

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 17th.

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**? (Note that this is in the handouts I gave you which are also posted on my web page.) 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**.) 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. 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 investments.* 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? Ignore GDI because they state it is the same as GDP, just calculated differently. Know how to get from **GDP** to **NDP**, **NI**, **PI**, and **DPI**. Note that if you know what those terms are trying to measure, you ought to be able to figure out what is added and what is subtracted. Capital consumption allowance is another way to calculate depreciation. What is the difference between **real** and **nominal GDP**? Ignore the chain-weighted measure for real GDP. How do we compare GDP across countries?

Chapter 9: What is **economic growth**? What are the negative effects of economic growth? What is the problem of using this as a measure of welfare? What causes GDP per capita to grow? Why do small changes in the growth of GDP matter? Why should you start saving for retirement now? What is **labor productivity** and what changes it? Why is **saving** so important to growth? What is **human capital**? What are the advantages and disadvantages of **patents**? Why do open economies grow faster? How does population growth affect development? Why are property rights important for growth? The **four keys to development** on Page 203 will help you to understand parts of the chapter.

Note that this semester, the exam is later in the semester because of the unusually timed Spring Break. So, some of the material on this exam was on Exam #3 last semester.

Non-graded Homework Assignment #5A to be reviewed with Assignment #5.

- 1) (10 points) To retire and keep your standard of living, you need to save 20 times your annual income. Suppose your retirement fund earns 6% interest and if you earn \$50,000/year. If you save for 40 years, you need to save \$502.14/month. If you save for 30 years, you need to save \$1070.05/month. There are two reasons why the extra 10 years greatly reduces how much you have to save. What are the two reasons? Explain your logic. (Note that this means you should start saving for retirement today.)
- 2) (15 points each) In economics, we generally assume that faster economic growth is good. However, there are some bad effects of faster growth. For each of the following, explain how economic growth causes it.
 - A) breakdown of the family.
 - B) urban congestion
- 3) (10 points) Suppose that US Treasury Bonds pay 3% interest and stocks typically give 9% return. How long will it take for each to double in value? Show all calculations and briefly explain what you did.
- 4) (20 points) Explain both the benefit and the cost of lengthening a patent's life.
- 5) (15 points) Why is enforcing physical property rights important for economic growth?
- 6) (15 points) Why is limiting protectionism important for economic growth?