

## ECON 60202 Macro Theory II

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### Course Description:

This course is the second term of a two-term sequence in macroeconomics. Topics include classical and Keynesian theories of cyclical fluctuations; incomplete market models; stabilization policy; credit markets and financial frictions. Students will also be expected to perform quantitative exercises using a computer program (e.g. Matlab), as we will work with (some of) these models in conjunction with data, discussing how to calibrate, estimate, and evaluate these models.

### Course Structure:

#### 1. Real Business Cycle Models

- (a) Stochastic neoclassical growth model
- (b) The basic RBC model
- (c) Extensions of the basic RBC model
  - divisible vs. indivisible labor
  - money: money-in-utility; cash-in-advance
  - preferences: KPR and GHH; habit formation
  - adjustment costs & Tobin's  $q$
  - imperfect competition
  - fiscal policy: lump-sum vs. distortionary taxes

#### 2. New Keynesian Models

- (a) The basic NK model and the NKPC
- (b) Inefficiencies and monetary policy design in the basic NK model
- (c) A model-consistent welfare criterion in the NK model
- (d) Monetary policy trade-offs & optimal policy under discretion vs. commitment
- (e) The zero lower bound (Eggertsson and Krugman, 2012)

### 3. Incomplete Market Models

- (a) Review: The permanent income hypothesis; the random walk prediction & tests
- (b) Models with incomplete market & income shocks:
  - Two-period model
  - Infinite-horizon model with one agent
  - Infinite-horizon model with heterogeneous agents and idiosyncratic shocks (Aiyagari, 1994)

### 4. Financial Frictions

- (a) Costly state verification models  
(Carlstrom and Fuerst, 1997; Bernanke, Gertler and Kiyotaki, 1999)
- (b) Collateral constraint models  
(Kiyotaki and Moore, 1997)
- (c) Models with bank runs  
(Diamond and Dybvig, 1983; Gertler and Kiyotaki, 2015)
- (d) Overview of the Great Recession

#### **Textbooks:**

There is no single assigned textbook for the course. Lectures will draw on a number of different sources. The main graduate level textbooks are listed below:

- Stokey, Lucas, and Prescott, "Recursive Methods in Economic Dynamics"
- Ljungqvist and Sargent, "Recursive Macroeconomic Theory"
- Gali, "Monetary Policy, Inflation, and the Business Cycle"
- Romer, "Advanced Macroeconomics"
- Judd, "Numerical Methods in Economics"

Other useful written texts include:

- Krueger (2012), "Macroeconomic Theory"

- Krueger (2007), "Quantitative Macroeconomics: An Introduction"
- Krusell (2014), "Real Macroeconomic Theory"
- Brunnermeier, Eisenbach and Sannikov (2012), "Macroeconomics with Financial Frictions: A Survey"
- Quadrini (2011), "Financial Frictions in Macroeconomic Fluctuations"

I have uploaded the pdf files of these texts on Sakai. Another fantastic source of reading materials is Prof. Eric Sims' website (under "Courses"). In addition, you are also encouraged to read (at least some of) the seminal papers for the topics we are going to study:

- Kydland, Finn and Ed Prescott. "Time to Build and Economic Fluctuations." *Econometrica*, 1982.
- King, Robert and Sergio Rebelo. "Resuscitating Real Business Cycles." *Handbook of Macroeconomics*, 2000.
- Hayashi, Fumio. "Tobin's Marginal  $q$  and Average  $q$ : A Neoclassical Interpretation." *Econometrica*, 1982.
- Chari, VV, Patrick Kehoe, and Ellen McGrattan. "Business Cycle Accounting." *Econometrica*, 2007.
- Hansen, Gary. "Indivisible Labor and the Business Cycle." *Journal of Monetary Economics*, 1985.
- Clarida, Richard, Jordi Gali, and Mark Gertler. "The Science of Monetary Policy: A New Keynesian Perspective." *Journal of Economic Literature*, 1999.
- Gali, Jordi and Olivier Blanchard. "Real Wage Rigidities and the New Keynesian Model." *Journal of Money, Credit, and Banking*, 2007.
- Eggertson, Gauti and Michael Woodford. "The Zero Bound on Interest Rates and Optimal Monetary Policy." *Brookings Papers on Economic Activity*, 2003.
- Eggertson, Gauti and Paul Krugman. "Debt, Deleveraging, and the Liquidity Trap." *Quarterly Journal of Economics*, 2012.

- Aiyagari, Rao. "Uninsured Idiosyncratic Risk and Aggregate Saving." *Quarterly Journal of Economics*, 1994.
- Kiyotaki, Nobuhiro and John Moore. "Credit Cycles." *Journal of Political Economy*, 1997.
- Bernanke, Ben, Mark Gertler and Simon Gilchrist. "The Financial Accelerator in a Quantitative Business Cycle Framework." *Handbook of Macroeconomics*, 1999.
- Carlstrom, Charles, and Tim Fuerst. "Agency Costs, Net Worth, and Business Fluctuations: A Computable General Equilibrium Analysis." *American Economic Review*, 1997.
- Jermann, Urban and Vincenzo Quadrini. "Macroeconomic Effects of Financial Shocks." *American Economic Review*, 2012.
- Diamond, Douglas and Philip Dybvig. "Bank Runs, Deposit Insurance, and Liquidity." *Journal of Political Economy*, 1983.
- Gertler, Mark and Nobuhiro Kiyotaki. "Banking, Liquidity, and Bank Runs in an Infinite Horizon Economy." *American Economic Review*, 2015.

### **Progress checklists:**

I will be giving out a progress checklist after each class, containing a list of "key concepts", the equations "you should be able to derive", and the results "you should be able to explain".

### **Grading:**

The overall grade is calculated based on the following weighting scheme:

- 6 Problem sets: 30%
- 2 Midterm exams: 20% each
- Final exam: 30%

You are allowed to cooperate with other students, but every student has to hand in his/her own uniquely written assignment.

**Office hours:**

I do not have official office hours, but you are welcome to send me an email to arrange a meeting, or just come by my office (3033) if you have questions.

**Important Dates (tentative):**

- January 29: Problem set 1 due
- February 12: Problem set 2 due
- **February 17: Midterm exam 1**
- March 4: Problem set 3 due
- March 7 – March 15: Spring break
- March 25: Problem set 4 due
- **April 1: Midterm exam 2**
- April 15: Problem set 5 due
- April 29: Problem set 6 due
- **week of May 4: Final exam**