FINANCE 924 – INTERTEMPORAL MACROECONOMICS AND FINANCE

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Course Description

This is a first-year doctoral course on Macroeconomic Theory. Students will study the key intertemporal decisions of households and firms, their basic implications for long run economic growth, business cycle fluctuations and asset prices, and the role of monetary policy. We also develop basic numerical techniques to solve dynamic optimization problems and apply them to study a broad range of economic models.

Prerequisites: The prerequisites are a graduate level course in microeconomics (could be taken concurrently) and a strong understanding of algebra and calculus. A basic knowledge of a mathematical programming language is recommended.

Grading

Students are expected to come to class and participate regularly. Grades will be based on six homework assignments (60%) 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.

Materials

Lecture notes, assignments and, occasionally, additional readings will be posted on Canvas. The lecture notes are designed to be self-contained and, together with the problem sets, should be your primary source of study.

There is no required textbook. Most macro graduate sequences include the equivalent to two semesters of course work and virtually all textbooks cover many more topics than what can be discussed in a single course. Nevertheless, the course material is closest to two main books:

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

Wickers (W) is fairly basic and may be read first. Ljungqvist and Sargent (LS) can be at times quite advanced and includes many upper level topics too.

Additional and complementary discussions of specific topics are provided in

• **DR:** David Romer, *Advanced Macroeconomics*, McGraw Hill.

Finally, a detailed treatment of many of the necessary mathematical methods and numerical tools can be found in


**List of Topics and Readings:**

0. Introduction (pre-term readings)
   - W: Ch. 1
   - LS, Ch. 1 (pg. 1-20)
1. Households: Consumption and Saving Decisions
   - W: Sec. 4.1-4.6
   - LS, Ch. 17
2. Competitive Equilibrium with Complete Markets
   - W, Sec. 10.1-10.4
   - LS, Ch. 8
3. Asset Pricing in Endowment Economies
   - W, Sec. 10.5-10.9
   - LS, Ch. 13
   - Supplement: Applications: LS, Ch. 14
4. Tools I: Recursive Methods and Dynamic Progaraming
   - SLP, Ch. 3-4
5. Competitive Equilibrium with Incomplete Markets
   - LS, Ch. 18
6. Firms: Production and Investment
   - W, Sec 2.2 and 2.7
7. Tools II: Numerical Methods
   - W: Ch 15
   - LS, Sec 2.1-2.4, Ch. 3-5
8. General Equilibrium and Long Run Growth
   - W: Sec 2.3-2.4, 4.7-4.10, Ch 13
   - LS, Ch. 12 and Sec. 15.1-15.5
9. Business Cycles
   - W, Sec. 2.5-2.6, 14
   - TC, Ch. 1
10. Monetary Economies
    - G, Ch. 2-4
    - W, Ch 8-9, 13
    - Supplement: LS, Ch. 26
11. Models with Financing Frictions
    - Bernanke, Gertler and Gilchrist, “The Financial Accelerator in a Quantitative

12. Overlapping Generations Models
   - LS, Chapter 9