

# *Advanced Macroeconomics Syllabus*

Gu, Xin

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## **1 Instructor Information**

**Instructor:** Gu, Xin

**Office:** Room 840, School of Finance, Executive Building, Xiasha campus

**Office Hours:** by appointment

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**Lecture Hours and Venue:** Friday afternoon 6-8, School of Economics 121

**Course Website:** <https://github.com/richardgu26zh/PhD-Macroeconomics->

## **2 Course Description**

Advanced Macroeconomics (PhD program) covers the debate between (New) Keynesian and Classical perspective about macroeconomic policies (i.e., monetary policy and fiscal policy). The course would present simple and small scale dynamic stochastic general equilibrium (DSGE) models, the workhouse of modern macroeconomics, to illustrate the debate between those two schools. The course introduces perturbation techniques to solve a system of rational expectation models (via Sims (2002) algorithm). Teaching philosophy of this course is student-centered and "learning-by-doing". Students are encouraged to replicate small scale dsge models mentioned in this course, and code those models by themselves with programming language (i.e. Matlab or R).

Prerequisite: Intermediate Microeconomics, Intermediate Macroeconomics, Calculus, Linear Algebra, and Basic programming skills.

## **3 Tentative Schedule and Suggested Readings**

There are several textbooks, journal papers, and other notes for this course. Students are encouraged to have those course materials<sup>1</sup>.

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<sup>1</sup>The Office of International Education and Exchange would assist students to book Abel et al. *Macroeconomics* and DeJong and Dave *Structural Macroeconometrics*. Those two textbooks priced at 144 RMB together.

- Week 1: Course Introduction - Reading - ABC<sup>2</sup> Chapter 1 & 2
- Week 2: No Lecture - Reading Assignment - Reading - ABC, Chapters 3, 4, 7, & 8.
- Week 3: Macroeconomic Policy in Classical Perspective - Reading - ABC Chapter 9
- Week 4: National Holiday - No Lecture
- Week 5: Macroeconomic Policy in (New) Keynesian Perspective - Reading - ABC Chapter 10 & 11
- Week 6: Classical Macroeconomic Modelling - Reading - Charles I. Plosser, 1989, *Understanding Real Business Cycles*, Journal of Economic Perspectives, Volume 3, No 3, pages 51-77.
- Week 7: Log-Linearization of Nonlinear Models - Reading - DD<sup>3</sup> Chapter 2 Casting Models in Canonical Form 2.2 Linearization
- Week 8: Solve Rational Expectation Models - Sims (2002) Algorithm - Reading - DD Chapter 4 Linear Solution Techniques 4.4 Sims' Method
- Week 9: No Lecture - **First Assignment** - solve RBC with Sims algorithm
- Week 10: New Keynesian Macroeconomic Modelling - Price Stickiness and Monopolistic Competitive Market Structure I - Reading - Jordi Gali <sup>4</sup> Chapter 3
- Week 11: New Keynesian Macroeconomic Modelling - Price Stickiness and Monopolistic Competitive Market Structure II - Reading - Jordi Gali Chapter 3
- Week 12: No Lecture - **Second Assignment** - Derive Wage Stickiness - Reading - Jordi Gali Chapter 6
- Week 13: Presentation - **Third Assignment** - Solve the Model with Sims' Method
- Week 14: No Lecture - **Report** - An and Schorfheide (2007) benchmark model derivation and solution
- Week 15: Presentation - Jordi Gali's models and AS (2007) in gensys
- Week 16: Final Review

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<sup>2</sup>Abel, Bernanke, and Crouhouse, *Macroeconomics*, Pearson, A Custom Publication.

<sup>3</sup>David DeJong and Chetan Dave, *Structural Macroeconometrics* (2<sup>nd</sup> edition), Princeton University Press.

<sup>4</sup>Jordi Gali, 2015, *Money Policy, Inflation, and the Business Cycle* (2<sup>nd</sup> edition), Princeton University Press.

## 4 Class Policy and Contact Policy

### 4.1 Class Policy

- \* Please attend classes, if you missed over one-third of lectures (i.e. 5 lectures), you are not allowed to take the final and make-up exams. Students can take one sick leave, which is approved by Director of Student Office, Miss Hu, Qiong (Joyce). In an emergency case, you can take the leave first, but is required to submit a (campus) hospital document within one week. Otherwise, it is taken as one absence. Students who need to take three-week sick leave should apply for approval from Dean of Finance School.
- \* Don't be late for lectures. Any student who is late more than 5 minutes or leaves early without approval is considered as absence.

### 4.2 Contact Policy

Strongly suggest students to have an outlook account for communication. Gmail, Yahoo mail, other mail system might not work well with university mail system here. Please state your requests, questions, or suggestions regarding this course clearly in your email.

## 5 Grading Policy

This course has reading notes grading (10%), 3 assignments (30%), one report (10%), and final exam (50%).

Reading notes are notes taken based on journal and textbook assignments. Notes should be done by L<sup>A</sup>T<sub>E</sub>X only, and the template of such note is online<sup>5</sup>. Course instructor would randomly require submission of reading notes. Submitted notes should be printout with A4 paper.

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<sup>5</sup>The web link is [http://jrxz.zjsu.edu.cn/english/news\\_xygz.jsp?id=5490](http://jrxz.zjsu.edu.cn/english/news_xygz.jsp?id=5490). The Office of International Education and Exchange would assist students to purchase the licence of Winedt if in need. Winedt charges 199 RMB for students.