

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 Thursday, 4/8, at a time the class will determine.

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, and market experiments? Understand that a regression is trying to find the line with the equation $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots$. 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? What are the MRP_L and the MRC_L and why should they be equal? Understand what isoquant lines are. We will ignore the area where the isoquants slope upwards because it is outside of the feasible area. They act very similarly to indifference curves. The slope of the isoquant is the negative of the $MRTS = -MP_L/MP_K$. Understand what that means. Do not worry about isoquants for perfect substitutes and for perfect complements. Understand what isoquants and isocost lines are. We will ignore the area where the isoquants slope upwards because it is outside of the feasible area. They act very similarly to indifference curves and budget constraints. Know what moves the isocost lines and be able to show those movements. Their slope is $-w/r$. Know how to find the expansion path. What is the equi-marginal principle as it applies to inputs in production. Know how to determine if there are increasing (IRTS), decreasing (DRTS), or constant returns to scale (CRTS). Ignore sections 6-7 through 6-9.

Chapter 7: What are implicit and explicit costs? How do economic costs differ from accounting costs? What is the difference between short-run and long-run? Be able to plot the $SRTC$, $SRTVC$, $SRATC$, $SRAVC$, and $SRMC$ curves. Derive them from the isoquant/isocost diagram by holding K constant and drawing a horizontal line at that level. **Hints on drawing them: Note that the $SRMC$ curve must go through the minima of both the $SRATC$ and the $SRAVC$ curves, so draw the $SRMC$ curve last. The distance between the $SRATC$ and $SRAVC$ curves is $SRAFC$, so those two curves must be getting closer together. Therefore, draw the $SRAVC$ curve first, then the $SRATC$ curve and finally the $SRMC$ curve. Remember to start the $SRMC$ curve at the same point as the $SRAVC$ curve.** Also, be able to derive the $LRATC$, $LRTC$, and $LRMC$ curves from the isoquant/isocost diagram using the expansion path. Understand why the $LRATC$ curve is the envelope of the $SRATC$ curves. Be able to draw them. Understand why the $LRTC$ curve is the envelope of the $SRTC$ curves. Be able to draw them. **Only** worry about the **first** diagram of the three different $LRATC$ curves on page 295 in Figure 7-6. What is the learning curve? Why does it take that shape? How can we keep costs down by outsourcing, having immigration of labor, and international trade of inputs? Ignore pages 303 and later. They will be on exam #4

Assignment #7A to be review with Assignment #7.

1) (70 points) Draw an isoquant/iso-cost diagram. Draw it such $w = \$5/L$ and $r = \$3/K$. Draw iso-cost lines for total costs of \$15, \$30, and \$45. Have the isoquants which are tangent to those three iso-cost lines be for outputs of 10, 15, and 20. Suppose the current amount of capital is the amount of capital which you would want to have to produce 15 items. Draw the appropriate line. Use your graph to find the $LRTC$, $SRTC$, $SRTVC$, $SRTFC$, $LRATC$, $SRATC$, $SRAVC$, $SRAFC$, $LRMC$, and $SRMC$ for the quantities of 10, 15, and 20.

2) (15 points) Is the $LRTC$ Curve the envelope of the $SRTC$ Curves? Explain your logic.

3) (15 points) Is the $LRMC$ Curve the envelope of the $SRMC$ Curves? Explain your logic.