ECO-911 Lectures on Macroeconomic Theory and Applications

Course Description

The objective of this course is to focus on advanced macroeconomics and the techniques associated with analyzing macroeconomic models. Topics include growth theories, heterogeneous agents, optimal macroeconomic policy, the time series dynamics of consumption, solution methods for dynamic stochastic optimization problems, saving and growth, agent based modeling, credibility, dynamic contracting and empirical methods suitable for studying international linkages of exchange rates, interest rates and prices. The technical tools include standard calculus, linear algebra, and optimization in continuous time using the Hamiltonian, optimization in discrete time using dynamic programming, and methods in time series analysis.

Learning Outcomes:

After completing the course, students should be able to understand and apply macro concepts in the areas of

- Techniques for dynamic optimization with and without uncertainty
- Techniques for dynamic analysis in general equilibrium models
- Infinite horizon and overlapping generation models
- Asset pricing in general equilibrium
- Optimal taxation in an intertemporal setting
- Economic growth
- Real business cycle models
- Search models and search unemployment

Prerequisite: Advanced Macroeconomics

Recommended Books:

Stokey, Nancy, Robert E. Lucas and Edward Prescott (1989) Recursive Methods in Economic Dynamics, Harvard University Press, Cambridge.

Romer, David. 2006. *Advanced Macroeconomics*. Third edition. New York:McGrawHill.

Barro, Robert J. and Xavier Sala-i-Martin. 2004. *Economic Growth*. Second edition. Cambridge: MIT Press.

Oliver J Balanchard Stanley Fischer 2009. Lectures on Macroeconomics Cambridge: MIT Press

Ben J. Heijdra Frederick Van der Ploeg 2002 The Foundations of Modern Macroeconomics, Oxford University Press