

# Advanced Economic Growth: MIT 14.463, Harvard 2410e,

Daron Acemoglu      Philippe Aghion

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## General Course Information

### *Times:*

Lectures: Monday-Wednesday 2:30 p.m.-4 p.m.

Recitations: To Be Announced.

### *Locations:*

MIT: E51-361

Harvard: Harvard Hall 102

The first three lectures will be at MIT.

The locations of the remaining lectures will be announced later.

### *Instructors:*

Daron Acemoglu (daron@mit.edu)

Office: E52-380b.

Office Hours: by appointment (e-mail me to set up appointments)

Philippe Aghion (paghion@fas.harvard.edu)

Office: Littauer 222.

Office Hours: by appointment (schedule with Lauren Larosa: larosa@fas.harvard.edu)

### *Teaching Assistants:*

Alp Simsek (alpstein@MIT.EDU)

Leonardo Bursztyn (bursztyn@fas.harvard.edu)

## Course Description

This course will cover selected topics in economic growth. The emphasis is on presenting material that is at the frontier of research focusing on the central questions of economic growth, including sources of income differences across countries, the causes of long-run economic growth and innovation, the process of economic development, the linkages between trade and growth, as well as some of the implications of economic growth on health and the environment.

The main references for the course are the book manuscripts Acemoglu *Introduction to Modern Economic Growth* and Aghion and Howitt *New Growth Economics*. Both of these books are available at the course web pages, and also can be found that:

Acemoglu: [http://econ-www.mit.edu/faculty/index.htm?prof\\_id=acemoglu&type=books](http://econ-www.mit.edu/faculty/index.htm?prof_id=acemoglu&type=books)

Aghion and Howitt: <http://my.harvard.edu/icb/icb.do?keyword=k19010&pageid=icb.page96947>.

Additional references are included in these books and some of those will be discussed in greater detail as we go along. You are encouraged to look at these additional references, but the required reading will be from the two book manuscripts.

The prerequisites are the basic micro and macro courses (in particular the equivalents of 14.121, 14.122, 14.123, 14.451 at MIT) as well as some familiarity with continuous-time and discrete-time dynamic optimization. The first recitation will provide a quick overview of basic optimal control theory based on Acemoglu, Chapter 7. You are also encouraged to read Acemoglu Chapters 5, 6, 7, 8 and 11, and Aghion-Howitt Chapters 1,2 and 3 as background.

There will be seven problem sets, which will count towards 35% of your final grade. The remaining 65% will be from the final examination at the end of the semester (time to be determined). Those who are registered for the course but are not taking it for credit can and are encouraged to complete and hand in the problem sets.

## Schedule and Outline

Lecture 1 (September 5, Acemoglu): The Central Questions of Economic Growth and Development. Reference: Acemoglu, Chapters 1, 3 and 4.

Lectures 2 and 3 (September 10 and 12, Acemoglu): Review of Basic Endogenous Growth Models. Reference: Acemoglu, Chapters 12-14, Aghion-Howitt, Chapters 3-5.

Lecture 4: (September 17, Aghion): Schumpeterian Growth and the Scale Effects Debate: Reference: Aghion-Howitt, Chapter 5.

Lecture 5 (September 19, Acemoglu): Directed Technical Change. Reference: Acemoglu, Chapter 15, and Aghion-Howitt Chapter 9.

Lecture 6 (September 26, Aghion): Competition. References: Acemoglu Chapters 12 and 14, and Aghion-Howitt Chapter 8.

Lecture 7 (October 1, Acemoglu): Intellectual Property Rights and Innovation. Reference: Acemoglu, Chapter 14.

Lecture 8 (October 3, Acemoglu): Technology Transfer and Interdependent Growth. Reference: Acemoglu, Chapter 18, and Aghion-Howitt Chapter 7.

Lecture 9 (October 10, Aghion): Finance, Growth and Convergence. Reference: Acemoglu, Chapter 20, and Aghion-Howitt Chapters 6-8.

Lecture 10 (October 15, Acemoglu) Appropriate and Inappropriate Technology and Barriers to Technology Adoption, Acemoglu, Chapter 18.

Lecture 11 (October 17, Aghion) Appropriate Institutions, Acemoglu, Chapter 20; Aghion-Howitt, Chapter 11.

Lectures 12 (October 19, Aghion): Education. Reference: Acemoglu Chapter 9, Aghion-Howitt, Chapter 12

Lecture 13 (October 22, Aghion): General Purpose Technologies. Reference: Aghion-Howitt, Chapter 10.

Lecture 14 (October 24, Aghion): Growth and the Environment. Reference: Aghion-Howitt, Chapter 19.

Lecture 15 (October 29, Acemoglu): Trade and Growth. Reference: Acemoglu, Chapter 19; Aghion-Howitt, Chapter 2.

Lecture 16 (October 31, Aghion): Trade and Innovation I. Reference: Acemoglu, Chapter 19; Aghion-Howitt, Chapter 17.

Lecture 17 (November 5, Acemoglu): Trade and Innovation II. Reference: Acemoglu, Chapter 19; Aghion-Howitt, Chapter 17.

Lectures 18 (November 7, Aghion): Stages of Growth: Reference: Acemoglu, Chapter 21, and Aghion-Howitt, Chapter 16.

Lecture 19 (November 12, Acemoglu) Structural Change: Acemoglu, Chapter 20.

Lecture 20 (November 14, Acemoglu): Economic Development and the Transformation of the Economy. Reference: Acemoglu, Chapter 21, and Aghion-Howitt, Chapter 16.

Lecture 21 (November 19, Acemoglu): Political Economy of Growth: Reference: Acemoglu, Chapters 22 and 23; Aghion-Howitt, Chapter 14.

Lecture 22 (November 21, Acemoglu): Stochastic Dynamic Programming and Stochastic Growth. Reference: Acemoglu, Chapters 16 and 17.

Lecture 23 (November 26, Acemoglu): Risk, Volatility and Growth. Reference: Acemoglu: Chapter 17.

Lectures 24 and 25 (November 28 and December 3, Aghion): Volatility and Macroeconomic Policy. Reference: Aghion-Howitt, Chapter 12.

Lecture 26: (December 5, Aghion): Designing Growth Policy. Reference; Aghion-Howitt, Chapter 20.