

**Economics 605A  
Macroeconomic Theory  
Fall 2015**

**Overview**

This course is broadly about the long-run macroeconomic phenomena. We will focus on building and analyzing dynamic general equilibrium growth models with no uncertainty. Particular attention will be paid to the correspondence between the models and the commonly used macroeconomic data. We will consider applications related to cross-country income differences, pricing of capital assets and some aspects of fiscal policy.

**Course requirement**

Every week, you will receive a problem set corresponding to the material covered in this week (7 problem sets in all). Your grade for the 605A portion of the course will be 100% based on the midterm exam (the grading system for 605B may be different -- please check with your instructor). Problem sets are to be handed in to the GSI on the due date (which is either in class or in section meeting). Each problem will be graded on “Mostly done”, “Partially done”, “Mostly not done” scale. Although problem sets do not factor in your grade, they give you opportunities for in-depth understanding of the material and feedback about your progress in the course.

This course adheres to standard Economics Department policies on academic misconduct, graded assignments, grade grievances and religious holidays. You can find these policies at

<http://www.lsa.umich.edu/econ/undergraduatestudy/policiesandprocedures>

**Class meetings for lectures:** Mondays and Wednesdays 10:10-11:30 am 373 Lorch

**Discussion section:** Tuesdays 4:10 pm – 5:30 pm, 173 Lorch

**Midterm Exam:** Monday, November 2, 10:00 am (sharp) – 11:30 am, 373 Lorch

**Office hours**

Dmitriy Stolyarov ( <a href="mailto:stolyar@umich.edu">stolyar@umich.edu</a> ) Lorch 313	Mondays 11:45 am – 12:45 pm, Fridays 2 pm – 3 pm
Alberto Arredondo Chavez ( <a href="mailto:aarredoc@umich.edu">aarredoc@umich.edu</a> ) TBA	Wednesdays 11:30-1:00, Thursdays 4:30-6:00

**Required text:** Barro, Robert J. and Sala-i-Martin, Xavier, *Economic Growth*, 2<sup>nd</sup> edition, MIT Press, ISBN 9780262025539.

**Recommended texts:** Romer, David, *Advanced Macroeconomics*, 3d edition, McGraw-Hill/Irwin, ISBN 0-07-287730-8

Acemoglu, Daron, *Introduction to Modern Economic Growth*, Princeton U press, 2009, 1st ed, ISBN 978-0-691-13292-1

## Economics 605A

## Course outline

<b>Date</b>	<b>Topic</b>	<b>Textbook sections</b>	<b>Old exam problems</b>
Sep 9	Introduction (NIPA in section)		
Sep 14	Neoclassical production function, profit maximization, production side equilibrium, representative firm; Solow model description.		
<b>Sep 15</b>	<b>PS 1 due</b>		
Sep 16	Solow model analysis, existence uniqueness of steady state, stability, monotone convergence; Golden rule; Mapping into NIPA, measurement of capital and labor	Acemoglu 2.1-2.5 Romer 1.2-1.5 Barro 1.2	
Sep 21	Solow model with technological change; Kaldor facts; Uzawa theorem; Investment-specific technological change (measurement of depreciation rate), TFP measurement	Acemoglu 2.7	F2007 final, Q1 2010 prelim, Q1 2011 prelim, Q1 2013 prelim, Q1 F2008 midterm, Q2 F2012 final, Q2
<b>Sep 22</b>	<b>PS 2 due</b>		
Sep 23	Value of the firm, Jorgenson's formula, Modigliani-Miller theorem		F2012 final, Q1
Sep 28	Cross-country application of the Solow model: Solow and Mankiw-Romer-Weil.		2009 prelim Q2 2010 prelim, Q3 F2009 final, Q1 F2014 midterm Q1
<b>Sep 29</b>	<b>PS 3 due</b>		
Sep 30	Optimal control, first order conditions and examples		2013 prelim, Q2
Oct 5	Ramsey model, planner's problem, phase diagram	Acemoglu 8 Romer Ch 2A Barro Chapter 2.1-2.6, Appendix on Mathematical Methods	2007 prelim, Q2
<b>Oct 6</b>	<b>PS 4 due</b>		
Oct 7	Comparative dynamics		F2007 final, Q2 F2008 midterm, Q1
Oct 12	Competitive equilibrium in the Ramsey model	Acemoglu 5, 8 Romer Ch 2A, 11 Barro Chapter 2, 3.1	2012 prelim, Q1 F2011 midterm, Q1 F2012 final, Q1

<b>Oct 13</b>	<b>PS 5 due</b>		
Oct 14	Government in the Ramsey model, Ricardian equivalence		2010 prelim, Q2 F2010 final, Q1
Oct 21	Canonical overlapping generation model (OLG), transition dynamics, dynamic efficiency	Acemoglu 9 Romer, Ch 2B Barro, 3.8	2011 prelim, Q2 2013 prelim, Q3 F2009 final, Q2
<b>Oct 22</b>	<b>PS 6 due</b>		
Oct 26	Pay-as-you-go social security system, OLG with land or with government debt		F2009 final, Q2 2007 prelim, Q1 2008 prelim Q1 F2010 final, Q2 2009 prelim Q1
<b>Oct 27</b>	<b>PS 7 due</b>		
Oct 28 Prof. Leahy is teaching			
<b>Nov 2</b>	<b>Midterm exam</b>		

## **Required reading by topic**

### **Neoclassical production**

Jones, Charles I. and Dean Scrimgeour, “A new proof of Uzawa’s steady state growth theorem”, *Review of Economics and Statistics*, February 2008, 90(1):180–182.

### **Solow model and the data**

N. Gregory Mankiw, David Romer, David N. Weil “A Contribution to the Empirics of Economic Growth” *The Quarterly Journal of Economics*, Vol. 107, No. 2 (May, 1992)

Robert E. Hall and Charles I. Jones “Why Do Some Countries Produce So Much More Output Per Worker Than Others?” *The Quarterly Journal of Economics*, Vol. 114, No. 1 (Feb., 1999), pp. 83-116

### **Investment-specific technological change**

Jeremy Greenwood, Zvi Hercowitz, Per Krusell “Long-Run Implications of Investment-Specific Technological Change” *The American Economic Review*, Vol. 87, No. 3 (Jun., 1997), pp. 342-362

### **Government in the Ramsey model**

Barro, Robert J. “Are Government Bonds Net Wealth?” *The Journal of Political Economy*, Vol. 82, No. 6. (Nov. - Dec., 1974), pp. 1095-1117.