

Assignment #3 is due under my office door by 4:00 on Friday 2/21.

The revised syllabus is on the web page. Basically, all it does is change which topics are covered on which day. Except assignment #3, you will still have something every Thursday.

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 Wednesday 2/26 at 7:00 in the normal room, Richardson 104.

Chapter 1: Know what the following mean: manager, economics, managerial economics, opportunity costs, and economic profits. What are incentives and why are they important? How do the consumer-producer, consumer-consumer, and producer-producer rivalries help the market to work? How does the government affect the market? Be able to use the present value formulas. I will provide on the test the three equations below. Know how to use them, and why we use them rather than just adding numbers together from different years. Be able to calculate the marginal values and fill in a table like table 1-1. (That has Q , $B(Q)$, $C(Q)$, $NB(Q)$, $MB(Q)$, $MC(Q)$, and $MNB(Q)$.) The CD that comes with the book has that table in Excel format. That will enable you to see the formulas that they use to calculate the entries. Unfortunately, it will not be of help if a different number is missing like the quantity. Be able to recreate a set of graphs like those on page 22. Note that the top two graphs could be drawn on the same axes, but the bottom one cannot.

$$PV = \sum_{t=1}^n \frac{FV_t}{(1+i)^t}, PV = \pi_0 \left(\frac{1+i}{i-g} \right), PV = \pi_0 \left(\frac{1+i}{i-g} \right) \left(1 - \frac{1}{(1+i)^{M+1}} \right)$$

Chapter 2: Know the difference between demand and quantity demanded as well as between supply and quantity supplied. Know what moves both curves. In general, except for expected prices, nothing moves both curves. How can we tell if a good is normal or inferior, and if two goods are substitutes or complements. Know what linear and a log-linear demand curves are. Be able to find consumer surplus. When are there surpluses and shortages on the diagram? Show how price ceilings affect the market including full economic price. Explain the problems with price floors.

Chapter 3: How do we calculate elasticity in general? Be able to calculate own-price elasticity and know what the number means. What determines in the real world whether a demand curve is elastic or inelastic? Why are there no perfectly inelastic demand curves over the whole range of the curve? How does elasticity relate to marginal revenue? Why? How do we calculate cross-price, income, and other elasticities and what do they tell us? Be able to calculate all of them from the linear and the log-linear demand functions. On the regressions, I will not ask you to calculate one. I can ask you to interpret the results of one, like on the homework assignment. The important parts are the adjusted R-Square, Significance of F, Coefficients, Standard Errors, t-Statistics, P-Value, Lower 95%, and Upper 95%. Know what information those items give us. The questions in the book/CD that require you to run regressions are not going to be asked. However, I could run them and give you the result to interpret.

Chapter 4: What are the four properties of indifference curves? How do they combine to cause the

normal shape of indifference curves? What is the MRS and how does it relate to the indifference curve? Note that it ends up looking like it is upside-down because it is MU_x/MU_y . Also note that if I gave you a utility function and asked you to plot the indifference curves, like on assignment #3, it probably will not look normal because they are hard to plot. What determines the budget constraint? Be able to move it. Use them to find the income and substitution effects. Hint: The income effect is the parallel movement of the budget line while the substitution effect assumes the person is just as happy as before, so it is two points on the same indifference curve. It does not matter which you do first, but label correctly. Be able to use them to derive the demand curve and determine substitutes or complements. Be able to draw strange budget constraints like buying one good for one price and getting another for a reduced price or giving a gift in kind vs. giving money. Technically, figure 4-17 does not show what they want it to, so look at figure 4-19 to see that. How can we use this to show the labor-leisure trade-off and the outcomes given different types of managers? Ignore the appendix.

Chapter 5: You are only responsible up to page 163 in the new syllabus. What is the production function? How can we tell long-run and short-run? Understand the relationships between TP_L , MP_L , and AP_L . Be able to fill in a table like 15-1. Note that the CD shows the table filled in, so you can see the formulas. Be able to plot the graphs of those three variables. Note that unlike figure 5-1, you cannot draw TP_L on the same axes as MP_L and AP_L . Why not? Why do we pay people their VMP_L ? Be able to get the equations for those variables from linear and Cobb-Douglas production functions. Do not worry about the Leontief production function because it is too hard to work with mathematically. Remember that anything marginal is the derivative of the total and anything average is the total divided by amount, for example with AP_L , it is by L .

This is the non-graded assignment #3A that will be gone over with assignment #3 in class.

- 1) (30 points) Many managers want to manage a larger company. Stockholders only care about profits. Explain why stockholders give managers shares of stock at reduced rates. Use a figure that has the profits as a function of the output and the manager's indifference curves, to explain how that stock changes the outcome in a way desirable to the stockholders.
- 2) (15 points) For the production function given by $Q = F(K, L) = 2K^{1/2} + L^{1/3}$, calculate the MP_L and the AP_L when there 100 units of capital and 64 units of labor. Show all work and briefly state what you did.
- 3) (20 points) Draw the normal TP_L curve and explain why it takes that shape.
- 4) (35 points) Fill in the following table. Show all calculations.

L	Q	MP_L	AP_L
0	0		
1	10		
2			15
3		15	
	56		14
	72	8	