Prof. Pietro Reichlin
Macroeconomic Analysis – Module I

The course is an introduction to modern macroeconomics analysis based on first principles: planning optima, utility maximization, asset pricing and competitive equilibrium theory. The first part of the course focuses on dynamic efficiency and optimal growth with capital accumulation (the Ramsey Problem). The second part on optimal consumption, savings and asset accumulation from the individual point of view. We introduce the notions of inter-temporal budget constraints, Euler equations, consumption smoothing over time and states, risk aversion, precautionary saving and asset pricing. The third part of the course is devoted to the equilibrium restrictions on consumption and asset accumulation in competitive economies under two alternative frameworks: a finite number of infinitely lived individuals and overlapping generations. We will establish conditions under which an equilibrium configuration implies consumption smoothing and risk sharing and examples in which these properties may fail.

Detailed Program

1. Review of the Solow Model. Introducing dynamic efficiency and Cass criteria and Malinvaud transversality.
2. Introducing Ramsey Plans. Euler equations, transversality, proving sufficiency.
3. Lagrange Method. Stability analysis and linearization. Homework 1 assigned.
4. Introduction to Bellman equations. Some standard examples.
5. Ramsey Plans and social welfare: heterogeneous long lived individuals and overlapping generations.
6. Introducing uncertainty in the Ramsey problem.
7. Consumption and savings with sequential markets. Budget sets, debt limits and the Euler equation.
8. Ponzi games, transversality, integrability of life-time budget constraints, consumption smoothing and the permanent income hypothesis.
9. The case of uncertainty: complete markets and incomplete markets. The certainty equivalent model. Precautionary savings.
10. Asset pricing with long lived assets.
11. Competitive equilibrium with complete markets. Consumption smoothing and full risk sharing with no aggregate uncertainty.
12. First and second welfare theorems.
13. Equilibrium in overlapping generations.
14. The Bewley Model.

The content is based on my class notes:
http://docenti.luiss.it/reichlin/files/2010/11/AD_MACRO_03_18.pdf (up to section 6.3)

Rules for the evaluation: 5 home assignments will be provided during the course. 25% based on evaluation of presentations of assignments at review sessions and 75% based on the final exam.