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, 11/1, at a time the class will determine.

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 (CTRS). 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? Understand breakeven analysis including the graph of straight-line TC and straight-line TR. How does the operating leverage affect the diagram? What is DOL? How do we calculate it? What does high DOL imply about the firm's profitability? Why is it acceptable to use the SRTC curve that is straight? Ignore pages 313 - 316.

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

1) (20 points) Explain why the LRATC is the envelope of the SRATC curves, but the LRMC is not the envelope of the SRMC curves.

2) (20 points) Suppose the fixed costs are $120, the marginal costs are $5/Q, and the price is $9/Q. Draw the straight-line TC/TR diagram. Find the break-even point. If the firm is producing 40 units, then calculate the DOL. How much would their profits drop if their sales dropped 20%. Show all work and briefly explain all calculations.

3) (50 points) Draw an isoquant/iso-cost diagram with three of each line. The wage rate is $5/L, the rental rate is $10/K, and have total costs of $30, $40, and $50. Use it to find the LRTC and SRTC for the three isoquants you drew. For the short-run, assume you have 4 units of capital. Show all work and briefly explain what you did.

4) (10 points) Explain how two firms could have the same profits but different DOL.