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, most likely Thursday, March 4th.
Note that last semester, Chapter 8 was on Exam #3.

Chapter 5: What are **negative externalities** and **positive externalities**? How are they seen on the graph? What is the best way to offset them? Show that on the supply and demand diagram. Know the economic reasons for **providing a legal system, promoting competition, providing public goods,** and **income redistribution**. Know what **government sponsored** and **government deterred goods** are. What is the difference between **voting** and **spending**?

Chapter 6: How do we calculate **marginal tax rate, average tax rate,** and **total taxes paid**? What is meant by **proportional, progressive,** and **regressive taxes**? What is the **tax base**? How can increasing a tax result in less revenue? What are **sales, excise, ad valorem,** and **specific (unit) taxes**? Who pays the tax? What is the **Laffer Curve**? The book actually draws it in Chapter 13. What are **Medicare** and **Social Security**? What are their effects on the economy? What is the problem with Social Security? What are some of the proposals for solving the problem? What are the pluses and minus of using each "solution"? I am most likely to give you a proposal for a solution and ask you how it would work, and whether or not you would implement my proposal.

Chapter 7: What are, and how do we calculate, the **unemployment rate, labor force participation rate,** and **inflation rate**? What are **stocks** and **flows**? How do they relate to unemployment rates? Know how to classify people by the reason they are unemployed, i.e., laid off, job leaver, etc. Know how to tell who is in which category of unemployment, i.e., **frictional, structural, seasonal,** and **cyclical**. What is the **natural rate of unemployment**, a.k.a., **full employment unemployment rate**? How do **discouraged workers** and **underemployment** complicate the unemployment picture? What are the other costs of unemployment besides lowered production? How do we calculate **CPI, PPI, PCE Index** and **GDP deflator**. I won't ask you to do the calculation, but you may have to describe how it is done. Know how to calculate inflation from those numbers. Why does it matter if inflation is anticipated or unanticipated? What are the **costs of unanticipated and anticipated inflation**? (I added **shoe leather costs** to **menu costs**.) Note that if inflation is expected to be 10% and it ends up being 7%, we had unexpected **deflation** of 3% and that hurts borrowers and any others paying a fixed amount but helps those receiving the money. Know what an **expansion (a.k.a. boom), contraction, recession, depression, trough,** and **peak** are. What is a **leading indicator**?

Chapter 8: What do we mean by **product markets** and **factor markets**? Know what is calculated in **GDP** and what is not. That method is the **expenditure method (C+I+G+X)**. Remember that "X" can be negative and that *you are likely to get the definition of "I" wrong. Stocks and bonds are not investment.* Ignore inventory investment. It is very small and confusing. Why should GDP calculated this way equal the **sum of the incomes and the sum of the value added**? What are some problems with trying to calculate GDP? What are some of the limitations in our understanding the meaning of different levels? How do we calculate GDI, NDP, NI, PI, and DPI? What is the difference between **real** and **nominal GDP**? Ignore the chain-weighted measure for real GDP. How do we compare GDP across countries?

Non-graded Homework Assignment #4A to be reviewed with Assignment #4.

1) (10 points each) For each of the following, determine what happens to GDP. If GDP changes, then tell me which part and why that part. If a number does not change GDP, explain why it does not.
A) You pay $5000 for a used car which cost the dealer $3000.
B) You buy $6000 for stock in Alphabet (Google's parent company) and pay $10 worth of commissions.
C) I pay you $40 to mow my lawn.
D) I bought a music download directly from an Australian band for $1.50.
E) Suppose that Bethany College was to build a new science building for $1 million.
F) The government spends $131 million to build a bridge from Wellsburg ,WV to Ohio.

2) (30 points) Suppose consumers buy $500 worth of goods; the firms build $200 worth of factories; the government spends $300 on salaries of employees; we import $80 worth of goods and export $70 worth of services. Buildings lose $20 worth of value. The firms pay $50 in sales tax and $30 is profit taxes. There are $25 of retained earnings. The government pays out $250 in Social Security payments and collects $450 in income taxes. Use this data to calculate GDP, NDP, NI, PI, and DPI. Show all work and briefly explain what you did. If you need a number which is not provided, assume it is zero.

3) (10 points) How do we use PPP to convert GDP from one currency to another? Why don't we use the exchange rate?