FINANCE 924 – INTERTEMPORAL MACROECONOMICS AND FINANCE

Professor Joao F. Gomes
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Course description: This is a first year doctoral course on Macroeconomic Theory. We will study the intertemporal decisions of households and firms, their basic implications for long run economic growth, business cycle fluctuations and asset prices, and the role of momentary policy. We also cover common numerical techniques to solve dynamic optimization problems and apply them to study a broad range of economic models.

The teaching assistants are Marco Grotteria (grottm@wharton.upenn.edu) and Alexandr Kopytov (akopytov@wharton.upenn.edu)

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

Grading: Students are expected to come to class and participate actively. Grades will be based on regular homework assignments (30%), one midterm exam (30%) and one final exam (40%). 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 set of answers will be anonymized and posted online. The office of the registrar will schedule the final exam.

Textbook: Although there is no textbook much of the material we will cover can be found in

- **LS:** Lars Ljunqvist and Thomas J. Sargent. *Recursive Macroeconomic Theory*, MIT.

Useful discussions of specific topics are provided in

- **BF**: Olivier Blanchard and Stanley Fisher, *Lectures on Macroeconomics*, MIT.
- **TC**: Thomas Cooley, *Frontiers of Business Cycle Research*, Princeton.
- **DR:** David Romer, *Advanced Macroeconomics*, McGraw Hill.
- **SLP:** Nancy Stokey and Robert Lucas, with Edward Prescott, *Recursive Methods in Economic Dynamics*, Harvard.

A detailed treatment of many numerical and mathematical methods can be found in

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

Topics Covered: (slightly ambitious)

1. Introduction and some Stylized Facts
2. Households: Consumption and Portfolio Selection
    - LS, Chapter 17
    - DR, chapter 8
    - BF, chapter 5
3. Tools: Dynamic Programing and Numerical Methods
    - LS, Chapters 2-4
    - SLP, Chapter 3-4
4. Endowment Economy with Complete Markets
    - LS, Chapter 8, 12
    - SLP, Chapter 15
5. Consumption Asset Pricing
    - LS, Chapter 13
    - BF, Chapter 6.1
6. Firms: Production and Investment
    - DR, Chapter 9
    - BF, Chapter 6.2
7. General Equilibrium: Long Run Growth
    - LS, Chapter 11.1-11.3, 11.9. 15.1-15.3, 15
    - BF, Chapter 2
    - TC, Chapter 1
    - DR, Chapter 1, 2.A, 3-4
8. General Equilibrium: Shocks and Business Cycles
    - TC, Chapter 1
    - DR, Chapter 5
9. Models with Financing Frictions
10. Monetary Economies
    - LS, Chapter 26
    - DR, Chapter 6, 7
11. Incomplete Markets: Imperfect Risk Sharing
    - LS, Chapter 18
    - TC, Chapter 4
12. Incomplete Markets: Overlapping Generations Models
    - LS, Chapter 9
    - BF, Chapter 3
    - DR, Chapter 2.B
13. Models with Labor Frictions: Search and Matching
    - LS, Chapter 6, 28