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 to be determined in class, probably Monday 2/14.

Chapter 1: What is meant by *international trade*?

Chapter 2: What is meant by **absolute advantage** and **comparative advantage**? Be able to figure both out. Which determines trade patterns? When given information like the one in Question #2 on Homework #1, be able to find the comparative advantage, absolute advantage, draw the **PPF** and **CPF** diagrams for the two countries with **constant marginal costs**, and draw the **supply/demand** diagram for both goods. Be able to answer the question with the units of the numbers' being written as **hours per unit** and **units per hour**. Be able to prove the **Law of Comparative Advantage** and understand why it holds. Understand how both countries gain from trade when compared to **autarky**. Why might neither country have a comparative advantage in either good? All of this assumes we trade goods, how does it work with **currency**? Note that the graphs on Pages 45 & 47 implies **Ricardo's Model** holds in the real world.

Chapter 3: Explain why **increasing marginal costs** exists and causes the PPF to curve down. Why is the slope of the PPF equal to $-MRT_{XY}$? Know the properties of **isobars**. (They cannot cross. Each curve has its own value. Every point is on a curve.) Know the additional properties of **indifference curves**. (They must slope down. As you move up/right, their value increases.) Know why the absolute value of the slope of an indifference curve is the $-MRS_{XY}$. Be able to find the **autarky** point. For a **small country**, be able to find the utility maximizing **production point** and **consumption point**. Hint: The CPF must be tangent to the PPF and to the indifference curve. Be able to do the same using two graphs, one for each of the two **large countries**. Hint: To make sure the exports of one country are the same as the imports for the other country, first find the two countries consumption and production points. Then draw the CPF and finally the PPF and indifference curves. It will be easier to get the diagram correct. Also be able to use one diagram to show how two countries with **identical tastes** may gain from trade and two countries with **identical production capabilities** may gain from trade. **Note all of the slopes are upside-down from what you would expect.** The absolute value of the slope of the PPF (MRT_{XY}) is the opportunity costs of the good on the X-axis. The absolute value of the slope of the indifference curve (MRS_{XY}) is the rate you will be willing to give up the Y-axis good to get one unit of the X-axis good. The absolute value of the slope of the CPF is the relative price of the X-axis good (P_X/P_Y).

Chapter 4: Know the difference between **partial equilibrium** and **general equilibrium**. Be able to use two individual countries' supply/demand diagrams for a single good to determine the **supply and demand for trade of a good**. Be able to derive both countries' **offer curves** from their respective PPF/indifference curve diagrams. Note that offer curves are general equilibrium. Understand why they take their respective shapes. How do we use them to find the relative prices of the goods with free trade? Understand how we derive the **general equilibrium supply and demand diagram** for a product. *Note that you can tell it apart from the partial equilibrium supply and demand by looking at the Y-axis. The*

general equilibrium diagram has the relative price of the good (P_X/P_Y) while the partial equilibrium graph has the price of the good (P_X). What is meant by **terms of trade, TOT**? In Appendix A4.3, understand why the **trade indifference curves** take their shape and how they can be used to derive the offer curve. In Appendix A4.6, be able to tell if an equilibrium is **stable** or **unstable**. Hint: Take a price line near the equilibrium, but not at it. Determine if there is excess supply or excess demand for the good on the X-axis. That will tell you if the price will rise or drop.

Chapter 5: Understand what the 11 assumptions on Page 102 mean and understand how we use them in the Heckscher-Ohlin (H-O) Model. That includes terms like **capital intensive, labor intensive, capital abundant, labor abundant, constant returns to scale (CRTS), perfect competition, perfect internal factor mobility, incomplete specialization,** and **product specific inputs.** What is meant by a **derived demand** and how does it determine the **relative factor prices**? Understand how factor abundance relates to the PPF. Use that to explain the **H-O Theorem**. Be able to prove the Factor-Price Equalization Theorem using the graph with the relative prices of goods on the vertical axis and the relative price of factors on the horizontal axis. Who gets helped and who gets hurt from trade in both the H-O Model and the Specific Factors Model. *Remember that the **real wage** measured in terms of the export does not always change the same way as the real wage measured in terms of the import competing good. Note that because labor (and capital if it is mobile) is mobile and because changes in relative prices of goods is what causes wage changes, the percent change in the price is greater than the percent change in the wage rate. However, in the specific factors model, the rental rate of capital changes a larger percent than the percent change in prices because capital cannot move.* Understand the **Leontief Paradox** and be able to use the following explanations to explain it: **land-intensive export, human capital-intensive exports,** and **factor-intensity reversal.**

Chapter 6 until Page 149: How does **increasing returns to scale (IRTS and external economies)** relate to the PPF? How does that affect trade? What are **monopolies, oligopolies, outsourcing,** and **offshoring**? How do they affect trade? Why does the study of **intra-industry trade** require **differentiated products**? Be able to calculate the **intra-industry trade index (T)**.

Non-graded Homework Assignment #3A to be reviewed with Assignment #3.

1) (15 points) State the Leontief Paradox. Explain how "human capital-intensive exports" can cause it.

2) (15 points) State the Leontief Paradox. Explain how "factor intensity reversal" can cause it.

3) (20 points) Draw the graph we used to prove the factor price equalization theorem. Explain why the graph looks as drawn and how it results in factor price equalization.

4) (20 points) Draw the PPF/CPF diagram for increasing returns to scale. Explain why it takes that shape. How does it lead to complete specialization?

5) (10 points) What causes economies of scale?

6) (10 points) If the USA imports $200 worth of cars and exports $300 worth of cars, then what percentage of trade is intra-industry trade? Show all work.

7) (10 points) How doe economies of scale and product differentiation lead to intra-industry trade? Explain your logic.