# ECON 5021A Macroeconomic Theory
The Chinese University of Hong Kong
Fall 2018

**Course Information**

Instructor: Guangyu PEI (guangyu.pei@cuhk.edu.hk), ELB 1011

Office Hours: Thu 2:30 p.m. - 4:15 p.m. or by appointment

Lectures: Thu 8:30 - 11:45, Chen Kou Ben Bldg UG04, Sep 6 - Nov 29

No class on Nov 15 due to Congregation.

**Course Description**

This course covers state-of-art core materials in dynamic macroeconomics at the entry graduate level. In the first part of the course, mathematical tools necessary for solving dynamic systems are introduced, including dynamic programming - for discrete time problems - and optimal control theory - for continuous time system. In the second part of the course, work-horse macro models are covered including (but not limited to) neoclassical growth model, overlapping-generations model (OLG), real business cycle models (RBC), new Keynesian models (NK) and Aiyagari's model.

**Learning outcomes**

After taking the course, graduate students (MPhil/PhD) should be familiar with tools, modeling techniques as well as economic intuitions in understanding and conducting modern macroeconomic research.

**Grading**

Grade will be determined by class participation (10%), midterm exam (40%) and final exam (50%).

**Exam Schedule**

| | |
|---|---|
| Midterm exam | **Oct 18** |
| Final exam | **TBD** |

No reschedule of the midterm exam will be given. Please be noted that if you cannot attend either the midterm or the final exam, you need to send an email to the instructor BEFORE the exam, and you are required to provide proofs for your absence. Only medical or family emergency are accepted as reasons for absence from examination. If you miss the midterm exam, your performance will be evaluated based on

class participation (10%) and final exam (90%). Please be noted that late-drop of the course is not permitted unless you can provide very strong justification.

**Course Materials**

(**DA**) Acemoglu Daron. "*Introduction to Modern Economic Growth*", Princeton University Press, February 2009.

(**LS**) Ljungqvist Lars, and Thomas Sargent. "*Recursive Macroeconomic Theory*", 2nd edition, MIT Press, 2004

(**JG**) Gali Jordi. "*Monetary Policy, Inflation and the Business Cycle: An Introduction to the New Keynesian Framework*", 2nd edition, Princeton University Press, 2015.

Lecture notes.

**Topics (Subject to Potential Changes)**

1. "Math Camp": Dynamic Programming and Optimal Control     (**DA** Ch. 6 & 7)

2. General Equilibrium Foundations of Growth Theory     (**DA** Ch. 6)

3. Neoclassical and Endogenous (AK) Growth Model     (**DA** Ch. 8 & 11)

4. Overlapping Generations (OLG) Model     (**DA** Ch. 9)

5. Stochastic Dynamic Programming and Stochastic Growth  (**DA** Ch. 6 & 16 & 17)

6. Equilibrium with Complete Markets and Asset Pricing     (**LS** Ch. 8 & 12 & 13)

7. The Savings Problem and Incomplete Market Models     (**LS** Ch. 16 & 17)

8. Real business cycles (RBC)

   Key Reference: Robert G. King, Sergio T. Rebelo (1999): "*Resuscitating Real Business Cycles*", In: John B. Taylor and Michael Woodford, Editor(s), Handbook of Macroeconomics, Chapter 14

9. The New Keynesian (NK) Framework     (**JG** Ch. 3)

**Academic Honesty**

Attention is drawn to University policy and regulations on honesty in academic work, and to the disciplinary guidelines and procedures applicable to breaches of such policy and regulations.

Details may be found at http://www.cuhk.edu.hk/policy/academichonesty.