UNIVERSITY OF CAMBRIDGE

Faculty of Economics

R200 – Advanced Macroeconomics

Aims and Objectives

This course covers the methodological foundations of modern macroeconomics. The emphasis is put on a rigorous and mathematical treatment of macroeconomic issues, covering concepts such as dynamic optimization, recursive representations, and competitive equilibria. These concepts will then be applied to classical models of economic growth and business cycle fluctuations.

Course Topics

I. Dynamic Optimisation and General Equilibrium (9h by *T. Cavalcanti*)
   a. Dynamic programming
   b. Euler equations and the transversality conditions
   c. Pareto Optimum
   d. Decentralization under complete markets
   e. Sequential vs. Recursive Formulations

II. Economic Growth (6h by *T. Cavalcanti*)
   a. Ramsey Growth Model
   b. Formulation of Neoclassical Growth Model
   c. Introduction to Human Capital and Endogenous Growth (*time permitting*)

III. Business cycle fluctuations and DSGE models (12h by *C. Giannitsarou*)
   a. Log-Linearization and basic solution techniques
   b. The Real Business Cycle model
   c. Dynamic New Keynesian models
   d. Medium scale DSGE model and analysis

Classes

There will be seven two-hour classes, where problem sets from each module of the course will be solved.

Assessment

There will be a three-hour written examination. The students will be asked to answer three out of four long questions of equal value.

Readings

The main textbook for this course is Miao, J. (2014), *Economic Dynamics in Discrete Time*, MIT Press. We also offer additional material in the form of notes, exercises, sample exam questions, etc. These will be available in the course website.