Course Description: This course is an introduction to macroeconomic theory and analysis. A major theme of the course will be macroeconomic dynamics and associated mathematical techniques: optimal control theory and dynamic programming. We begin with a review of basic macroeconomic models, bridging the gap between undergraduate intermediate macroeconomics and graduate macroeconomic theory. This review will be followed by a consideration of economic models of optimizing agents and an introduction to rational expectations. We then study various models of economic growth (Solow, Ramsey-Koopmans, Romer). Using models of overlapping generations, we introduce policy analysis of issues such as social security. The next topic will be real business cycles in a competitive equilibrium context with use of dynamic programming techniques. Then, using neoclassical models, we will study the role of money and monetary policy in the economy. The course concludes with a public finance approach to government fiscal policy.

Learning Objectives:
(1) Understand and be able to discuss basic macroeconomic concepts, theories and models.
(2) Build proficiency in quantitative analysis through use of optimal control and dynamic programming techniques.
(3) Demonstrate ability to apply economic reasoning to macroeconomic issues and policy problems.
(4) Gain familiarity with classic papers of macroeconomics and learn how to read the literature.
Required Texts:

Other Texts and References:
Barro and Sala-i-Martin, *Economic Growth (2nd Ed.)*, MIT, 2004
Bergin, Lecture Notes on Dynamic Programming, online 1998 (Laulima)
Williamson, S., *Notes on Macroeconomic Theory*, online 2006 (Laulima)

Grading:  
Final Exam: 40%
Midterm Exam I: 25%
Midterm Exam II: 25%
Participation: 10%

Course Format and Policy:
For the most part, the course will be conducted in lecture format, drawing from required texts (especially Benassy), the other references listed above, and assigned papers, the starred ones in particular. Much of the assigned reading is technical, though some is expository, giving assessments of the current state of macroeconomics, which we will discuss in class from time to time. I do not use powerpoint or post lecture notes, so plan on coming to class routinely. Homework will be assigned but not graded. You will be accountable for homework on exams. Participation involves class discussion, including homework and selected readings. There are NO MAKEUP EXAMS except under extraordinary circumstances.

Topical Outline and Readings:
Starred papers will receive detailed coverage in class

1. Introduction and review  
   Benassy, chapter 2  
   Baumol 1952; Blanchard 2000, 2008; Mankiw 2006

2. Rational expectations  
   Benassy, chapter 3  
   Muth 1961
3. **Intertemporal equilibria and optimizing agents**
   Benassy, chapter 4
   Blanchard and Fischer, chapter 2
   *Williamson notes, chapter 1

4. **Solow growth model**
   Benassy, chapter 1
   Romer, chapter 1

5. **Optimal control and Ramsey growth model**
   Benassy, chapter 7
   Romer, chapter 2
   Barro 1974; *Dorfman 1969; Ramsey 1928

6. **Overlapping generations**
   Benassy, chapter 8
   Romer, chapter 2
   Blanchard and Fischer, chapter 3
   Blanchard 1985; *Diamond 1965; Samuelson 1958

7. **Endogenous growth**
   Benassy, chapter 9
   Romer, chapters 3&4
   *Mankiw, Romer and Weil 1992; Romer, P., 1990

8. **Competitive equilibrium business cycles**
   Benassy, chapter 10
   Romer, chapter 5
   Bergin 1998; Long and Plosser 1983; Plosser 1989

9. **Money and monetary policy**
   Benassy, chapter 11
   Romer, chapter 11
   Blanchard and Fischer, chapter 4
   *Brock 1975; Friedman 1969; Sidrausky 1967

10. **Government fiscal policy**
    Benassy, chapter 17
    Romer, chapter 12
    *Mankiw 2011; Woodford 2010
Papers (available on Laulima):


Blanchard, O., 2000, “What Do We Know About Macroeconomics that Fisher and Wicksell Did Not?” NBER wp 75570


*Brock, W., 1975, “A Simple Perfect Foresight Monetary Model,” Journal of Monetary Economics 1, pp 133-150


Friedman, M., 1969, “The Optimum Quantity of Money,” in The Optimum Quantity of Money and Other Essays, Chicago


Mankiw, N. G., 2006, “The Macroeconomist as Scientist and Engineer,” Harvard University


