

# Preliminary Detailed Syllabus for Macro II Part II, Spring 2025

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## Overview

- The course introduces workhorse models used in the i) business cycle, ii) frictional labor market and iii) incomplete markets literatures. Emphasis will be put on developing analytical techniques for actively working with these models as well as understanding their core implications. We will also repeatedly explore the usage of micro data to inform macroeconomic models.
- 14 lectures:
  - 6 lectures on business cycle models
  - 4 lectures on frictional labor markets
  - 3 lectures on incomplete asset markets
  - 1 summing-up/Q&A session
- 7 TA sessions: 1 tutorial session on using Dynare / 6 sessions on graded problem sets
- Basic proficiency with Matlab is assumed; there are a lot of tutorials you can check online.
- The Ph.D. Macro Book is our main textbook. Core readings are marked with a \*. The other listed readings are highly recommended. In addition to this material, we will discuss some additional papers in class. These readings are for the interested.

## Lecture 1 - RBC: Business Cycle Facts and the baseline RBC model (3 hours)

1. Business cycle facts
2. Math preliminaries
3. The Real Business Cycle model: Setup and solution

#### 4. The Real Business Cycle model: Analysis

##### Readings

- \*Ph.D. Macro Book, Chapter 13.
- Eric Sims’s lecture notes entitled “Preliminaries”, “Log-linearization”, “Using Dynare”, “RBC (qualitative)” and “RBC (quantitative)”
- King, R. G. and Rebelo, S. T. (1999). Resuscitating real business cycles. In *Handbook of Macroeconomics*, volume 1, pages 927–1007. Elsevier
- Kydland, F. E. and Prescott, E. C. (1982). Time to Build and Aggregate Fluctuations. *Econometrica*, 50(6):1345
- King, R. G. and Plosser, C. I. (1984). Money, Credit, and Prices in a Real Business Cycle. *American Economic Review*, 74(3):363–380

## Lecture 2 - RBC: accounting, measurement, extensions

1. Business cycle accounting
2. Measuring technology shocks
3. Labor market extensions
  - Employment lotteries
  - GHH preferences

##### Readings

- \*Ph.D. Macro Book, Chapter 13.
- \*Chari, V. V., Kehoe, P. J., and McGrattan, E. R. (2007). Business cycle accounting. *Econometrica*, 75(3):781–836
- King, R. G. and Rebelo, S. T. (1999). Resuscitating real business cycles. In *Handbook of Macroeconomics*, volume 1, pages 927–1007. Elsevier
- Basu, S., Fernald, J. G., and Kimball, M. S. (2006). Are technology improvements contractionary? *American Economic Review*, 96(5):1418–1448

- Hansen, G. D. (1985). Indivisible labor and the business cycle. *Journal of Monetary Economics*, 16(3):309–327
- Rogerson, R. (1988). Indivisible labor, lotteries and equilibrium. *Journal of Monetary Economics*, 21(1):3–16
- Greenwood, J., Hercowitz, Z., and Huffman, G. W. (1988). Investment, capacity utilization, and the real business cycle. *The American Economic Review*, pages 402–417

## Lecture 3 - RBC: investment Dynamics

1. RBC setup with firm ownership of capital
2. Neoclassical theory vs. Q theory of investment
  - Investment adjustment costs in the RBC model

### Readings

- \*Ph.D. Macro Book, Chapter 13.
- \*Hayashi, F. (1982). Tobin’s Marginal q and Average q: A Neoclassical Interpretation. *Econometrica*, 50(1):213
- Eric Sims’s lecture notes entitled “RBC extensions”

## Lecture 4 - The New-Keynesian model: basics (3 hours)

1. Evidence concerning the effects of monetary policy
2. The vanilla NK model: setup and equilibrium
3. Determinacy and Taylor rules

### Readings

- \*Ph.D. Macro Book, Chapter 17.
- \*Ramey, V. A. (2016). Macroeconomic Shocks and Their Propagation. In *Handbook of Macroeconomics*, volume 2, pages 71–162. Elsevier B.V
- Cochrane, J. H. (2011). Determinacy and identification with taylor rules. *Journal of Political Economy*, 119(3):565–615

- Clarida, R., Galí, J., and Gertler, M. (1999). The science of monetary policy: A new Keynesian perspective. *Journal of Economic Literature*, 37(4):1661–1707

## Lecture 5 - The New-Keynesian model: mechanics

1. Monetary policy shocks
2. TFP shocks

### Readings

- \*Ph.D. Macro Book, Chapter 17.
- Clarida, R., Galí, J., and Gertler, M. (1999). The science of monetary policy: A new Keynesian perspective. *Journal of Economic Literature*, 37(4):1661–1707
- Christiano, L. J., Eichenbaum, M., and Evans, C. L. (2005). Nominal rigidities and the dynamic effects of a shock to monetary policy. *Journal of Political Economy*, 113(1):1–45
- Smets, F. and Wouters, R. (2007). Shocks and frictions in US business cycles: A Bayesian DSGE approach. *American Economic Review*, 97(3):586–606

## Lecture 6 - The New-Keynesian model: policy

1. Sources of inefficiency
2. Optimal monetary policy
3. Quantitative NK models: A helicopter view

### Readings

- \*Ph.D. Macro Book, Chapter 17.
- Clarida, R., Galí, J., and Gertler, M. (1999). The science of monetary policy: A new Keynesian perspective. *Journal of Economic Literature*, 37(4):1661–1707
- Christiano, L. J., Eichenbaum, M., and Evans, C. L. (2005). Nominal rigidities and the dynamic effects of a shock to monetary policy. *Journal of Political Economy*, 113(1):1–45
- Smets, F. and Wouters, R. (2007). Shocks and frictions in US business cycles: A Bayesian DSGE approach. *American Economic Review*, 97(3):586–606

## Lecture 7 - Frictional labor markets: basics (3 hours)

1. Labor markets facts: stocks, flows and prices
2. Mathematical preliminaries
3. Search in partial equilibrium (the McCall model)

### Readings

- \*Rogerson, R., Shimer, R., and Wright, R. (2005). Search-Theoretic Models of the Labor Market: A Survey. *Journal of Economic Literature*, 43(4):959–988
- \*Hornstein, A., Krusell, P., and Violante, G. L. (2011). Frictional Wage Dispersion in Search Models: A Quantitative Assessment. *The American Economic Review*, 101:2873–2898
- Rogerson, R. and Shimer, R. (2011). Search in Macroeconomic Models of the Labor Market. In *Handbook of Labor Economics*, volume 4, pages 619–700. Elsevier
- Elsby, M. W. L., Hobijn, B., and Şahin, A. (2013). Unemployment Dynamics in the OECD. *Review of Economics and Statistics*, 95(2):530–548

## Lecture 8 - Job ladders and wage dispersion

1. The AKM regression
2. The Burdett-Mortensen model

### Readings

- \*Rogerson, R., Shimer, R., and Wright, R. (2005). Search-Theoretic Models of the Labor Market: A Survey. *Journal of Economic Literature*, 43(4):959–988
- \*Burdett, K. and Mortensen, D. T. (1998). Wage Differentials, Employer Size, and Unemployment. *International Economic Review*, 39(2):257
- \*Hornstein, A., Krusell, P., and Violante, G. L. (2011). Frictional Wage Dispersion in Search Models: A Quantitative Assessment. *The American Economic Review*, 101:2873–2898
- Abowd, J. M., Kramarz, F., and Margolis, D. N. (1999). High Wage Workers and High Wage Firms. *Econometrica*, 67:251–333

## Lecture 9 - Unemployment: statics

1. The matching function
2. Diamond-Mortensen-Pissarides: setup and solution
3. Diamond-Mortensen-Pissarides: static analysis

### Readings

- \*Rogerson, R., Shimer, R., and Wright, R. (2005). Search-Theoretic Models of the Labor Market: A Survey. *Journal of Economic Literature*, 43(4):959–988
- \*Ph.D. Macro Book, Chapter 19

## Lecture 10 - Unemployment: efficiency and dynamics

1. Diamond-Mortensen-Pissarides: Efficiency
2. Diamond-Mortensen-Pissarides: dynamic analysis

### Readings

- \*Ph.D. Macro Book, Chapter 19
- \*Rogerson, R., Shimer, R., and Wright, R. (2005). Search-Theoretic Models of the Labor Market: A Survey. *Journal of Economic Literature*, 43(4):959–988
- \*Shimer, R. (2005). The Cyclical Behavior of Equilibrium Unemployment and Vacancies. *The American Economic Review*, 95(1):25–49
- \*Hagedorn, M. and Manovskii, I. (2008). The Cyclical Behavior of Equilibrium Unemployment and Vacancies Revisited. *American Economic Review*, 98(4):1692–1706
- Hosios, A. J. (1990). On the Efficiency of Matching and Related Models of Search and Unemployment. *The Review of Economic Studies*, 57(2):279–298

## Lecture 11 - Incomplete markets: Basics

1. Basic facts about the distribution of income, wealth and consumption
2. Aggregation with complete and incomplete markets

### 3. Consumption-savings dynamics with incomplete markets

#### Readings

- \*Chapter 4-5 in Krueger, D. (2016). *An Introduction to Macroeconomics with Household Heterogeneity*
- \*Lectures 1-3 by Gianluca Violante
- Heathcote, J., Perri, F., and Violante, G. L. (2010). Unequal we stand: An empirical analysis of economic inequality in the United States, 1967–2006. *Review of Economic Dynamics*, 13(1):15–51
- Guvenen, F., Ozkan, S., and Song, J. (2014). The Nature of Countercyclical Income Risk. *Journal of Political Economy*, 122(3):621–660
- Guvenen, F., Karahan, F., Ozkan, S., and Song, J. (2016). What Do Data on Millions of U.S. Workers Reveal about Life-Cycle Earnings Dynamics? *Mimeo*
- Kuhn, M., Schularick, M., and Steins, U. (2020). Income and Wealth Inequality in America, 1949-2016. *Journal of Political Economy*

## Lecture 12 - Incomplete markets: Buffer-stock savings

### 1. The buffer-stock savings model

- Setup, computation and calibration
- The consumption function

### 2. Applying the Buffer-Stock Savings Model

- Gourinchas-Parker: life-cycle savings dynamics
- Kaplan-Violante: illiquid assets and the marginal propensity to consume

#### Readings

- \*Carroll, C. D. (1997). Buffer-Stock Saving and the Life Cycle/Permanent Income Hypothesis. *The Quarterly Journal of Economics*, 112(1):1–55
- \*Gourinchas, P.-O. and Parker, J. A. (2002). Consumption Over the Life Cycle. *Econometrica*, 70(1):47–89
- \*Kaplan, G. and Violante, G. L. (2014). A Model of the Consumption Response to Fiscal Stimulus Payments. *Econometrica*, 82(4):1199–1239
- Deaton, A. S., Deaton, and Angus (1991). Saving and Liquidity Constraints. *Econometrica*, 59(5):1221–48

## Lecture 13 - Incomplete markets: General equilibrium

### 1. The Aiyagari model

- Recursive competitive equilibrium
- Asset convergence
- The Aiyagari diagram

### 2. Applications

- Explaining wealth inequality
- Taxation

### Readings

- \*Chapter 7 in Krueger, D. (2016). *An Introduction to Macroeconomics with Household Heterogeneity*
- \*Lectures 4-9, 11 by Gianluca Violante
- \*Aiyagari, S. R. (1994). Uninsured Idiosyncratic Risk and Aggregate Saving. *The Quarterly Journal of Economics*, 109(3):659–684
- Huggett, M. (1993). The risk-free rate in heterogeneous-agent incomplete-insurance economies. *Journal of Economic Dynamics and Control*, 17(5-6):953–969

## Lecture 14 - Course summary and pre-exam Q&A

1. Putting it all together: An Incomplete-Markets New Keynesian model with a Frictional Labor Market
2. Pre-exam Q&A session