Macroeconomics I (Part II)

Master in Economics

Course 2016-2016

Monday 9:30-11:30, Wednesday 9:00 – 11:00

Universitat de Barcelona, Facultat d'Economia i Empresa

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Office hours: Wednesday, from 12:00 to 14:00.

This course aims at introducing students to modern macroeconomic theory. This part of the course consists of 9 sessions, 2 hours each, in which we will focus on the analysis of the Neoclassical Growth Model.

Grading:

- Problem Sets: 30% of final grade.
- Matlab sessions: 10% of final grade.
- Final exam (Friday, December 16, 9:30-11:30): 60% final grade

The final grade of this part of the course will be the maximum between the weighted average grade (with the weights specified above) and the grade of the final exam.

The final grade of the course is the average between the grades of Part I and Part II. **The condition is that the grade of both parts of the final exam has to be above 3/10.**

The problem sets can be done in groups of 2 people, but each student must hand in its own copy to get full grade. At the end of the matlab sessions students will submit their work, which can be done in groups of 2.

Basic bibliography:

- Acemoglu, D. (2008), *Introduction to Modern Economic Growth*, Princeton University Press (Chapters 5,7,8).
- Barro, R.J., and X. Sala-i-Martin (2004), *Economic Growth*, 2nd ed (Chapters 2, 3, 5).
- Novales, A., Fernandez, E., and J. Ruiz (2009), *Economic Growth. Theory and Numerical Solution Methods*, Springer (Chapter 3).

Optional readings:

- Romer, D. (2001), Advanced Macroeconomics, 3rd ed., chapter 2, part A.
- Cass, D. (1965), "Optimum growth in an aggregative model of capital accumulation," Review of Economic Studies, 32, 233-240.
- Koopmans, T. (1965), "On the concept of optimal economic growth." In The Econometric Approach to Development Planning, Amsterdam: North Holland.
- Lucas, R.E. (1988), “On the mechanics of economic development," Journal of Monetary Economics, 22, 3-42.
- Ramsey, F. (1928), "A mathematical theory of saving," Economic Journal, 28, 543-559.

Topics of the course:

1. Foundations of Neoclassical Growth

2. Mathematical review
    a. Review of differential equations
    b. An Introduction to the Theory of Optimal Control

3. The Neoclassical Growth Model
    a. Setup of the Model
    b. Equilibrium

4. Analysis of the Neoclassical Growth Model
    a. The Steady State
    b. Transitional Dynamics
    c. Behavior of the Saving Rate
    d. Speed of Convergence

5. Extensions to the Neoclassical Growth Model
    a. Productivity and population growth
    b. Finite Horizons
    c. Government Policy
    d. Labor decisions
    e. One-Sector Model with Physical and Human Capital

Tentative calendar:

Dates	Monday (9:30 - 11:30)	Wednesday (9:00 - 11:00)	PROBLEM SETS
31/10/2016 - 2/11/2016	NO CLASS	Course Introduction Foundations of Neoclassical Growth	
7/11/2016 - 9/11/2016	LECTURE 2: Mathematical review	LECTURE 3: The Neoclassical Growth Model Setup	Problem Set 1
14/11/2016 - 16/11/2016	PROBLEM SET SESSION 1	LECTURE 4: Dynamic Analysis of the Neoclassical Growth Model	Problem Set 2
21/11/2016 - 23/11/2016	MATLAB SESSION	LECTURE 5: Extensions to the Neoclassical Growth Model	Problem Set 3
28/11/2016 - 3/12/2016	PROBLEM SET SESSION 2	PROBLEM SET SESSION 3	