

American University  
Department of Economics

## **ECON-702 Macroeconomic Theory Syllabus Spring 2005, BIC 101**

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Office Hours: Mon. 2-5:30 pm & Thurs. 12-12:45 pm, 2-3 pm.

I. Course Description: This is a doctoral level course in macroeconomics. Macroeconomics is the study of the national economy as a whole. In that regard, we examine the behavior of aggregate variables, such as output (GDP), the price level, money supply, inflation, unemployment, private spending, government spending, taxation, debt, and growth rates. We study the interactions among them, and their relationships with other variables. Though the course is primarily concerned with the national economy, in some cases references to the open-economy shall be made where relevant (for example, the influence of or impact on the exchange rate or balance of payments).

II. Objectives of the Course: For the student, the objectives are twofold: (a) to learn the subject material at hand – i.e. the macroeconomic theories, evidence, and policy; and (b) to further develop one's research and economic reasoning skills. Some time will be spent on the 'toolkits' of macroeconomic analysis (e.g. solving systems of equations, comparative statics, dynamic optimization, phase diagrams, and other analytical techniques). These methods are *widely* applicable beyond this course or subject, and so the returns to learning them are very high.

III. Prerequisites: This course presumes that you have had macroeconomics and microeconomics at the upper undergraduate and/or master's degree level. For example, you are expected to be familiar with concepts like IS/LM, AS/AD, Sticky Prices, Phillips Curve, Fiscal Policy, Monetary Policy, Growth, and Fluctuations – or at least be able to define them, even if you do not fully remember the underlying principles and mechanics, and know or appreciate *why* they are (and have been) the subjects of study. The prerequisite courses – in addition to providing the preparatory training – should have stimulated the appropriate level of intellectual curiosity about macroeconomic issues. Without some sense of the *why*, this course will seem quite abstract and difficult. Nonetheless, a brief review of national income accounting, IS/LM, and AS/AD at the intermediate level will be provided (and not much more). This course also presumes that you have studied basic calculus, linear algebra, and statistics. Again, a brief review will be provided (e.g. Cramer's Rule, Differentiation and Integration, Rules of Matrix Algebra, Means and Variances).

IV. Methodological Approach: Unlike Ph.D. microeconomics (e.g. Econ-703), there is no established way to teach macroeconomics (even at the first doctoral level). In micro, it is pretty standard to cover consumer theory, producer theory, market equilibrium, partial equilibrium, general equilibrium, and market imperfections more or less in this order. However, this is not the case with macroeconomics. Any cursory look at macroeconomic textbooks, or syllabi from different courses or universities, will illustrate that. The materials covered – and the order in which they are covered – often, if not always, reflect the ideological taste of the academician. This cannot be avoided.

Macroeconomics is fraught with controversies and competing ideas from different schools of thought. In some treatments (as in the two textbooks on our reading list), the analysis begins with the economy in the long run and then in the short run. The long run model is often displayed as a benchmark, towards which the economy reverts. This may presuppose several things: (a) the existence of a long run equilibrium; (b) that somehow that point is desired, optimal, or efficient; and (c) that the economy self-corrects (that if it has deviated from that long run point, it shall have a tendency to go there). Some make no long run vs. short run distinction, or ignore/dismiss any notion of some long run equilibrium economy. And others don't seem to have any systematic theme in their textbooks or syllabi, appearing to broach different topics in some random order.

For this course, we will start with the short run, where price adjustment is slow and the stock of capital is largely given. Here, we examine some of the traditional macroeconomic topics and debates (e.g. from Classical Economics, Keynesian Economics, to New Classical Economics). The course then turns to the long run, where aggregate supply factors are all variable, prices are flexible, and agents are forward-looking. We will provide exposure to topics in Growth Theory, Real Business Cycles, Intertemporal Macroeconomics, and the Microfoundations of Macroeconomics. The short run/long run dichotomy is not necessarily used here to portray an economy in transition from one state to another, but to highlight the different perspectives and arguments presented in the literature to common research questions. Note very importantly that not all of the topics mentioned above will be treated equally in depth. We will go through some in great detail and others in minor detail.

V. A Very Simplified Overview of Issues: The following remarks are to help you know *what to look for* when studying the material. Macroeconomic analysis tends to focus on the two key variables in the Aggregate Demand (AD) - Aggregate Supply (AS) framework: aggregate output and the price level. The long run path of these variables comes under the study of ***economic growth***. Deviations or fluctuations of these variables around the long run path come under the study of ***business cycles***. Macroeconomic research has been concerned with the causes and effects of economic growth and fluctuations, and with the role of policy in affecting growth and cycles. Business cycles raise concerns because when the economy deviates from the long run path, the economy experiences ***inflation*** and ***unemployment*** - the twin pathologies in macroeconomics. A key controversy is whether there exists a short run or long run ***Phillips Curve*** (i.e. tradeoff between the rates of inflation and unemployment); yet another controversy is whether business cycles are “bad” or reflect optimizing choices among economic agents.

Macroeconomic policies (e.g. the use of ***fiscal*** and ***monetary*** policies) to stabilize the economy around the long run path (or to dampen business cycles) are referred to as ***stabilization policies***. Policies that target the long run outcomes (such as the level of potential output and the natural rate of unemployment) are referred to as ***structural policies*** (which may fall more under the purview of microeconomics, e.g. competition policy, tax incentives, labor market reforms, patent laws etc.). Much of the debate in macroeconomics, as you will soon see, centers around whether stabilization policy is effective, is neutral, or makes things worse. Much of the intellectual energy among researchers has been spent not on discussing the design of policies per se (i.e. the “how?”) but on debating whether policy works (i.e. the “should we or shouldn't we?”). There are also controversies

in macroeconomics concerning how people (and firms) behave. Different views or assumptions about micro behavior tend to result in different predictions about macro behavior – that is, of how the variables in the aggregate behave; for example, *aggregate consumption, saving, investment, money demand*, and even *technological progress*. No wonder then that there are many different models and different conclusions. This will be evident in both the short run and long run analyses. Rather than taking this as a sign of confusion in the literature, one should consider this for what it most likely is: an indication of the vibrant research activity that is going on in the field.

#### VI. Required Readings:

- i. Romer, David (2001), *Advanced Macroeconomics*, 2<sup>nd</sup> edition, McGraw-Hill-Irwin.
- ii. Mankiw, N. Gregory (2002), *Macroeconomics*, 5<sup>th</sup> edition, Worth Publishers.
- iii. Supplementary Readings. [A packet of readings will be available at a local Printing Shop (Park Press, 1518 K. St, Washington DC). Please obtain this packet as soon as you can.]

All of these readings play an important role. Romer (2001) is rather advanced; Mankiw (2002) provides the background concepts and intuition behind the material in Romer (2001). The supplementary readings provide greater (first-hand) information and insights – some nuances of which might be missed by textbooks that provide their own interpretations.

Here are the *supplementary readings* in alphabetical order of author(s). In the actual packet, the readings will, for your convenience, be in the order in which they are covered in class.

- Barro, Robert J. and Gordon, David B. (1983), “Rules, Discretion and Reputation in a Model of Monetary Policy,” *Journal of Monetary Economics*, Vol. 12, pp. 101-121.
- Blinder Alan S. and Solow, Robert M. (1973), “ Does Fiscal Policy Matter?” *Journal of Public Economics*, Vol. 2, pp. 319-337.
- Chiang, Alpha (1992), *Elements of Dynamic Optimization*. McGraw-Hill, New York (Chapter 7), pp. 161-181.
- Fischer, Stanley (1977), “Long-Term Contracts, Rational Expectations, and the Optimal Money Supply Rule,” *Journal of Political Economy*, Vol. 85, No. 1, pp. 191-205.
- Ginarte, Juan Carlos and Park, Walter G. (1995), “Dynamic Economic Models 101,” *Lecture Notes*, American University.
- Grossman, Gene and Helpman, Elhanan (1991), “Quality Ladders in the Theory of Growth,” *Review of Economic Studies*, Vol. 58, pp. 43-61.
- Kydland, Finn E. and Prescott, Edward C. (1977), “Rules Rather than Discretion: The Inconsistency of Optimal Plans,” *Journal of Political Economy*, Vol. 85, No. 3.

- Lucas, Robert E., Jr. (1973), “Some International Evidence on Output-Inflation Tradeoffs,” *American Economic Review*, Vol. 63, No. 3, pp. 326-334.
- Mankiw, N. Gregory (1985), “Small Menu Costs and Large Business Cycles: A Macroeconomic Model of Monopoly,” *Quarterly Journal of Economics*, Vol. 100, pp. 529-539.
- Mankiw, N. Gregory (1990), “A Quick Refresher Course in Macroeconomics,” *Journal of Economic Literature*, Vol. XXVIII, pp. 1645-1660.
- McCallum, Bennett (1989) “Real Business Cycle Models,” in Barro, Robert J. (ed.), *Modern Business Cycle Theory*, Harvard University Press, pp. 16-50.
- Poole, William (1970), “Optimal Choice of Monetary Policy Instruments in a Simple Stochastic Macro Model,” *Quarterly Journal of Economics*, pp. 197-216.
- Romer, Paul M. (1990), “Endogenous Technological Change,” *Journal of Political Economy*, Vol. 98, No. 5, Pt. 2.
- Sargent, T. J. (1987), *Macroeconomic Theory*, 2<sup>nd</sup> Edition, Academic Press, NY (Chs. 1 and 2).
- Sargent, Thomas J. and Wallace, Neil (1976), “Rational Expectations and the Theory of Economic Policy,” *Journal of Monetary Economics*, Vol. 2, pp. 169-183.

#### Course Evaluation:

i.	Midterm	50%
ii.	Final	<u>50%</u>
		100%

The final examination will cover the second half of the course (and will not be cumulative). Note, however, that the comprehensive examination will be cumulative. Weekly practice problems will be given (but not graded), and answer keys will also be provided.

<i>Grading Scheme:</i>	A	93% or above	C+	65-69%
	A-	85-92%	C	60-64%
	B+	80-84%	C-	55-59%
	B	75-79%	D	50-54%
	B-	70-74%	F	0-49%

#### VIII. Course Outline:

The following is a *tentative* outline! It cannot be stressed enough that this is merely a rough plan for the semester. We may very well end up going faster or slower, covering more or less, jumping back to previous topics or skipping ahead to others. Also, focus on what is covered in the lectures. The readings supplement the lectures, not the reverse.

***PART I: Overview & Review***

<u>Lecture</u>	<u>Date</u>	<u>Topic</u>	<u>Readings</u>
1	Jan. 10	Overview Math Review	Mankiw (1990); Mankiw (2002) Epilogue. See Notes on “Beautiful Minds”
2	Jan. 24	Accounting IS/LM	Mankiw (2002), Ch. 2; Mankiw (2002), Chs. 10-12.

***PART II: Traditional (Short-Run) Analyses***

<u>Lecture</u>	<u>Date</u>	<u>Topic</u>	<u>Readings</u>
3	Jan. 31	Keynes vs. the Classics	Sargent (1987); Romer (2001) Ch. 5; Mankiw (2002), Chs. 3-4.
4	Feb. 7	Keynes cont’d Phillips Curve	Sargent (1987); Romer (2001) Ch. 5; Mankiw (2002), Ch. 13.
5.	Feb. 14	Applications	Blinder and Solow (1973); Poole (1970); Mankiw (2002), Ch. 14.
6.	Feb. 21	New Classical Challenge	Romer (2001) Ch. 6A-B; Lucas (1973); Sargent and Wallace (1976); Fischer (1977); Mankiw (2002), Ch. 15.
<b>Mid-Term</b>	Feb. 28		

***PART III: Dynamic Models (Long-Run)***

<u>Lecture</u>	<u>Date</u>	<u>Topic</u>	<u>Readings</u>
7.	Mar. 14	Policy Rules vs. Discretion	Romer (2001) Ch. 10.4-10.7; Kydland and Prescott (1977); Barro and Gordon (1983)
8.	Mar. 21	Dynamic Methods	Ginarte and Park (1995); Chiang (1992)
9.	Apr. 4	Neoclassical Growth	Romer (2001) Chs 1-2; Romer, P. (1990); Mankiw (2002), Chs. 7-8.
10.	Apr. 11	Endogenous Growth	Romer (2001) Ch. 3A; Paul Romer (1990).

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| 11. | Apr. 18 | Endogenous<br>Growth cont'd        | Grossman & Helpman (1991).   |
| 12. | Apr. 25 | Real Business<br>Cycles & Critique | McCallum (1989); Romer (2001) Chs. 4, 6C.<br>Mankiw (2002), Ch. 19; Mankiw (1985). |
- Final Exam** May 2

**Note: No Classes on Martin Luther King Day (Jan. 17) & on Easter Monday (Mar. 28)**

*“ Every science and every inquiry . . . is thought to aim at some good.”*  
- Aristotle, *Nicomachean Ethics*, Book I, Ch. 1.

*“Concern for [mankind] . . . must always form the chief interest of all technical endeavors, concern for the great unsolved problems of the organization of labor and the distribution of goods – in order that the creations of our mind shall be a blessing and not a curse to mankind. Never forget this in the midst of your diagrams and equations.”*  
- Albert Einstein, Address, Cal Tech, 1931.