Advanced Macroeconomics (Part 1)

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Course Description:

This is a core, graduate level course in Macroeconomics.It is suited for Masters and PhD students. I will teach Part 1 of this course (from week 1 to week 11)[1].My lectures cover modern dynamic growth theory and business cycle theory. Students need to have taken intermediate micro, intermediate macro, and econometrics at undergraduate level, as well as calculus, linear algebra, differential and difference equations.

Requirements: (Subject to Changes)

This course accounts for 70% of total grade of Advanced Macroeconomics. The detailed requirements are:

Homework:	30%
Final Exam:	70%

Textbooks

Required:

1. D.Romer, *Advanced Macroeconomics,* the3rd edition.

Optional:

2. L. Ljungqvist and T. Sargent, *Recursive Macroeconomic Theory.*
3. J. Miao, *Economic Dynamics in Discrete Time.*
4. G. McCandless, *The ABCs of RBCs.*
5. J. Gali, *Monetary Policy, Inflation and the Business Cycle: An Introduction to the New Keynesian Framework.*
6. Class handouts and other reading materials.

Course Outline (Subject to Changes)

Part I. Introduction (week 1)

1. What is Macroeconomics about?
   Reading Materials:
   - Romer, <Advanced Macroeconomics>, "Introduction".

[1]Part 2 will be taught by Professor Dennis T. Yang.

2. The Revolution of Macroeconomic Theory

   Reading Materials:

   - Blanchard, O. (2000). What do we know about macroeconomics that Fisher and Wicksell did not?. *The Quarterly Journal of Economics*, 115(4), 1375-1409.
   - Blanchard, O. (2008). The state of macro, NBER Working Paper.
   - Woodford, M. (1999). Revolution and evolution in twentieth-century macroeconomics.
   - Mankiw, N. G. (2006). The macroeconomist as scientist and engineer. NBER Working paper.
   - Kydland, F. E., and Prescott, E. C. (1996). The computational experiment: an econometric tool. *The Journal of Economic Perspectives*, 69-85.
   - Sims, C.(1996). Macroeconomics and methodology. *Journal of EconomicPerspectives*, 10, 105-120.
   - Chari, V. V., & Kehoe, P. J. (2006). Modern macroeconomics in practice: How theory is shaping policy. *The Journal of Economic Perspectives*, 3-28.

Part II. Growth Theory (week 1-3)

1. Solow Model (week 1)

   Reading Materials:

   - Romer, <Advanced Macroeconomics>, Chapter 1
2. Overlapping Generation Model (week 2)

   Reading Materials:

   - Romer, <Advanced Macroeconomics>, Chapter 2
3. Ramsey-Cass-Koopmans Model (week 2-3)
   - Calculus of Variations
   - Phase Diagram and Saddle-Path Stability

   Reading Materials:

   - Romer, <Advanced Macroeconomics>, Chapter 2

Part III. Consumption Theory (week 3-4)

1. Consumption under Certainty:
   - Permanent Income Hypothesis

   Reading Materials:

   - Romer, <Advanced Macroeconomics>, Chapter 7.
2. Dynamic Theories of Consumption and Saving:
   - Precautionary Savings
   - Liquidity Constraints
   - Portfolio Choice and Asset Pricing
   - Exchange Rate Dynamics

   Reading Materials:

   - Romer, <Advanced Macroeconomics>, Chapter 7.

Part IV. Investment Theory (week 5)

1. Standard Neoclassical Investment Theory
   - Romer, <Advanced Macroeconomics>, Chapter 8.

- Miao, <Economic Dynamics>, Chapter 8

2. Irreversible Investment and Borrowing Constraints
   - Investment under Uncertainty
   - Liquidity Constraints

   Reading Materials:
   - Romer, <Advanced Macroeconomics>, Chapter 8

Dynamic Stochastic General Equilibrium (DSGE) Models

Part V. Real Business Cycle Theory (week 6-9)

1. Preliminary: Dynamic Programming (week 6)
   - Recursive Deterministic Models
   - Recursive Stochastic Models

   Reading Materials:
   - McCandless, <The ABCs of RBCs>, Chapter 4-5
   - Ljungqvist and Sargent, <Recursive Macroeconomic Theory>, Chapter 3-4
   - Miao, <Economic Dynamics>, Chapter 7
2. Basic Model with Capital and Leisure (week 6-7)
   - Solution Method--Log Linearization
   - Calibration
   - Impulse Responses

   Reading Materials:
   - Romer, <Advanced Macroeconomics>, Chapter 4
   - McCandless, <The ABCs of RBCs>, Chapter 6
   - Miao, <Economic Dynamics>, Chapter 14
   - King, R. G., Plosser, C. I., and Rebelo, S. T. (2002). Production, growth and business cycles: Technical appendix. *Computational Economics*, 20(1-2), 87-116.
   - Burnside, C. (1999). Notes on the Linearization and GMM Estimation of Real Business Cycle Models.
3. Basic RBC Model with Extensions: Real Rigidities (week 8)
   - Factor Hoarding (Capacity Utilization, Labor Hoarding)
   - Habit Formation
   - Adjustment Costs
4. Non-fundamental Fluctuations (week 8)
   - Expectation Driven Business Cycles (EDBCs)

   Reading Materials:
   - Beaudry, P., andPortier, F. (2013). News driven business cycles: Insights and challenges. National Bureau of Economic Research.

Part VI. New Keynesian Theory (week 9-11)

1. Classical Monetary Models (week 9)
   - Cash-in-advance (CIA)
   - Money-in-utility (MIU)

   Reading Materials:

- Gali, <Monetary Policy, Inflation and the Business Cycle>, Chapter 2.
- McCandless, <The ABCs of RBCs>, Chapter 8-9.

2. Nominal Rigidities (week 10)
   - Staggered Price Adjustment

   Reading Materials:
   - Romer, <Advanced Macroeconomics>, Chapter 7
3. New Keynesian Business Cycle Model (week 11)
   - New Keynesian Phillips Curve

   Reading Materials:
   - Gali, <Monetary Policy, Inflation and the Business Cycle>, Chapter 3
   - Miao, <Economic Dynamics>, Chapter 19