FINANCE 924 – INTERTEMPORAL MACROECONOMICS AND FINANCE

MATHIEU TASCHEREAU-DUMOUCHEL
SPRING 2014

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Office Hours: Monday 5:30-6:30 http://www.mathtd.com
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Course description: This is a doctoral course on Macroeconomic Theory. We will be concerned with the intertemporal decisions of households and firms and on the implications of different macroeconomic models for asset pricing. We will describe and utilize techniques to solve dynamic optimization problems, in particular dynamic programming. We will also discuss some numerical methods to solve these problems. We will then use these techniques to study a broad range of economic models.

Organization: The class meets on Monday mornings from 9am to 12 in SHDH 116.

The teaching assistant for the course is Yasser Boualam (boualam@wharton.upenn.edu). His office hours will be announced on the first day of class.

Prerequisites: The prerequisites are a graduate level microeconomics course and a strong understanding of algebra and calculus. A basic knowledge of a mathematical programming language (such as Matlab or R) is recommended.

Grading: Students are expected to come to class and participate actively. Grades will be based on homework assignments (30%), one midterm exam (30%) and one final exam (40%). The final exam will cover all the material. Actively working on the assignments is essential for your understanding of the course material. You may work in groups, but you must turn in your own answers. The best copy will be anonymized and posted online as solution. All exams are closed book. The office of the registrar will schedule the final exam.

Textbook: Most of the material we will cover can be found in

- **LS:** Lars Ljunqvist and Thomas J. Sargent. *Recursive Macroeconomic Theory*, 3nd edition, MIT Press, 2012.
- **SLP:** Nancy Stokey and Robert Lucas, with Edward Prescott, *Recursive Methods in Economic Dynamics*, Harvard University Press, 1989.

Useful discussions are provided in

- David Romer, *Advanced Macroeconomics*, 3rd edition, McGraw Hill, 2006.
- **BF**: Olivier Blanchard and Stanley Fisher, *Lectures on Macroeconomics*, MIT, 1989.

A treatment of numerical and mathematical methods can be found in

- Kenneth Judd, *Numerical Methods in Economics*, MIT Press, 1998.
- Angel de la Fuente, *Mathematical Methods and Models for Economists*, Cambridge, 2000

Calendar

January 15: First day of class (**exceptionally on a Wednesday**)
January 20: Martin Luther King, Jr. Day, **no class**
January 27: Problem set 1 distributed
February 3: Problem set 1 due
February 10: Problem set 2 distributed
February 17: Problem set 2 due
February 24:
March 3: Midterm exam
March 10: Spring break, **no class**
March 17: Problem set 3 distributed
March 24: Problem set 3 due
March 31: Problem set 4 distributed
April 7: Problem set 4 due
April 14: Problem set 5 distributed
April 21: Problem set 5 due
April 28: Last class

Topics

This list is preliminary and subject to changes.

1. General Introduction to Macroeconomics and Stylized Facts
   - Romer, Sections 1.1 and 4.1.
   - BF, Chapter 1.
   - LS, Section 1.3
2. Endowment Economy with Complete Markets
   - LS, Chapter 8.
   - SLP, Chapter 15.
3. Asset Pricing
   - LS, Chapter 13.
   - Rajnish Mehra and Edward Prescott. *The Equity Premium: A Puzzle*. Journal of Monetary Economics (1985): 145-162.
4. Math, Dynamic Programing and Numerical Methods
   - LS, Chapters 2-5.
   - SLP, Chapter 3-5.
5. Production and Investment
   - Romer, Chapter 8
6. Neoclassical Growth model
   - LS, Chapter 11.1-11.3, 11.9. 15.1-15.3, 15.5.
7. Overlapping Generations Models
   - LS, Chapter 9.
   - BF, Chapter 3.
8. Bewley Models
   - LS, Chapter 18.
9. Equilibrium Search and Matching
   - LS, Chapter 28.