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.

The review session will probably be Wednesday, 3/25, at a time and place to be determined. The exam will be proctored by W. Randy Cooey. Note that in the past there were four exams most semesters. Therefore, you need to look at Exam #2 and Exam #3. You will be given a pair of equations and asked to explain one of them. The equations at the end of the chapters will help you prepare for this part of the exam.

Chapter 4 starting with 4.2: What determines uc_K? What will move that curve? Why is where it crosses **MPK^f** the desired level of K? Why is there an "f" on the MPK? What moves the MPK^f line? How does **K*** relate to I? Why might a change in the **depreciation rate** have uncertain effects upon investment? What moves the **S^d and I^d** lines on the graph? Why should they yield the equilibrium level of S and I?

Chapter 5: What is the **current account (CA)**? How is it calculated? What is the **capital financial account (KFA)**? Why should the CA + KFA = 0? How do **NFP** and **unilateral transfers** enter the equation? Do not worry about *official reserves* or *official settlements balance*. Note that the summary on Page 177 does a great job of showing how all the terms relate to each other. Why does $S^d = I^d + CA$ or more easily put $S^d + KFA = I^d$? Be able to manipulate the S/I diagram for **small open economies**. Be able to show what moves the curves, and know how to find a CA deficit or a KFA deficit. Personally, I think that you can figure out KFA easier and more directly because if there is excess savings, what do we do with it? We buy foreign stocks and bonds. If we have excess investment, how do we finance it? We export bonds and stocks, i.e., we borrow from abroad. Know how government policy and shocks affect the diagram. Be able to manipulate the S/I diagram for **large open economies**. Be able to show what moves the curves, and know how to find a CA deficit or a KFA deficit. How are the **twin deficits** related?

Chapter 6: What causes economic growth? How do we measure **A**? Be able to calculate the growth of **total factor productivity**. What is the **Solow Growth Model**? Be able to draw the **per-worker production function**. Understand what moves it. How do we find **k$_G$ (the "golden rule" capital-labor ratio), k$_{max}$ (the maximum capital-labor ratio), and k* (the equilibrium capital-labor ratio)**? Why is the latter at the point where **sf(k)** crosses **(n+d)k**? What moves those two lines? Why does the economy automatically move towards k* and why is that not necessarily at k$_G$? Understand the economic reasons for the changes in k that the diagram predicts. For **endogenous growth theory**, understand why they assume Y=AK and why **ΔY/Y = sA - d**. What government polices affect "s," "A," and "d"? (Nothing the government does really affects d.) Why do they have those effects? (They can be seen on pages 235 - 237.) For this chapter, it is crucial that you remember the differences between small and CAPITAL letters. Remember that small letters are rates, ratios, or fractions. Do NOT use them interchangeably with capital letters.

Non-graded Assignment #6A to be reviewed with Assignment #6 is on the back.

1) (20 points) Explain $\frac{\Delta Y}{Y} = \frac{\Delta A}{A} + a_K \frac{\Delta K}{K} + a_N \frac{\Delta N}{N}$. You can treat all of the $\Delta X/X$ as one variable assuming you tell me what is. Since a_K and a_N are parameters, you do not need to explain them. However, I want you to tell me why they are less than 1.

2) (5 points) Suppose that GDP grew 8%, the labor force grew 5%, and we added 9% more capital. How much did technology improve? Show all work.

3 (5 points) Why don't we measure technology directly?

4) (20 points) Draw the Solow Growth Model diagram. Illustrate the effects of an increase in the growth rate of population. Explain why the curve(s) moved as drawn. What happens to the equilibrium capital-labor ratio and the equilibrium GDP per capita?

5) (20 points) Draw the Solow Growth Model diagram. Use it to find k* and k_G. For the USA, which do you think is to the right? Explain your logic.

6) (15 points each) For each of the following, explain how this would affect the long-run growth f the economy in the endogenous growth model.
A) Patent lives are lengthened.
B) Taxes on interest and dividends are cut.