In this exercise, students will gain factual knowledge about the size and composition of the U.S. economy and facility in using economic data to answer questions about the US macro economy. Use the data from the excel workbook that is posted on the course webpage. The data in the workbook were obtained from Fred, the data resource at the Federal Reserve Bank of St. Louis website (http://research.stlouisfed.org/fred2/).

Questions Concerning Gross Domestic Product
The “GDP Data” sheet in the workbook contains quarterly observations for Nominal (current dollar) Gross Domestic Product, Real (Year 2005 Dollars) Gross Domestic Product, and a Chain-Type GDP Deflator (Index of Prices).
1. Graph GDP and RGDP against time. What are the shapes of the graphs?
2. Create series that are the natural logarithms of GDP and RGDP. Graph these series against time. What are the shapes of these graphs? The graph options allow you to display a trend for each series. Do so.
3. Use information from the graphs to estimate the annual growth rate of RGDP over the period 1947:1 to 2011:4. How much higher would the growth rate be if we used 2007:4 as the end point?
4. Use the data for GDP and RGDP to compute the implicit GDP price deflator. Recall that GDP = P x RGDP. How closely does the implicit deflator agree with the Chain Index Deflator present in the worksheet?
5. Graph P (Chain Index Deflator) against time. Use the graph to identify episodes of high and low inflation. What sort of inflation experience have we had since 2000?

Questions Concerning the Expenditure Decomposition of GDP
The “GDP Components" sheet in the workbook contains quarterly observations for Real Consumption, Real Gross Investment, Real Government Spending and Real Net Exports.
1. How closely does the sum of the four expenditure components approximate RGDP?
2. Compute the share of RGDP accounted for by each component. Use the data to identify some interesting trends in expenditures that have occurred since 1947.

Questions Concerning the Monthly Data for CPI, the Unemployment Rate, and Money
1. Use the CPI data and the Money Stock data to compute monthly series for inflation (the growth in the CPI) and money growth. Graph the resulting series. Is there an interesting relationship between money growth and inflation revealed in the data? What is it?
2. Graph inflation and the unemployment rate. Is there an interesting relationship between those two series?
3. Create a quarterly series for the unemployment rate. Create a quarterly series for the growth rate of RGDP. Graph these two new series. Is there an interesting relationship between them?
Questions Concerning Monthly Housing Starts
Housing starts measure the number of new home constructions begun in a given time period. The workbook includes monthly housing starts between January 1959 and February 2012.

1. Create a graph that displays both housing starts per capita and the unemployment rate. Use the feature of Excel that allows you to show a different scale in the right and left sides of the graph.

2. Do housing starts move together? Do housing starts typically change direction before, after, or at the same time as unemployment?

3. Is there evidence in the graph to support the hypothesis that housing played an important role in the Great recession? What is that evidence?