

page: <http://people.bu.edu/rking/EC704A.htm>



## Economics 704A: Schedule for Spring 2008

Economics 704 will meet on Tuesdays and Thursdays from 11:00 am -12:30 pm and on Fridays from 2:00 pm - 3:30 pm. This syllabus covers the first half of the course, taught by Robert King (rking@bu.edu). The second half of the course (EC704B) will be taught by Simon Gilchrist (sgilchri@bu.edu).

In EC704A, we will use the three time periods interchangeably, as spelled out in the schedule below. That is, during these time periods, we will have lectures, **section meetings** and **examinations**. There will be 14 Lectures; 3 section meetings to cover homework and 1 to review for the examination; and 1 examination (90 minutes).

The Tuesday and Thursday sessions will be held in CAS 227 and the Friday session will be held in CAS 223.

There are three core topics for EC704A. First, we will discuss models that economists use to think about the macroeconomics of growth and development. In the standard neoclassical model, introduced in EC702, the long-run growth rate of the economy is exogenous, governed by rates of growth of productivity and population that are not influenced by the choices of individuals or the nature of the policy regime. Alternative models -- sometimes called "endogenous growth models" seek to explain why growth rates differ, by altering the production technology of the standard neoclassical model. Second, we will look at facts about economic growth and development, with a particular focus on how these are related to public policies including fiscal policies. Third, we will learn about the design of optimal fiscal policy. An outline of the lecture topics follows below.

For many lectures in this class, there will be an original and seminal article that you are asked to read. One might read a textbook treatment of the material in this article (and some references are given below). However, ultimately, your initial job as an economist will be to write articles and so our main reading will be articles. If there is more than one article listed, then the one with an asterisk (\*) is most directly related to the lecture.

The convention below is that lecture outline = typed notes and lecture outline = pdf of powerpoint slides.

## Background:

During math camp, you studied differential equations. The recommended reference was to

Barro and Sala-i-Martin, **Economic Growth**, 2nd edition, Appendix A: Appendix on Mathematical methods.

### Lecture 1: Thursday, January 17

The Solow model in continuous time

#### Lecture outline

\* R.M. Solow, "A Contribution to the Theory of Economic Growth," Quarterly Journal of Economics, vol. 70 no.1 (February 1956): 65-94. [PDF](#)

### Lecture 2: Tuesday, January 22

Continuous time optimization:

general theory and application to the intertemporal consumption problem

#### Lecture outline

### Lecture 3: Thursday, January 24

The basic neoclassical model in continuous time: steady state, local and global transitional dynamics

#### Lecture notes ;

\* Cass, David, "Optimum Growth in an Aggregative Model of Capital Accumulation," Review of Economic Studies, vol. 32 no. 3(July 1965): 233-240. [PDF](#)

### Lecture 4: Friday, January 25

## Endogenous growth: the "Ak" model and some relatives

basic model, effects of taxation, external effects of capital accumulation

Lecture notes

Lecture outline

\* Rebelo, Sergio, "Long Run Policy and Long Run Growth," *Journal of Political Economy*, vol. 99 no. 3 (June 1991): 500-521. [PDF](#)

Romer, Paul, "Increasing Returns and Long-Run Growth," *The Journal of Political Economy*, vol. 94, no. 5. (Oct., 1986): 1002-1037. [PDF](#)

Lecture 5: Tuesday, January 29

Factor accumulation and convergence in theoretical models

\* King, Robert G. and Sergio T. Rebelo, "Transitional Dynamics and Economic Growth In Neoclassical Economies," *American Economic Review*, vol. 83, no. 4 (September 1993): 908-31. [PDF](#)

Lecture 6: Thursday, January 31

Growth and development accounting

\* Solow, Robert M. Solow, "Technical Change and the Aggregate Production Function," *The Review of Economics and Statistics*, Vol. 39, No. 3. (Aug., 1957), pp. 312-320. [PDF](#)

King, Robert G. and Ross Levine, "Capital Fundamentalism, Economic Development and Economic Growth," , *Carnegie-Rochester Conference Series on Public Policy*, 40 (June 1994), 259-292. [PDF](#) provides a summary account of Denison's work on development accounting.

\* Mankiw, N. Gregory, David Romer, and David Weil, "A Contribution to the Empirics of Economic Growth," *The Quarterly Journal of Economics*, Vol. 107, No. 2 (May, 1992), pp. 407-437 [PDF](#)

Lecture 7: Friday, February 1

Dynamic effects of tax policies in the basic neoclassical model when agents are infinitely lived

- Ricardian equivalence, substitution effects of taxation, wealth effects of government purchases

Lecture outline: [PDF](#)

\* Barro, Robert J., "Are government bonds net wealth?", *Journal of Political Economy*, Vol. 82, No. 6. (Nov. - Dec., 1974), pp. 1095-1117. [PDF](#)

Lecture 8: Tuesday, February 5

Introduction to optimal fiscal policy

static examples along Ramsey lines, analysis of optimal taxation over time in an economy without capital

Lecture outline: [PDF](#)

- Lucas, Robert Jr. and Stokey, Nancy L., 1983. "Optimal fiscal and monetary policy in an economy without capital," *Journal of Monetary Economics*, vol. 12(1), pages 55-93. [PDF](#)

Lecture 9: Thursday, February 7

Optimal taxation of labor and capital income

\* Chamley, Christophe, "Optimal Taxation of Capital in General Equilibrium," *Econometrica*, 1986, 54, 607-22 [PDF](#)

\* Atkinson, Chari and Kehoe, "Taxing Capital: A Bad Idea," Federal Reserve Bank of Minneapolis *Quarterly Review*, Summer 1999 (Vol. 23 No. 3), 1-12. [PDF](#)

Section 1: Friday, February 8

Lecture 10: Tuesday, February 12

- The overlapping generations model

\* Samuleson, Paul, "An Exact Consumption Loans Model of Interest, with or without the Social Contrivance of Money," *Journal of Political Economy*, December 1958. [PDF](#)

\* Blanchard, Olivier, "Debt, Deficits and Finite Horizons," *Journal of Political Economy*, 1985. [PDF](#)

Marshall, Sonstelie, and Gilles, "Money and Redistribution: Revisionist Notes on a Problem of Samuelson," *Journal of Monetary Economics* 1985 [PDF](#)

## Lecture 11: Thursday, February 14

Quantitative OLG models, fiscal policy design, and the macroeconomics of pensions (guest lecture by Laurence Kotlikoff): when agents have finite lives, there can be important effects of public debt issue and social security programs on capital accumulation, as first explained by Diamond. Modern quantitative models used for the study of tax policies and public pension policies have a rich structure in terms of generations, as in the example below.

\* Diamond, Peter, "National Debt in a Neoclassical Growth Model," *American Economic Review*, vol. 55, no.1 (December 1965), pp. 1126-1150. [PDF](#)

\* Altig, Auerbach, Kotlikoff, Smetters, and Walliser, "Simulating Fundamental Tax Reform in the United States," *American Economic Review*, Vol. 91, No. 3. (Jun., 2001), pp. 574-595. [PDF](#)

## Section 2: Thursday, February 15

NO MEETING due to university schedule: Tuesday, February 19

## Section 3: Thursday, February 21

## Section 4: Friday, February 22

Examination Review

Midterm examination: Tuesday, February 26

Practice exam used in EC704 Spring 2006 ([PDF](#) of exam; [PDF](#) including answers)

Actual exam used in EC704 Spring 2006 ([PDF of exam](#); [PDF including answers](#)):  
note that this version of the class contained some material not covered in S2007

Lecture 12: Thursday, February 28

TBA (to be announced later)

Lecture 13: Tuesday, March 4

TBA

Lecture 14: Thursday, March 6

TBA

BU break: March 10-14

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