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                                                          Office Hours: Before class (email me!)
                                                                    and on seminar Fridays

Economics 71100: Macroeconomic Theory I
Fall 2009

Meeting time	Location	Final exam
Mondays 5–8 PM	Graduate Center room 8404	December 18, usual place and time

LEARNING GOALS. The main goal of this course is for students to acquire analytical skills required to solve problems in macroeconomics. Acquisition of these skills is a key first step in mastering the material covered in the macroeconomics and monetary economics field courses offered by the program, and these skills also are relevant for field courses in applied microeconomics and in financial economics. Finally, these skills also play a key role in selecting important topics to research in a dissertation and in successfully completing that research.

Skills begin with a firm understanding of microeconomic theory as it is typically applied to large groups of individuals interacting over long periods of time. They also begin with a basic understanding of macroeconomic facts. The development of skills involves fostering good macroeconomic intuition, learning clear diagrammatic analysis, and mastering the use of mathematics, primarily the differential calculus of constrained utility maximization. As indicated by the specific topics covered in the course calendar below, the course emphasizes the macroeconomics and microeconomics of consumption, saving, and labor supply behavior of households. Its ultimate aim is to make predictions about behavior at the macroeconomic level.

The basic theory and the mathematics that underlies it are developed in the lectures and in the textbook. Students are required to complete five homework assignments. These assignments give them exposure to solving macroeconomics problems and allow students and the instructor to evaluate their progress in acquiring the analytical skills described above. Highlights from the problem sets are discussed in class after the students complete them. In addition, there is a midterm examination and a final examination, both of which consist of problems in macroeconomics. These problems are very similar to those that appear on the First Examination in Macroeconomics. The midterm is discussed in class the week after it is given.

OFFICE HOURS. I will be available on Mondays before class and on "seminar Fridays" in room 5304. If I am not in 5304, I will have left a notice on the door regarding my location. Please email me in advance so that I can make sure I am available. "Seminar Fridays" means those Fridays during which we have a health and demography seminar or macro brownbag at the Grad Center. I am always available for help over email.

REQUIRED TEXT. We will use *Advanced Macroeconomics 3rd ed.* by David Romer, which is the dark red one. Please note there are significant differences between editions. You should purchase this book.

OTHER READINGS. You will notice that this syllabus contains a ton of other readings. I have provided these mostly as background for those students interested in further investigation, but in a few cases the problem sets require you to read them. Ideally, you will find the time to scan through them all. My suggestion is that for each, you (1) read the title and abstract, (2) skim through the introduction and conclusion, then (3) briefly scan the rest, before you finally (4) move on unless you want to read it in greater detail.

COURSE REQUIREMENTS. There will be <u>five problem sets</u> graded on a check-plus, check, check-minus basis. It is of utmost importance that you <u>just do the work</u> and hand it in on time. *I will not accept late problem sets*. A check-plus can make up for a check-minus, but even a student with all check-minuses will get 90% of the total points available on the problem sets, *if he or she turns all of them in on time.*

Outside of class attendance and participation, the problem sets are the most valuable tool you have for learning the course material. Feel free to form study groups in order to cover and learn the course material, but you must submit your own work. *Copying answers will result in a zero for all students whose problem sets are identical.*

The problem sets will be handed out and then due in class on the dates listed in the course schedule in this syllabus. After handing them out, I will also post the problem sets online on the Blackboard course website (see below). Problem set answer keys will also appear on Blackboard.

The **midterm exam** will be held in class on Monday, November 2. There will also be a **final exam**, which is cumulative, during normal class time and in the usual classroom on December 21.

GRADING. I will determine your final grade based on your performance using the following weights on the course requirements:

Problem sets	10%
Midterm exam	40%
Final exam	50%

ACADEMIC HONESTY. I take cheating very seriously. Cheating consists of acts like copying another student's problem set or exam; copying my lecture slides and turning them in; discussing an exam with anyone during the exam; bringing crib sheets, notes, or other paraphernalia to the exam; and general tomfoolery. Cheating on a problem set earns you a zero and a warning. Cheating on an exam earns you an immediate F for the class and a referral to the appropriate office.

WEB SITES. Course materials will appear on <u>Blackboard</u>. There is also a publicly viewable <u>course website</u> where I will place the syllabus but nothing else.

The <u>Blackboard</u> website is available at <u>http://www.cuny.edu</u> through the Log-in link at the bottom on the left-hand side. Once logged in, look for "Blackboard."

Help for Blackboard is available at <u>http://qcpages.qc.cuny.edu/edtech/BlackBoard/students.html</u>

PREPARATION FOR CLASS. Meeting only once a week for a total of 14 meetings including the midterm is a rough schedule for you, the students. *You must prepare in advance for class **and participate*** in order to get anything out of it. Read the assigned readings in the Romer textbook prior to class so you know what to expect. As for the additional readings, I suggest you read the title, abstract, conclusion, and scan the rest. Then, if you have more time and interest, go back and read the entire document. The key for you is to see what is out there, not digest every single word and concept.

STUDENTS WITH DISABILITIES are encouraged to see the instructor, who will work with students and the Graduate Center ADA Coordinator Matthew G. Schoengood, Vice President for Student Affairs, Room 7301; Telephone: 1-212-817-7400, to address special needs.

For each class, I have listed the readings in the order I think you should read them. You should *always* read the passages in the Romer textbook. Readings preceded by an asterisk are more dense and should be skimmed.

Class 1: Introduction and motivation. The central questions in macroeconomics. Overview of Growth and Fluctuations. Begin the Solow Growth Model.

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 1, sections 1.1–1.4.

Mankiw, N. Gregory (2006) "The Macroeconomist as Scientist and Engineer," *Journal of Economic Perspectives* 20(4): 29–46.

Lucas, Robert E. (2003) "Macroeconomic Priorities," *American Economic Review* 93(1): 1–13.

*Akerlof, George A. (2007) "The Missing Motivation in Macroeconomics," *American Economic Review* 97(1): 5–36.

*Solow, Robert (1956) "A Contribution to the Theory of Economic Growth," *Quarterly Journal of Economics* 70(1): 65–94.

Class 2: Finishing the Solow Model, population and the environment

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 1, sections 1.5 and 1.8.

*Malthus, Thomas (1798) An Essay on the Principle of Population. Reprinted by the Electronic Scholarly Publishing Project, Chapter 2.

Nordhaus, William D. (1992) "Lethal Model 2: The Limits to Growth Revisited," *Brookings Papers on Economic Activity* 1992(2): 61–156.

Class 3: Cross-country income differences, institutions, and health

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 1, sections 1.6, 1.7 and Chapter 3, Part B, sections 3.8–3.10.

Hall, Robert E. and Charles I. Jones (1999) "Why Why Do Some Countries Produce So Much More Output Per Worker Than Others?" *Quarterly Journal of Economics* 114(1), 83–116.

Bloom, David E. and Jeffrey D. Sachs (1998) "Geography, Demography, and Economic Growth in Africa," *Brookings Papers on Economic Activity* 1998(2): 207–295.

Nordhaus, William D. (2006) "Geography and macroeconomics: New data and new findings," *Proceedings of the National Academy of Sciences* 103(1): 3510–3517.

Acemoglu, Daron, Simon Johnson, and James A. Robinson (2001) "The Colonial Origins of Comparative Development: An Empirical Investigation," *American Economic Review* 91(5): 1369–1401.

Bloom, David E., David Canning, and Jaypee Sevilla (2004) "The Effect of Health on Economic Growth: A Production Function Approach," World Development 32(1): 1–13.

Acemoglu, Daron, and Simon Johnson (2006) "Disease and Development: The Effect of Life Expectancy on Economic Growth." National Bureau of Economic Research Working Paper No. 12269.

Class 4: The Ramsey-Cass-Koopmans Model and endogenous capital accumulation

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 2, Part A, sections 2.1–2.7.

Nordhaus, William D. (2007) "The *Stern Review* on the Economics of Climate Change," unpublished working paper, May.

Class 5: The Ramsey-Cass-Koopmans Model II and applications

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 2, Part A, sections 2.1–2.7.

Cutler, David M., James M. Poterba, Louise Sheiner, and Lawrence H. Summer (1990) "An Aging Society: Opportunity or Challenge?" Brookings Papers on Economic Activity 1990(1): 1–56.

Mankiw, N. Gregory and Matthew Weinzierl (2004) "Dynamic Scoring: A Back-of-the-Envelope Guide," NBER Working Paper 11000, December.

Class 6: The Diamond Model and overlapping generations

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 2, Part B, sections 2.8–2.12.

*Samuelson, Paul A. (1958) "An Exact Consumption-Loan Model of Interest with or without the Social Contrivance of Money," *Journal of Political Economy* 66(6): 467–482.

*Diamond, Peter A. (1965) "National Debt in a Neoclassical Growth Model," *American Economic Review* 55(5, Part 1): 1126–1150.

Class 7: New Growth Theory, models of R&D, knowledge production, population, and health

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 3, Part A, sections 3.1–3.7.

Lucas, Robert E. (1988) "On the Mechanics of Economic Development," *Journal of Monetary Economics* 22(1): 3–42.

Romer, Paul M. (1990) "Endogenous Technical Change," *Journal of Political Economy* 98(5 Part 2): S71–S102.

Kremer, Michael (1993) "Population Growth and Technological Change: One Million B.C. to 1990," *Quarterly Journal of Economics* 108(3): 681–716.

Galor, Oded and David N. Weil (2000) "Population, Technology, and Growth: From Malthusian Stagnation to the Demographic Transition and beyond," *American Economic Review* 90(4): 806–828.

Hall and Jones (2007) "The Value of Life and the Rise in Health Spending," Quarterly Journal of Economics 122(1): 39–72.

MIDTERM EXAM in class

Class 8: Introduction to and overview of Fluctuations, start Real Business Cycle Theory

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 4, sections 4.1–4.5.

Galí, Jordi and Mark Gertler (2007) "Macroeconomic Modeling for Monetary Policy Evaluation," *Journal of Economic Perspectives* 21(4): 25–45.

Alvarez, Fernando and Urban J. Jermann (2004) "Using Asset Prices to Measure the Cost of Business Cycles," *Journal of Political Economy* 112(6): 1223–1256.

Ruhm, Christopher J. (2000) "Are Recessions Good for Your Health?" *Quarterly Journal of Economics* 115(2): 617–650.

Class 9: Real Business Cycle Theory II

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 4, sections 4.6–4.10.

Class 10: Consumption, the life cycle, and the Permanent Income Hypothesis

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 7, sections 7.1–7.4.

Kotlikoff, Laurence J. and Lawrence H. Summers (1981) "The Role of Intergenerational Transfers in Aggregate Capital Accumulation," *Journal of Political Economy* 89(4): 706–732.

Gourinchas, Pierre-Olivier and Jonathan A. Parker (2002) "Consumption over the Life Cycle," *Econometrica* 70(1): 47–89.

Class 12: Consumption, asset pricing, and excess sensitivity

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 7, sections 7.5–7.6.

Kocherlakota, Narayana R. (1996) "The Equity Premium: It's Still a Puzzle," *Journal of Economic Literature* 34(1): 42–71.

Benartzi, Shlomo and Richard H. Thaler (1995) "Myopic Loss Aversion and the Equity Premium Puzzle," *Quarterly Journal of Economics* 110(1): 73–92.

Carroll, Christopher D. (1992) "The Buffer-Stock Theory of Saving: Some Macroeconomic Evidence," *Brookings Papers on Economic Activity* 1992(2): 61–156.

Carroll, Christopher D. (1997) "Buffer-Stock Saving and the Life Cycle/Permanent Income Hypothesis," *Quarterly Journal of Economics* 112(1): 1–55.

Carroll, Christopher D. (2000) "Requiem for the Representative Consumer? Aggregate Implications of Microeconomic Consumption Behavior," *American Economic Review* 90(2): 110–115.

Mankiw, N. Gregory (2000) "The Savers–Spenders Theory of Fiscal Policy," American Economic Review 90(2): 120–125.

Dynan, Karen E., Jonathan Skinner, and Stephen P. Zeldes (2004) "Do the Rich Save More?" Journal of Political Economy 112(2): 397–444.

Class 13: Investment with fixed adjustment costs, q-Theory

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 8, sections 8.1–8.5.

Stephen Oliner; Glenn Rudebusch; Daniel Sichel (1995) "New and Old Models of Business Investment: A Comparison of Forecasting Performance," *Journal of Money, Credit and Banking* 27(3): 806–826.

Class 14: Investment under uncertainty and market imperfections

Romer, David (2006) *Advanced Macroeconomics* 3rd edition. New York: McGraw-Hill / Irwin, Chapter 8, sections 8.6–8.10.

Caballero, Ricardo J. (1997) "Aggregate Investment," *NBER Working Paper* 6264, November.

Week	Monday	
1	**31-Aug** Class 1: Growth part 1 of 7	Introduction, motivation, begin the Solow Model Reading: Romer, Chapter 1; Problem Set 1 handed out
2	**7-Sep** **NO CLASSES SCHEDULED**	
3	**14-Sep** Class 2: Growth part 2 of 7	Finish the Solow Model Reading: Romer, Chapter 1
4	**21-Sep** Class 3: Growth part 3 of 7	Cross-country income differences Reading: Romer, Chapter 3 Part B; **Problem Set 1 due** Problem Set 2 handed out
5	**29-Sep, _TUESDAY!!_** Class 4: Growth part 4 of 7	The Ramsey-Cass-Koopmans Model I Reading: Romer, Chapter 2 Part A
6	**5-Oct** Class 5: Growth part 5 of 7	The Ramsey-Cass-Koopmans Model II Reading: Romer, Chapter 2 Part A; **Problem Set 2 due** Problem Set 3 handed out
7	**14-Oct, _WEDNESDAY!!_** Class 6: Growth part 6 of 7	The Diamond Model of overlapping generations Reading: Romer, Chapter 2 Part B
8	**19-Oct** Class 7: Growth part 7 of 7	New Growth Theory Reading: Romer, Chapter 3 Part A; **Problem Set 3 due**
9	**26-Oct** Class 8: Fluctuations part 1 of 2	Introduction to Fluctuations, the Real Business Cycle Reading: Romer, Chapter 4
10	**2-Nov** **IN-CLASS MIDTERM EXAM**	
11	**9-Nov** Class 9: Fluctuations part 2 of 2	Real Business Cycle II Reading: Romer, Chapter 4; Problem Set 4 handed out
12	**16-Nov** Class 10: Consumption part 1 of 2	Consumption I: Permanent Income and the Life Cycle Reading: Romer, Chapter 7; **Problem Set 4 due**
13	**23-Nov** Class 11: Consumption part 2 of 2	Consumption II: Asset pricing Reading: Romer, Chapter 7; Problem Set 5 handed out
14	**30-Nov** Class 12: Investment part 1 of 2	The q-Theory of Investment Reading: Romer, Chapter 8
15	**7-Dec** Class 13: Investment part 2 of 2	Investment under uncertainty and imperfections Reading: Romer, Chapter 8; **Problem Set 5 due**
16	**14-Dec** **NO CLASSES SCHEDULED**	
17	**21-Dec** Final exam during normal class time	