General Objectives:
- This course is designed for you to think about economics from a macro perspective. The course is mostly based on the microeconomic principles of rationality and optimization, but with several deviations from them considered. We shall examine some basic aspects of an economic system such as:
  (i) time structure: static versus dynamic
  (ii) equilibrium structure: partial versus general
  (iii) trade structure: real versus nominal trade
  (iv) information structure: symmetric, differential, asymmetric information;
  (v) risk structure: certainty equivalents, expectations and risk;
  (vi) asset market structure: complete versus incomplete markets.

- We shall study in some detail capital accumulation, labor markets, asset pricing and the structure of asset markets, monetary policy, and fiscal policy, with attention to the relationship between individual behavior and aggregate outcomes; and macroeconomics and finance interactions.
- As a technical note, this course uses discrete time models only.

Course Requirements:
- Mid-Term Exam I: One Hour-15 Min Exam (15%) – Monday, March 3 (~ at part IV of the course)
- Mid-Term Exam II: One Hour-15 Min Exam (15%) – Wednesday, April 9 (~ at part V of the course, cumulative)
- One Two-Hour Final Exam (40%) – Friday, May 9, 8:30-10:30AM
- Short Problem Sets, Readings and Quizzes (10%)
- One Term Paper (Topics to be discussed individually) (20%) – Due on Wednesday, April 30.

{Exam and Problem Sets Policy: There are no make-up exams. Problem set is due at a prearranged date; after the deadline, the problem set loses 20% of its value for each late day; problem sets handed in six or more days after the deadline have no value. All grades in this class are curved.}
- I encourage you to work with groups of your fellow colleagues to study and solve problem sets. Group problem sets will be negotiated.
Main Texts:


Williamson, Stephen (2014) Macroeconomics, Fifth (or any) Edition. Addison-Wesley, Reading, MA. This is an intermediate textbook with some more advanced materials, mainly in the appendixes, useful for this class. It will be used as general reading and background.

Required Readings (more readings will be tentatively assigned):

(http://www.economics.harvard.edu/faculty/mankiw/papers/Macroeconomist_as_Scientist.pdf)

Other Books and References at the end of the syllabus.
COURSE OUTLINE (Tentative)

- I provide a brief and restricted set of references to articles in professional journals in the course outline below. Many of the references to professional articles are available in the books referred. We may examine some of those articles, and possibly others, more closely.

Note: Students should be familiar with the material in Bianconi (2012), Chapter 1 (1.1-1.5), and read the Notes on the Literature at the end of each referred chapter.

I. GENERAL EQUILIBRIUM REAL MACROECONOMIC THEORY WITH FULL INFORMATION:
   DYNAMICS
   Some fundamental papers (this list is not exhaustive) (~ 4 classes)

(i) **Real Investment, Competitive Equilibrium and Pareto Optimality - The Two-Period Case:**
   Bianconi (2012, 2011); Notes; Manuelli (2007), section 1.3; Obstfeld and Rogoff (1996), Chapter 1.2; Williamson (2014), Chapter 11 and Appendix; Arrow (1972); Debreu (1954, 1983).

(ii) **Dynamic Programming and Blackwell's Contraction Mapping Theorem - Optimal Economic Growth (Exogenous):**
   Bianconi (2012), Chapter 1 (1.7) Obstfeld and Rogoff (1996), Chapter 7.1-7.2; Sargent (1987), Chapter 1.1-1.3 and Chapter 1.4; Benveniste & Scheinkman (1979); Kreps (1990), Appendix II; Ljungqvist and Sargent (2000), Chapter 11; Williamson (2014), Chapters 7-8 and Appendix [Solow(1956); Prescott (1988)].

(iii) **Time Consistency of Preferences: Hyperbolic Discounting - Optimal Economic Growth (Exogenous)**
   Laibson (1997); Harris and Laibson (2001).


II. GENERAL EQUILIBRIUM REAL MACROECONOMIC THEORY: LABOR MARKETS

Some fundamental papers (this list is not exhaustive) (~ 3 classes)

(i) Dynamic General Equilibrium Theory and Labor Supply
    Campbell (1994)
    Wallenius & Prescott (2011)

(ii) Indivisibilities and the Labor Market
    Wallenius & Prescott (2011)
    Mas-Colell, Whinston and Green (1995), pages 170-175;
    Kreps (1990), Chapter 3;

(iii) Frictions and the Labor Market
    McCall (1970);
    Sargent (1987), Chapter 1;
    Diamond (1982);
    Mortensen and Pissarides (1999);
    Hall (2009).


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III. DYNAMIC STOCHASTIC GENERAL EQUILIBRIUM (DSGE) REAL MACROECONOMIC THEORY WITH FULL INFORMATION

Some fundamental papers (this list is not exhaustive) (~1 ½ classes)

(i) Stochastic Growth (Exogenous) - Real Business Cycles, Calibration and Costs of Economic Fluctuations:

- Blanchard and Fischer (1989), Chapters 7.1-7.2;
- McCallum (1989); Lucas (1987), Chapter 1-2;
- Ljungqvist and Sargent (2000), Chapter 3, page 46;
- Cooley and Prescott (1995), Chapter 1;


IV. GENERAL EQUILIBRIUM VALUATION AND INSURANCE

Some fundamental papers (this list is not exhaustive) (~ 7 classes)

(i) Valuation with Full Information: Complete versus Incomplete Markets
Bianconi (2012), Chapter 4 (e.g. Notes on the Literature);

(ii) Information Issues: Rational Expectations Equilibrium, Risk Sharing and Revelation
Bianconi (2012), Chapter 4 (e.g. Notes on the Literature);
Grossman (1976);
Grossman and Stiglitz (1980);
Bolton, Santos and Scheinkman (2012).

(iii) Dynamic Valuation with Full Information: General Equilibrium and Asset Pricing under Uncertainty with Complete Markets and Excess Returns
Bianconi (2012), Chapter 6 (6.4-6.10);
Sargent (1987), Chapters 1.6-1.7, Chapter 3;
Obstfeld and Rogoff (1996), Chapters 5.1-5.4;
Lucas (1987), Chapters 3-5;
Deaton (1992), Chapters 1-3;
Altug and Labadie (1994), Chapter 1;
Ljungqvist and Sargent (2004);
[Hansen and Singleton (1983); Svensson (1988); Campbell (1998)].
Bianconi (2012), Chapter 6 (6.11-6.12);
Sargent (1987), Chapters 1.6-1.7;
Altug and Labadie (1994), Chapter 1;
Ljungqvist and Sargent (2000), Chapter 10;
Cochrane (2000), Chapter 21

(iv) Dynamic Valuation: Bubbles, Frictions, Macrofinancial Risk
Bianconi (2012), Chapter 6
De Long et al (1990),
Basco (2009),
Kocherlakota (2009),
Brunnermeier et al (2012a), Brunnermeier and Oehmeke (2012b)
Gray, Merton and Bodie (2008)


V. **INTRODUCTION TO MONETARY AND FISCAL POLICY INTERACTIONS, AND FINANCIAL ISSUES.**

Some fundamental papers (this list is not exhaustive) (~ 11 classes)

(i) **The Intertemporal Government Budget Constraint:**
- Sargent and Wallace (1981)
- Cochrane (2011a, b; 2005)
- Bianconi (2012), Chapter 6 (6.13-6.15);
- Barro (1997), Chapters 7 and 8;
- Sargent (1997), Chapters 4 and 5;
- Blanchard and Fischer (1989), Chapter 4;
- Ljungqvist and Sargent (2000), Chapter 17;
- Williamson (2014), Chapter 9 and Appendix.

[Abel (1985); Stockman (1981); Woodford (1990); Bianconi (1992)].
- Woodford (2011, 2012)

(ii) **Short Discussion of The New Keynesian Dynamic Stochastic General Equilibrium (DSGE) Model**
- Smets and Wouters (2007)
- Calvo (1983)
- Clarida, Gali and Gertler (1999): most influential article
- Romer (1995, newest editions) Ch. 7

(iii) **Time Consistency of Fiscal Policy:**
- Fisher (1980);
- Barro (1997), Chapters 12-14;
- Sargent (1987), Chapter 6;
- Ljungqvist and Sargent (2000), Chapter 9;
- Williamson (2014), Chapter 8 and Appendix

[Barro (1974, 1989); Baxter and King (1993); Chamley (1986); Cogan, John F. & Cwik, Tobias & Taylor & Wieland(2009)].

(iv) **Banking and Risk Sharing:**
- Diamond and Dybvig (1983)
- Mehra & Piguillem & Prescott (2011)
- Lucas and Stokey (2011)
- Lucas (2013)

(v) **Debt, Leverage and Collateral:**
- Geanakoplos (2009)
- Fostel and Geanakoplos (2008)
- Bardsley (1995)
- Brunnermeier and Sannikov (2011)
- Brunnermeier, Eisenbach and Sannikov (2011)
- Shleifer and Vishny (2011)
(vi) **The Term Structure of Interest Rates:**
Cogley, Sargent and Surico (2011)
Sargent (1987)
Ljungqvist and Sargent (2012)


Woodford, Michael (2012)“Methods of Policy Accommodation at the Interest-Rate Lower Bound,” presented at the Jackson Hole symposium, August.

TERM PAPER due, Friday, April 25
FINAL EXAM – Friday May 9 – Covers all course material
Book References:

There will be other texts that I may (or may not) refer in my lectures, but are good references for your study in the masters program (this list is not exhaustive):


Aghion, Philippe and Steven Durlauf (Eds.) (2005) Handbook of Economic Growth. Volumes 1, 2, and 3; North Holland: Amsterdam. Solid, useful and most recent collection of surveys in the field.


Chow, Gregory (1997) *Dynamic Economics: Optimization by the Lagrangean Method*. Oxford University Press, Oxford, UK. This is a solid advanced text that examines several existing applications in dynamic economics and finance using the Lagrangean technique as opposed to Dynamic Programming.


Mas-Colell, Andreu, Michael Whinston and Jerry Green (1995) *Microeconomic Theory*. Oxford University Press, Cambridge, MA. The most modern synthesis of basic economic theory from a rigorous perspective, it has some of the main microeconomic applications. Highly recommended.

Obstfeld, Maurice and Kenneth Rogoff (1996) *Foundations of International Macroeconomics*. The MIT Press, Cambridge, MA. The graduate textbook in macroeconomics with focus on the international trade and international finance aspects of the field. The book is a treatise on the subject and may be used as background.


Sundaram, Rangarajam K. (1996) *A First Course in Optimization Theory*. Cambridge University Press, Cambridge, UK. This is a very good introduction to the mathematics of (mostly static) optimization used in economics.

Taylor, John and Michael Woodford (Eds.) (2000) *Handbooks of Macroeconomics*. Volumes 1, 2, and 3; North Holland: Amsterdam. Solid, useful and most recent collection of surveys in the field.

Turnovsky, Stephen J. (1997) *International Macroeconomic Dynamics*. The MIT Press, Cambridge, MA. A solid book presenting the research program of Turnovsky and many of his co-authors in the areas of monetary and fiscal policy with attention to the international aspects. Several analytical technical tools are presented in great detail. Covers mostly continuous time macroeconomic theory.


Woodford, Michael (2003) *Interest and Prices: Foundations of a Theory of Monetary Policy*. Princeton University Press, Princeton, NJ. This is an important recent book. It presents a synthesis of one school of macroeconomic thought, the New-Keynesian approach (AKA the New Keynesian bible), and expands into new approaches of price level determination and interaction between monetary and fiscal policy.

- **General References:**


  - An important annual publication is the *NBER (National Bureau of Economic Research) Macroeconomics Annual*: various editors, 1986-present. Available at the library.

  - Another important publication is the *NBER Working Papers Series*: various authors, 1981-present. Available at the library and on the web: www.nber.org

Software Reference: Available at the Tisch Library:


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All Material included

M. Bianconi
January 2014