Macroeconomics 1

Module 1, 2017-2018

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Course description

This is the first of a sequence of six required courses in macroeconomics. During the first module, we will discuss basic concepts of macroeconomics such as the determination of national income, employment, the price level, interest rates, and the exchange rate. We will review basic models that describe how these variables are determined in the long-run. The course starts with classical models and follows with growth theory and applications. Classical models address questions such as what determines the long-run level of output and inflation. Growth theory addresses questions as why do some economies grow faster than others, why are some countries rich and others poor? We will discuss some of the main empirical findings regarding the impact of institutions and open international trade on growth. This course will prepare you for Macro II in the second module, where you will learn more sophisticated models, including business cycle theory and short run macroeconomic policies, addressing unemployment, among others.

Course requirements, grading, and attendance policies

This course is intended for first year graduate students in the economics program. The requirements are active class participation, 4-5 homework assignments, and a final examination. The final examination will last 3 hours.

- Although I do not check attendance, attendance and participation in class are required. This said, some students could find the material covered in some lectures somewhat familiar, in which case they are allowed to miss up to 30% of the lectures. You are expected to have a mature and professional attitude, including coming on time (coming late to class disrupts the class and disturbs your colleagues) and not using the internet, including your cell phones.

- In addition, the class will be divided into 2 to 3 groups, each of which will be assigned to a weekly session (or recitation) held by teaching assistants. During the recitations, students will solve various problems, generally related to topics covered during the current week or the following week.

- The course assignments will consist in 2-4 questions and/or problems, and will be handed out to students a week before the due date. Students are required to hand in all assignments.

- The final is mandatory. Only under exceptional circumstances, students may find it impossible to attend the final, in which case they should contact me at least a week before the final (to the extent possible). One makeup exam will also be organized for students who receive a failing grade after the final. Students who would fail the course again after the makeup exam should carefully read the MAE course regulations to take the necessary next steps.

- Homework assignments carry equal weight and count towards 30%, and the final exam counts towards 70% of the final grade.

Course contents

1. Introduction and national income accounting
   Mankiw, Chapters 1, 2, and 3
   Macroeconomic aggregates, national income accounts, macroeconomics data, equilibrium, national income: where it comes from and where it goes.

2. Money, inflation, the financial system
   Mankiw, Chapters 4 and 5
   Economic definition of money, quantity theory of money, money supply, money demand, market for money, interest rates, and inflation.

3. The open economy: exchange rates, trade, and capital flows
   Mankiw, Chapter 6
   Balance of payments, saving and investment in a small open economy, net exports, exchange rate - real and nominal, purchasing power parity, exchange rate regimes.

4. Economic growth I
   Mankiw, Chapter 8
   Solow model, capital accumulation, Golden Rule level of capital, population growth.

5. Economic Growth II
   Mankiw, Chapter 9
   Technological progress in the Solow model, policies to promote growth, balanced growth path, convergence, endogenous growth theory, growth accounting.

Sample tasks for course evaluation

Problem 1.

Show the effect of a contractionary open market operation on the interest rate, both with algebra and with a graph. Explain.

Problem 2.

Suppose that the typical person in the economy has the following money demand function: $M^d = PY(0.5 - i)$, where M^d is money demand, Y is real income, P is the price of one unit of output, and i is the interest rate expressed so a five percent interest rate implies $i = 0.05$.

(a) Assume $P = 5$, $Y = 10000$, and $i = 0.05$. What is money demanded?

(b) Assume $M^s = 25000$, $P = 5$, and $Y = 10000$. What is the equilibrium interest rate?

(c) Starting from the equilibrium in part (b), assume the central bank carries out an open-market operation that reduces the money supply by 10 percent. What happens to the interest rate? Describe in words the adjustment process from one equilibrium to the other.

(d) Starting from the equilibrium in part (b), assume a recession reduces output by 10 percent. What happens to the interest rate? Describe in words the adjustment process from one equilibrium to the other.

Course materials

Required textbooks and materials

The textbook for the first two modules is

- Mankiw, N. Gregory, *Macroeconomics*, 8th edition, Worth Publishers 2012.
  In the first module, we will cover chapters 1-9.

Additional materials

Reference books for rigorous treatment of economic growth and financial markets:

- Barro, Robert & Xavier Sala-i-Martin, *Economic Growth*, 2nd Edition, Cambridge MA: MIT Press 2003.
  Available in the NES library.

- Mishkin, Frederic S. & Eakins, Stanley G., *Financial Markets and Institutions*, 7th edition, Pearson 2012.

Academic integrity policy

Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.