

## COURSE OUTLINE

**ECON8050 Economic Growth**

**School of Economics**

**College of Business and Economics**

---

**Course Description** This course explores theoretical developments in the analysis of economic growth and introduces current debates on evidence and policy relevant to the growth performance of both developed and developing economies. The course is structured around reading and analysing a series of key journal papers. The theoretical material will be reinforced by tutorial exercises that require students to understand and interpret the mathematics and economics of the growth models. There will be a requirement to write a research essay in the second half of the semester to demonstrate depth of reading and understanding, relating theory to empirical and policy issues.

**Learning Outcomes** On satisfying the requirements for this course, students will have the knowledge and skills to:

- understand and contribute to economic policy debates related to growth and development;
- analyse theoretical problems in models of growth;
- critically interpret empirical studies of economic growth and development.

**Pre- or co-requisite** Economics IV or Macroeconomic Theory (ECON 8022)

**Assumed Knowledge:**

The standard neo-classical growth model with exogenous investment (Solow-Swan) and with optimal investment (Ramsey). Differential equations and principles of static and dynamic optimisation (e.g. Barro and Sala-i-Martin, *Economic Growth*, Appendix on Mathematical Methods).

*Potential students who are not familiar with these topics must discuss with the lecturer their suitability for this course.*

**Lecturer**

Professor Steve Dowrick  
 Room 2006, HW Arndt Building  
 Email: Steve.Dowrick@anu.edu.au

**Course Textbook**

The course has no formal textbook, being based around readings of journal papers and book chapters – but see Suggested Reading for description of back-up textbooks.

**WebCT**

WebCT is an ANU site where students can access supplementary course material including tutorial exercises and lecture material; and announcements about lectures, essay topics, exams and other course administration matters. . WebCT can be accessed via the ANU student home page. Students are advised to check WebCT weekly.

**Lectures**

???

**Tutorials**

Tutorials will start in Week 2. Preparing written answers and participating in your tutorial is the most effective way of learning the course material.

**Own Study**

University study requires at least as much time and effort as a full-time job. You should expect to put in at least 6 hours per week of your own study time for this course in addition to the 3 hours of lectures and tutorials. Discussion with fellow students can be extremely valuable. But all written work for assessment must be your own original work.

**Lecturer Consultation**

The lecturer will be available for consultation following lectures and tutorials. Alternatively you may request an appointment by email.

**Assessment**

**There will be three compulsory assessments:**

**Tutorial assignments (best 4 / 5)      20 %**

**1 Essay (2-3,000 words)                      20 %**

**Final Exam    60 %**

**Special Exams, Special Consideration, Supplementary Exams, Academic Honesty, etc.**

The university has rules dealing with situations where you are unable to attend or complete assessments to the best of your abilities due to accident, illness etc. **It is your responsibility to familiarise yourself with the rules** with regard to special examinations, special consideration and supplementary exams -

see [http://cbe.anu.edu.au/Current\\_Students/general\\_info/](http://cbe.anu.edu.au/Current_Students/general_info/) under General Policies. These rules are summarised in the document entitled 'General Information for Enrolled Students' which you will find on WebCT under 'Course Guide / Outline'.

Clarification can be obtained from the College Student Administration Office on the first floor of the Copland Building

Requests for Special Exams must be made to the College Student Administration Office .

Requests for Special Consideration should be made to the School of Economics.

The university has strict rules in relation to academic honesty. The underlying principle is that all work submitted for assessment (essays, exams etc) should be your own original work. You should consult the site <http://academichonesty.anu.edu.au/> for ANU's policies and advice on how you can avoid cheating and plagiarism.

## COURSE LECTURE OUTLINE

*\* asterisked papers are Core Materials  
some of these readings may be updated during the course*

### **PART A – THEORIES OF ECONOMIC GROWTH**

#### **1. Convergence and Growth in Neo-Classical Models**

\* Mankiw, N Gregory, David Romer and David N Weil (1992), “A contribution to the empirics of economic growth”, *Quarterly Journal of Economics* 107(2), 407-437.

Barro, Robert J. and Xavier Sala-i-Martin (1995, 2004), *Economic Growth*, New York; London and Montreal: McGraw-Hill. (Chapters 1&2)

Jones, Charles I. (1998), *Introduction to Economic Growth*, New York: W.W. Norton, Chapters 1 & 2.

#### **2. Human Capital and Growth**

\* Lucas, RE (1988), “On the mechanics of economic development”, *Journal of Monetary Economics* 22, 2-42.

#### **3. R&D and Endogenous Technological Progress: product variety, product quality and technological transfer models**

\* Romer, Paul M (1990), “Endogenous technological change”, *Journal of Political Economy* 98(5), S71-S102.

\* Grossman, Gene M and Elhanan Helpman (1991), *Innovation and Growth in the Global Economy*, MIT Press. Chapters 3&4

\* Howitt, Peter (2000), “Endogenous Growth and Cross-Country Income Differences”, *American Economic Review* 90 (4), 829-846.

Funke, Michael and Holger Strulik (2000), 'On Endogenous Growth with Physical Capital, Human Capital and Product Variety,' *European Economic Review*, 44 (3, March), 491-515.

Philippe Aghion, Peter Howitt, “A Model of Growth Through Creative Destruction”, *Econometrica*, Vol. 60, No. 2. (Mar., 1992), pp. 323-351.

Aghion and Howitt (1998), *Endogenous Growth Theory*, ch. 2.

#### 4. Endogenous Fertility and Growth

\* Ehrlich, Isaac and Francis T Lui (1991), "Intergenerational trade, longevity and economic growth", *Journal of Political Economy* 99(5), 1029-1059.

\* Galor, Oded and David N Weil (1996), 'The Gender Gap, Fertility and Growth', *The American Economic Review* 86 (13, June): 374-387.

Galor, O and Weil, DN. (2000), "Population, Technology, and Growth: From Malthusian Stagnation to the Demographic Transition and Beyond", *American Economic Review* 90 (4, Sep), 806-28.

Becker, Gary S., Kevin M. Murphy and Robert Tamura (1990), "Human Capital, Fertility, and Economic Growth", *Journal of Political Economy* 98(5), S12-37.

Ehrlich, Isaac and Francis T. Lui (1997), 'The Problem of Population and Growth: A Review of the Literature from Malthus to Contemporary Models of Endogenous Population and Endogenous Growth', *Journal of Economic Dynamics and Control* 21 (1): 205-242.

#### 5. Public goods and government spending

\* Barro, R. (1990), Government Spending in a simple model of endogenous growth, *Jnl of Political Economy* 98(5), S103-S125.

Barro and Sala-i-Martin (1995, 2004), *Economic Growth*, chapter 4.4.

Murphy, Kevin A., Andrei Shleifer and Robert W. Vishny (1989). "Industrialization and the Big Push." *Journal of Political Economy* 97(5), 1003-26.

#### 6. Trade and economies of specialisation

\* Yang, Xiaokai and Jeff Borland (1991), 'A Microeconomic Mechanism for Economic Growth', *Journal of Political Economy* 99 (31): 460-482.

\* Lucas, Robert E., Jr. (1988), 'On the Mechanics of Economic Development', *Journal of Monetary Economics* 22 (1): 3-42.

### **PART B – EMPIRICS OF ECONOMIC GROWTH**

#### 7. Sources of Growth

\* Sachs, Jeffrey D. and Andrew M. Warner (1997), "Fundamental Sources of Long-Run Growth." *American Economic Review* 87(2): 184-188.

\* Barro, Robert J. (2001), "Human Capital and Growth." *American Economic Review* 91(2): 12-17.

\* Easterly, William and Ross Levine (2001), 'It's Not Factor Accumulation: Stylized Facts and Growth Models', *World Bank Economic Review* 15 (2): 177-219.

- Levine, Ross and David Renelt (1992). "A sensitivity analysis of cross-country growth regressions." *American Economic Review* 82(4): 942-963.
- Sala-i-Martin, Xavier X. (1997). "I just ran two million regressions." *American Economic Review* 87(2): 178-182.
- Durlauf, S. N. and Q., D. T. (1999). "The New Empirics of Economic Growth." *Handbook of Macroeconomics* Vol.1 (edited by J.B. Taylor and M. Woodford).

## **8. Convergence and Divergence**

- \* Mankiw, N. G., D. Romer and D. N. Weil (1992). "A Contribution to the Empirics of Economic Growth." *Quarterly Journal of Economics* 107 (2 (May)): 407-37.
  - \* Caselli, Francesco, Gerardo Esquivel and Fernando Lefort (1996). "Reopening the Convergence Debate: a new look at cross-country growth empirics." *Journal of Economic Growth* 1 (September): 363-389.
  - \* Durlauf, S. N. and P. A. Johnson (1995). "Multiple Regimes and Cross-Country Growth Behaviour." *Journal of Applied Econometrics* 11 (4): 365-84.
  - \* Dowrick, Steve and Mark Rogers (2002), 'Classical and Technological Convergence: Beyond the Solow-Swan Growth Model', *Oxford Economic Papers* 54: 369-385.
- Bernard, A. B. and C. I. Jones (1996). "Technology and Convergence." *The Economic Journal* 106 (437, July): 1037-1044.
- Sala-i-Martin, X. X. (1996). "The Classical Approach to Convergence Analysis." *The Economic Journal* 106 (437, July): 1019-1036.
- Quah, D. T. (1996). "Twin Peaks: Growth and Convergence in Models of Distribution Dynamics." *Economic Journal* 106 (437): 1045-55.

## **9. R&D, Endogenous Growth and Scale Effects**

- \* Jones, Charles I. (1995). "Time Series Tests of Endogenous Growth Models." *Quarterly Journal of Economics* 110(2, May): 495-525.
- \* Aghion, Philippe and Peter Howitt (1998), "Testing for Endogenous Growth", Ch. 12 in *Endogenous Growth Theory*: 403-448.

## **11. Institutions**

- \* 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.
- \* Rodrik, D., A. Subramanian and F. Trebbi (2004). "Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development." *Journal of Economic Growth* 9 (2, June): 131-165.

- \* Glaeser, E. L., R. La Porta, F. Lopez-de-Silanes and A. Shleifer (2004). "Do institutions cause growth?" *Journal of Economic Growth* 9 (3, Sept): 271-303.

## 12. Trade and Growth

- \*\* Dollar, D. and A. Kraay (2004). "Trade, Growth, and Poverty." *Economic Journal* 114 (493, Feb): 22-49.
- \*\* Dowrick, Steve and Jane Golley (2004). 'Trade openness and growth: who benefits?' *Oxford Review of Economic Policy* 20 (1): 38-56.
- Coe, D. T. and E. Helpman (1995). "International R&D spillovers." *European Economic Review* 39 (5): 859-87.
- Frankel, J. A. and D. Romer (1999). "Does trade cause growth." *American Economic Review* 89 (3, June): 379-399.

### Supplementary Reading

The course is built around reading and analysing the journal articles that form the basis of the current literature on economic growth. All of the journals should be in the Chifley Library and can be viewed online or downloaded.

There is no prescribed textbook. However, students will find it useful to consult some or all of the texts listed below – all of which are on Chifley Library Short Loan. Barro and Sala-i-Martin (1995, 2004) is the most widely used graduate text. Aghion and Howitt (1998) is an advanced text that emphasises Schumpeterian theory where growth is driven by innovation and innovation is driven by the expectation of (temporary) monopoly profits. Grossman and Helpman (1991) are strong on the interlinkages between trade and growth. Jones (1998) is an advanced undergraduate text that has the great advantages of clarity of exposition and integration of empirical evidence with discussion of theory. Yang (2003) presents a fascinating formal model of growth, inspired by Adam Smith's analysis of the division of labour.

- Barro, Robert and Xavier Sala-i-Martin (1995, 2004), Economic Growth 1<sup>st</sup> Edition, McGraw-Hill; and 2<sup>nd</sup> Edition, MIT Press.
- Aghion, Phillipe and Peter Howitt (1998), Endogenous Growth Theory, MIT Press.
- Grossman, Gene M and Elhanan Helpman (1991), Innovation and Growth in the Global Economy, MIT Press.
- Jones, Charles I. (1998), Introduction to Economic Growth, W.W. Norton.
- Yang, Xiaokai (2003), Economic Development and the Division of Labor, Blackwell.

Handouts on some of the topics will be distributed at lectures and placed on the Web Site.

**Some useful Web Sites for Data and Research on Economic Growth**

Many influential growth papers appear first in the NBER Working Paper series which can be accessed on <http://www.nber.org/>

The Penn World Table covers real GDP, investment, private consumption and government consumption for over 100 countries 1950-92: <http://pwt.econ.upenn.edu/>

The World Bank's growth project:  
<http://econ.worldbank.org/programs/macroeconomics/>

Harvard's Centre for International Development: <http://www.cid.harvard.edu/>

Jonathan Temple has a very useful site "Economic Growth Resources":  
<http://www.bris.ac.uk/Depts/Economics/Growth/index.htm>

The Global Social Change Research Project : <http://gsociology.icaap.org/>

Angus Maddison has published research into long-run growth of population and GDP for the world economy, its regions and selected countries since 1500 AD, and in some instances has produced data going back to 1AD. <http://www.ggd.net/maddison/>