Microeconomic Theory
EC701 (part 1)  Fall 2018

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Office Hrs:  By Appointment
TA: Nan Zhao (zhaonan@bu.edu) Off hrs: Tue 9.00-11.00, in B17A, Recitation: Wed 12.20-1.30

Course Overview
I will teach the first half of the semester, and cover basic topics in microeconomic theory, namely, consumer choice theory and production theory. The goal is to equip students with an understanding of the fundamental tools and models on the basis of which economics is built.

Text and Material:
We will cover Part 1 (chps 1-6) of the graduate text Microeconomic Theory by Mas-Colell, Whinston and Green (MWG). Though we will stick closely to this text, you may find it useful to supplement your reading with Rubinstein’s Lecture Notes in Microeconomic Theory: The Economic Agent, which is freely available at http://www.pupress.princeton.edu/rubinstein or http://arielrubinstein.tau.ac.il/Rubinstein2005.pdf.

Grades
You will not receive a grade for my half of the course, but your performance in it will be measured by a weighted average (20% and 80% resp.) of your average assignment score and your midterm score.

Exam Dates
Midterm Exam:  Tue, Oct 23rd, 2.00-3.15 p.m., in class

Assignments
Problems will be assigned every week, of which a subset will be randomly selected for grading. Problems assigned in any given week are due by the start of the recitation the following week. Late assignments will not be accepted and will be awarded a zero grade. You are encouraged to work with fellow students and to learn from them, but do not underestimate the value of trying all the problems on your own. If you have questions regarding the grading of an assignment, you must first discuss the matter with the TA.
ECON 702A: MACROECONOMIC THEORY, FALL 2018.
PASCUAL RESTREPO, pascual@bu.edu. Office hours: Fridays 11:00am to 12:30pm. Room 404.
T.A.: STEFANO PICA, stpica@bu.edu.

OUTLINE: This half semester class provides an introduction to tools and topics in macroeconomics, centered in particular around economic growth. We will focus on models of dynamic economies with no uncertainty and introduce the tools required to analyze such models. We will pay special attention to the macroeconomic questions and key issues in economic growth that motivate these models. Some of the topics covered include the Solow growth model, growth accounting and development accounting, general equilibrium theory for dynamic economies, dynamic programming and continuous time optimization, and the neoclassical growth model.

I will use Blackboard to post announcements, solutions, complementary readings, and grades. Make sure you can access the site and familiarize with it.

TEXTBOOK AND READINGS: The required textbook for this course is Introduction to Modern Economic Growth (2009), by Daron Acemoglu (or “Acemoglu, MEG”). In addition, each topic lists complementary lectures. These are not mandatory and I do not expect you to read them. But please do at least skim through them if you are interested in a particular topic. Some of these complementary lectures are also useful for solving the problem sets.

GRADING: There will be no midterm exam. Your grade will depend only on problem sets and your participation in class. You will have 8 problem sets—one per week. Problem sets will become available on Blackboard at Wednesdays night, and they are due the next Wednesday at 9pm. Email the solutions to pascual@bu.edu (copied to stpica@bu.edu). You can work in groups, but write your solutions individually. I highly encourage you to typeset your solutions; this will force you to improve your writing and the way you present your work.

MISCELLANEOUS: Unless needed for medical reasons, let's keep the class free of phones, laptops, and tablets.

Topic 1: MACRO QUESTIONS, MACRO MODELS, AND GROWTH FACTS. ACEMOGLU MEG, CHAPTER 1.1-1.4, AND 4. September 5

- Macroeconomic questions and macroeconomic models.
- The facts of economic growth.


- The Solow growth model.
- Modeling technology, balanced growth and Uzawa’s theorem.

Topic 3: CONVERGENCE, GROWTH ACCOUNTING, AND DEVELOPMENT ACCOUNTING. ACEMOGLU MEG, CHAPTER 3.1-3.6 September 17 and 19

- Convergence in the Solow model and in the data.
- Growth accounting: the role of technology in explaining growth within countries.
- Development accounting: the roles of technology and capital in explaining country differences.

Topic 4: FOUNDATIONS OF NEOCLASSICAL GROWTH. ACEMOGLU MEG, CHAPTER 5 September 24 and 26

- The Two Welfare Theorems for economies with infinite commodities.
- Sequential trading formulation.
- Preferences over consumption and the representative household.

Topic 5: DYNAMIC PROGRAMMING. ACEMOGLU MEG, CHAPTER 6 October 1 and 3

- The recursive principle.
- Value functions.
- Existence and properties of value functions.
- Savings problems in discrete time.

Topic 6: THE GROWTH MODEL IN DISCRETE TIME. ACEMOGLU MEG, CHAPTER 8.6 AND 9.1-9.5 October 8 and 10

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- Optimal growth in discrete time.
- Competitive equilibrium in discrete time.
- Taxes and distortions in discrete time.
- Overlapping generations.

Topic 7: **Optimal Control. Acemoglu, MEG, Chapter 7 October 15 and 17**

- The maximum principle and saddle path stability.
- Transversality conditions.
- $q$-theory of investment.
- Savings problems in continuous time.

Topic 8: **The Growth Model in Continuous Time. Acemoglu, MEG, 7.7, 8.1-8.5 and 8.10 October 22 and 25**

- Optimal growth in continuous time and stability.
- Competitive equilibrium formulation.
- Taxes and distortions in discrete time.
- The supply of labor.
- Perpetual youth models