Wilfrid W. Csaplar Jr. Managerial Economics Review Sheet for Exam 2

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. I will probably ask one of the questions from the book at the end of the chapters.

The review session for this test will probably be Sunday, 3/6, at a time the class will determine.

Chapter 3: In general, elasticity is written as $E_? = \%\Delta Q_X/\%\Delta?$ where "?" represents the type of elasticity. Be able to find the point price elasticity of demand and the arc elasticity of demand. What does the elasticity of demand tell us? How do total revenue and marginal revenue relate to the elasticity of demand? What determines the elasticity of demand? For income elasticity of demand and cross-price elasticity of demand, know how to calculate them, interpret what the numbers mean, and understand why different products have different elasticities. You should be able to calculate all elasticities using an equation like $Q_X = 3 + 0.1*I - 0.4P_X + P_Y$. How has e-commerce affected the elasticity of demand?

Chapter 3's appendix: Know the properties of indifference curves and why they have those properties. Know how to manipulate the indifference curve/budget constraint diagram to illustrate changes in price and/or income. Know what the slopes of the two types of curves are. Know how to find the income and substitution effects and how to derive the demand for a good. Hints: There are an infinite number of indifference curves and they do not move unless tastes change. Therefore, in this course, they will not be moving. **You will move to a different indifference curve, not move the indifference curve.** The income effect assumes the real income has changed. That is a parallel movement of the budget constraint because the relative price has not changed. The substitution effect assumes the real income is the same, so you must stay on the same indifference curve. When drawing the income and substitution effects, all three points, A, B, and C, must be on different budget constraints. Do not draw two of them on the same budget constraint. Do not have indifference curves cross or slope up. What is the equi-marginal principle? What are the slopes of the curves?

Chapter 4: Note that most of this chapter is thrown out because the topic would require more than two chapters to cover adequately, but you should know how to interpret results that are given to you. Therefore, if it is not listed here, you are not responsible for it. What is the identification problem? What are the advantages and disadvantages of consumer surveys, observational research, consumer clinics, market experiments, and virtual shopping? Understand that a regression is trying to find the line with the equation $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots$ The X's are the data you are using to do the predictions and the Y is what you are trying to predict. So Y is usually Q_D and the X's are usually variables like price, income, other prices, etc. The equation is a straight line and the α and β's are the numbers that the computer calculates. Know what the *Adjusted R^2*, *Significance of F*, *coefficients, t-statistic*, *P-value*, *Lower 95,* and *Upper 95* mean and how to use them.

Chapter 6: What are the production function, fixed inputs, variable inputs, short-run, long-run, TP_L, MP_L, and AP_L are. Why do the three graphs look as drawn? Be able to calculate the output elasticity of labor.

Non-graded Assignment #4A to be reviewed with Assignment #4.

1) (20 points) Suppose you were to develop a new car model. Would you would use a consumer survey or a market experiment to figure out what features you would add to it? Explain your logic.

2) (20 points) Suppose you were to develop a new fruit juice. Would you use consumer clinics or virtual shopping to evaluate the demand? Explain your logic.

3) (20 points) Draw the MP_L/AP_L diagram. Explain why it takes its shape. In what range is the output elasticity of labor inelastic? Explain your logic.

4) (10 points each) Answer the questions using the results below. The regression was trying to predict the sales of bread.
A) Are the overall regression results good? Explain your logic.
B) Which variables are significant? Explain your logic.
C) If your customers have an income of $10,000 the price of bread is $4/loaf, and the price of butter is $2/lb. Then write the equation which will predict the sales of bread. Briefly explain how you found it.
D) Given these results, are bread an butter substitutes, likely substitutes, likely unrelated, likely complements, or complements. Explain your logic.

Regression Statistics						
Multiple R	0.931276					
R Square	0.867275					
Adjusted R Square	0.861332					
Standard Error	39.27886					
Observations	71					

Analysis of Variance

	df	Sum of Squares	Mean Square	F	Significance F	
Regression	3	675455.77	225151.92	145.9345	2.56e-29	
Residual	67	103369.51	1542.83			
Total	70	778825.28				

	Coefficients	Standard Error	t Statistic	P-value	Lower 95.00	Upper 95.00
Intercept	828.0069	121.8803	6.7936	2.96e-09	584.7329	1071.2810
Income	0.0006	4.79e-05	12.1308	7.05e-19	0.0005	0.0007
P bread	-65.5962	47.1957	-1.3899	0.1690	-159.7993	28.6069
P butter	-124.0442	19.7585	-6.2780	2.51e-08	-163.4824	-84.6060