EC5102 Macroeconomic Theory

Instructor: Zhang Jie

Course Description:
This course is designed to provide modern macroeconomic models which are essential in the study of economics at the graduate level. The course will develop the key models and techniques in use in modern macroeconomics. The course materials will analyze the general equilibrium foundations and the two welfare theorems, infinitely lived representative agent models, the overlapping-generations model, and models with incomplete markets and risk sharing. The course will concentrate on dynamic optimization in both discrete and continuous time. The models will be used to study growth theory, business cycles, certain components of aggregate demand, and monetary and fiscal policies.

Readings: There is no good textbook that covers the material of the course systematically. The books of Azariadis, Blanchard and Fischer, Dana and Le Van, Romer, and Stokey and Lucas cover parts of the material and are to be used as supplementary material. There are some lecture notes available on the web which better cover the material. In particular, the lecture notes Krueger (2007) and Krusell (2007) will be used as the primary references. As the course progresses, you will also be assigned journal articles to read. There are several books on dynamic optimization that treat dynamic programming and maximum principle in different levels of generality and may be used for reference purposes.

The instructor will upload notes to the IVLE web site for each lecture a few days in advance.

Lecture Notes:

These and other lecture notes are available from: http://www.econphd.net/notes.htm

Textbooks:

Dynamic Optimization References:

Assessment
Assignments (30%); Final Examination (70%)

Syllabus

(1) Dynamic Programming and Other Techniques for Dynamic Optimization in Discrete Time (Weeks 1 and 2)

Krusell, Ch. 3

Krueger, Ch. 5

Stokey and Lucas, Ch. 3, Ch. 4 (more advanced)

(2) General Equilibrium Foundations and the Two Welfare Theorems; Competitive and Recursive Competitive Equilibrium in Dynamic Models; the Neoclassical Growth Model (Weeks 3 and 4)

Krueger, Chs. 2, 3, 7

Krusell, Ch. 5

(3) The Overlapping Generations Model (Week 5)

Krueger, Ch. 8

Krusell, Ch. 7

Romer, Ch. 2, Part B


(4) Continuous-Time Dynamic Optimization: the Maximum Principle; the Ramsey-Cass-Koopmans neoclassical growth models; Endogenous Growth Models (Weeks 6 and 7)
Barro and Sala-i-Martin, Ch. 2, Appendix 1.3

Krueger, Ch. 9


(5) Uncertainty: Models with Complete and Incomplete Markets and Risk Sharing (Week 8)

Krueger, Ch. 6

Krusell, Ch. 6

(6) Real Business Cycles (Week 9)

Krueger, Ch. 6

Romer, Ch. 4


(7) Consumption (Week 10)

Romer, Ch. 7, and possibly other readings as well

(8) Investment (Week 11)

Romer, Ch. 8, and possibly other readings as well

(9) Inflation and Monetary Policy (Week 12)

Romer, Ch. 10


(10) Budget Deficit and Fiscal Policy (Week 13)
Romer, Ch. 11
