industry.* What happens to the **elasticity of supply** as time goes on? Why does perfect competition mean firms produce **efficiently** in the long run?

Chapter 10: Why is MR<P for price seekers? *When drawing MR for a straight-line demand curve, start them at the same point (technically Q=1) and draw MR twice as steep. This means two things. First it bisects the angle between the P-axis and the demand curve. It also means it will cross the Q-axis half way between the origin and where the D curve crosses the axis.* What is meant by **monopolistic competition**? *Basically, it is perfect competition but with differentiated prices so the firm demand slopes down and there is no industry diagram.* How do firms figure out how much to produce and at what price. *MR=MC determines Q. Then they want to charge as much as possible for that quantity, so they charge up at the demand curve.* What is a **contestable market**? Be able to find the long-run equilibrium for a monopolistically competitive firm. *Hint on drawing it. Draw the straight lines first. Put dots where you want the ATC to be tangent to D and where you want MR to cross MC. Then draw the curves. I recommend this because it is easier to draw a curved line tangent to a straight line than vice versa.* Use the cost curves graph to show that in the long-run, monopolistically competitive firms do not produce at the lowest cost despite the fact that they make zero profits. *The tangency of D and ATC cannot be at the minimum of the ATC.* What is necessary for **price discrimination**? *Hint: they must be able to charge different people different amounts. So, they must be able to cheaply separate people by their elasticity of demand and be able to prevent resale.* Understand why price discrimination reduces dead weight loss and consumer surplus, but increases producer surplus. Why are **entrepreneurs** important for the economy? Why are some business failures good for the economy? *(I called it **creative destruction**.)*

Non-graded Homework Assignment #8A to be reviewed with Assignment #8.

1) (45 points) Draw the diagram for a monopolistically competitive firm which is losing money but staying open. Find the quantity produced and the price charged. State how you found them. What happens in the long run? Explain why that occurs and how that changes the diagram. Illustrate those changes on the graph and explain why the curve(s) moved as drawn. Find the new price and quantity.

2) (30 points) Draw the demand and MC diagram for a firm with constant marginal cost and a downward sloping demand. Find the price charged, quantity sold, consumer surplus, and producer surplus, if they do not discriminate. Explain how you found them. On a separate graph, do the same for price discrimination if they can separate the customers into two groups. Explain why the prices charged, quantity sold, consumer surplus, and producer surplus got bigger or smaller.

3) (15 points) Why is letting firms go out of business often a good idea? Give two reasons.