

Advanced Macroeconomics - CAEN/UFC

Instructor: Marcelo Aarestrup Arbex
Lecture Time: Monday - Friday 14-17h

Period: March 19-28, 2019
Lecture Location: TBD

A. Course Description

Modern macroeconomic analysis is increasingly concerned with the construction, calibration, estimation, and simulation of Dynamic Stochastic General Equilibrium (DSGE) models. The course is intended as a hands-on approach to learning the basics of modern dynamic macroeconomic modelling. Students are not expected to be familiar with advanced programming techniques in Matlab/Dynare but a basic knowledge of matrix and array operations, graphics and programming skills is needed to understand the material of the course. Lectures will be in English.

Preliminary List of Topics

1. Introduction to Dynare
 - What is Dynare?; How it works?
 - Basic linear recursive models - AR(1), Samuelson's Oscillator (Backward looking models)
 - Linear Rational Expectations model (Forward looking models)
2. The Basic Solow Model
 - A Stochastic Solow Model
 - Log-Linear Version of the Solow Model
 - Dynare: Permanent x Temporary Shocks
3. Real Business Cycles and Calibration Exercise
 - Stylized Facts about Business Cycles
 - Theory after Facts: The Canonical DSGE model
 - Log Linearization Techniques
 - Solving the Log-Linear Model; Blanchard and Kahn's Solution Method
 - Dynare: TFP x Government Spending Shocks

B. Course Material

There are a number of excellent books on modern dynamic macroeconomics that provide background reading for this course. Useful books:

- *The ABCs of RBCs: An Introduction to Dynamic Macroeconomic Models*. George McCandless. Harvard University Press, 2008.
- *Economic Dynamics in Discrete Time*, Jianjun Miao, The MIT Press, 2014.
- *Advanced Macroeconomics*, David Romer, 4th Edition, McGraw-Hill, 2012.
- *Introduction to Dynamic Macroeconomic General Equilibrium Models*, Jose Luis Torres Chacon, Vernon Series in Economic Methodology, 2014.
- *Dynare: Reference Manual Version 4*, <https://ideas.repec.org/p/cpm/dynare/001.html>, Dynare Working Papers 1, CEPREMAP, revised Jul 2018. And *Dynare: User Guide*