The final exam for Monday, May 9 (10:30am-12:30pm) for Section 1 and Wednesday, May 11 (1:00pm-3:00pm) for Section 2. The exam will cover material from Chapters 1-18 in the textbook, with an emphasis on Chapters 13-18. You are allowed to use calculators. You must use a pen.

The exam will be made up mostly of multiple-choice questions of the sort that you have seen before. There will also be a written-answer question on material that we have discussed in class and/or related to the practice questions below.

In terms of prioritizing your studying, I would recommend using your class notes as a guide to go through the textbook material. In terms of early material, I will not ask any obscure questions. I will concentrate on fundamental ideas that show up again and again in the course.

Sometimes it may seem like there are a very large number of graphs to learn, but really there are only a few that you need to know:

1) *The circular flow diagram* (Not really a graph and the whole point is that in macroeconomics output=income.)
2) *The PPF* (Again, not much to this graph. Its main point is to capture the idea that business cycles represent movements away from the frontier and growth represents an expansion of the frontier. It is also relevant to the analysis of comparative advantage and the gains from trade in chapters 2 and 17.)
3) *The AD/AS diagram* (This is the main graph you need to understand.)
4) *Various Supply and Demand graphs* (Almost all other graphs in the course are variants of supply and demand graphs, where the relationships between price and the quantities supplied or demanded are represented. If there is a change in supply or demand for any reason besides price (i.e., a shift), the price will adjust to equate supply and demand. Supply and demand graphs are used for the labour market (labour supply and labour demand, with price=real wage), capital markets (savings and investment, with price=real interest rate), and the money market (money supply and money demand, with price=nominal interest rate.)
5) *The AE 45 degree diagram* (This graph is used to understand aggregate demand in the very short-run when prices are fixed.)
6) *The Phillips Curve* (This graph is an alternative to AD/AS when examining changes in inflation. The short-run in this case is when inflation expectations are fixed.)

That's it. Meanwhile, only three of the graphs are somewhat complicated: AD/AS, AE 45 degree diagram, and the Phillips Curve. Supply and Demand is relatively straightforward.
because it is "static". That is, there is a change, the price responds, and that is the end of the story. The three complicated graphs have "dynamics". That is, there is a change, there is a short-run response, then something else changes, and there is a long-run response.

For AD/AS, there is a change in either AD or AS for a reason other than a change in the price level. Wages are fixed in the short-run, so output and prices are determined by the intersection of AD and SRAS. In the long-run, wages adjust, causing the SRAS to shift. In the long-run, output and prices are determined by the intersection of AD and LRAS.

For the AE 45 degree diagram, there is a change in autonomous aggregate expenditures and the AE curve shifts. In the very short-run, prices are fixed and the intersection of the AE curve and the 45 degree line determines output in the economy. The multiplier process is the idea that the total change in output is larger than the initial change in autonomous aggregate expenditures. In the long-run, prices adjust and the AE curve adjusts back to its original position.

For the Phillips curve, there is a change in inflation, perhaps due to changes in monetary policy. In the short-run, inflation expectations are fixed, so unemployment changes. This is represented by a movement along the SRPC. In the long-run, inflation expectations adjust and the economy moves along the LRPC. The fact that the LRPC is vertical suggests that in the long-run, the level of inflation does not impact unemployment. Inflation only impacts unemployment in the short-run because inflation expectations are fixed, meaning that it is unanticipated inflation that affects unemployment.

**Review Questions:**

1. Draw the simple version of the Circular Flow Diagram that includes Goods Markets, Factor Markets, Households, and Firms. Draw and label the real flows (e.g., labour) and the flow of payments (e.g., wages).
2. Use the AS/AD model to show the short-run effects on output and the price level of a decline in AD due to a fall in investment demand. Assuming that policy (monetary or fiscal) is unable to stimulate AD enough to bring the economy back to full employment, how does the economy return to full employment? Use the AS/AD model to illustrate the return to full employment.
3. Suppose the economy is near “full employment”, but consumers become pessimistic about future prospects and start saving more. Assuming the price level remains fixed, draw the multiplier effects of this change in savings on output in the short-run using the 45 degree diagram. Label your axes. Explain what the lines in the graph represent. Label key points of the multiplier process on your graph and describe them.
4. A disinflation is a period of time in which the Fed lowers the rate of inflation by lowering the growth rate of the money supply. They initiate this policy by selling bonds on the open market.
   a. What is the initial impact on nominal and real interest rates? Explain.
   b. What happens to output and unemployment? Explain.
   c. What is the long run effect on real and nominal interest rates? Explain.
d. Draw the steps of a disinflation from 6% to 3% using a Phillips curve diagram. Give a point by point description of each step in the disinflation. Be sure to label your diagram fully.

5. Use a numerical example of a two-country/two-good world economy (e.g., Canada/US and beer/pizza) to illustrate “gains from trade”. Explain the difference between absolute and comparative advantage.