1 Course Description

This course is concerned with the process of economic growth. Understanding economic growth has preoccupied economists ever since Adam Smith. This area of economics is attracting a truly astounding amount of interest among economists nowadays. As a field of economics, it is also considered as encompassing the real, i.e., nonmonetary, aspects of macroeconomics. It emphasizes aspects of economic performance which may be measured in terms of standard economic concepts and complements the study of economic development. In contrast, the field of economic development emphasizes more institutional and qualitative aspects of economic transformation and of the evolution of living standards and economic institutions.

The subject of economic growth has fascinated economists over hundreds of years. Several American economists have won Nobel Prizes for their intellectual work in this area. Economic growth is currently a very popular subject. Concern about development of less developed countries, the robustness of economic growth in newly industrialized countries, the phenomenal expansion of international trade and its natural relationship to economic growth (at least in certain parts of the globe) and the persistence of terrible poverty in other parts of the world are all subjects that are hotly debated among economists and in the popular press. Freely quoting Robert Lucas, one of the brightest economic minds alive today, “once you start thinking about questions [pertaining to economic growth], it is hard to think of anything else.”

The course will take a broader view that will go beyond the fundamentals of the description of economic growth in terms of macroeconomic models. In addition to the standard topics concerning the dynamics of intertemporal economic equilibrium, the course will address economic growth in the international economy as a global phenomenon. We will discuss issues of convergence and divergence, inequality within countries and across countries, the importance of geography, natural resource scarcity and economic growth, and the impact of the “new economy” on US economic growth. Students’ research papers will themselves enhance the course. Some of the tools that will be developed, such as nonlinear economic dynamics, are interesting in their own right.
1.1 Requirements

**Exams.** The course’s prerequisites are as specified in the catalog and will not be relaxed. The course grade will be based on performance in a twenty-minute quiz, in two exams, and a term paper. Occasional homework assignments will supplement the class discussions and will be counted towards the course grade by 5%. The time schedule of the exams and their contribution towards the course grade are as follows:

- Monday, *October 4:* **quiz,** to count for 5% of the course grade (this date will let me give you feedback by the course drop date on October 5, 2004);
- Wednesday, *October 27:* **midterm,** to count for 25%;
- Wednesday, *December 15, 3:30–5:30pm:* **final exam,** to count for 35% of the grade. The final exam will be held as scheduled by the University and will not be moved.

**The research paper,** the other major requirement for the course, and together with its class presentation will count for 30% of the grade.

Especially during the first part of the course, homework assignments will involve analytical exercises, which are crucial for understanding the material. Later on, they will take the form of individual class presentations based on specific reading assignments, to be arranged on an individual basis.

Paper topics will be decided in consultation with the instructor, and class presentations based on the papers will be required and will be scheduled during the week preceding the Thanksgiving break and the week following it. The deadlines for the paper are as follows:

- paper **proposal:** due on Monday, *October 18;*
- **draft** of the paper: due on Monday, *November 10;*
- the **final version:** due on Monday, *December 6,* at the latest.

These deadlines will strictly be adhered to. They are designed to spread the work over the entire term and to allow you to be ready for class presentations at the end of the term. The grade for the paper will be made up of 5% from the proposal, 10% from the draft and the remainder from the final version. This scale puts a lot of emphasis on the quality of the research effort that you make early on in the term.

I am typically very flexible about paper topics, and the paper proposal requirement is designed to help you focus your search for a topic in a timely fashion and to do adequate research to ensure that it may be done within the confines of the term. It is not necessary that you choose a topic that has been covered in class. To give a few examples of appropriate topics, one could think of economic growth experiences of different countries, specific growth episodes of countries and regions in the modern era, including those of the US, Japan and Europe, history of economic growth, health and
economic growth, demography and economic growth, growth impact of innovations, technological progress, urban/local impact of economic growth, problems of economic transition, environment and economic growth, democracy and growth, political transition in South Africa and economic growth, fertility and growth, entrepreneurship and growth, growth consequences of macroeconomic stabilization problems, etc. You will be allowed to combine the paper requirement for this course with that of another course, provided that this is made explicit ahead of time and both the other instructor and I are aware of your plans and all three of us have agreed to an appropriate amount of work.

A list of topics of student papers from previous follows and will give you a very precise idea about what past students have done their research on: The Asian Miracle, its Crisis and Aftermath; Argentina: Boom to Bust; Growth and Decline in the Argentine Economy; Looking within China: Convergence or Divergence? Future Prospects of China after Accession into the WTO; Economic Growth in Japan: How 1973 Changed Everything; A Market transition: Influences and Effects of Cuba’s Second Economy and Small Businesses; Geography and Economic Growth: Will Africa ever be Able to Overcome its Poor Economic Growth? The “Geography” of Economic Growth: Will The East Asia Example Solve the Problem of Inequality? Economic Growth and the Environment; The Effects of the Oil Industry on the Norwegian Economy; Costa Rica in Transition: the Shift from Agriculture to Ecotourism; Regional Funds of the European Union: Convergence or Redistribution; Health and Economic Growth; Escaping Growth Traps: Combating Child Labor with Education and Credit; Growth in Australia and New Zealand: Specific Focus on the Transition to Greater Openness; Economic Growth Effects of Openness and Trade on the Indian Economy; A Case Study of Chile’s Development; For Better or Worse: How Oil Booms in the 1970s Resulted in a Declining Nigerian Economy; An Analysis of the Growth Experience of China after the Implementation of the Market Oriented Reforms of 1976; Supply Leading or Demand Causing: a Case Study of the Stock Markets of Taiwan and Thailand; Venezuela and the Oil Wealth; Corruption and its Effect on Economic Growth in Post-Communist Russia; Privatization in India; Can Countries Use Economic Growth Inducing Policies as a Means of Alleviating Poverty? Economic Growth and Poverty in Peru; The Czech Republic: Growing from Communism to Capitalism; Why Did the Economic Growth of Northern Cyprus and of the Republic of Cyprus Take Separate Paths? East Germany and Hungary: Two Different Transition Economies; Surviving the Crisis: Examining China’s Economic Growth during the Asian Financial Crisis; Economic Growth in Taiwan: The Role of Urbanization and of Agglomeration; Chaebols and Korean Economic Development; East Asian Economic Integration and Growth; Information Technology and Economic Development in India. Armenian Economic Growth; Consequences of the One-Child Policy in the PRC; Health and Economic Growth; African AIDS Epidemic and Economic Growth; Underground Economy and Economic Growth in Romania; Greek Economic Growth.

This is just a sample of outstanding papers that my students have written over the years. Of particular importance for the course are the writing part of the paper and the class presentations of student papers. Regarding the writing part, two writing fellows will be available to assist you.
They are: Adam Mueller and Narissa Schmidt. They will be introduced to the class later on. We will also work out the details of their involvement with the class.

Class presentations are an excellent exercise. They also provide priceless case studies and help students learn from each others’ research. Normally, students feel very eager about presenting the work in class, and their presentations enrich of the class experience. We will discuss in class ideas on how to make best use of class presentations.

1.2 Electronic Resources and Data Sets

I strongly recommend that you substantiate your work with data and encourage use of statistical and econometric techniques. Data may be downloaded from many sites, or be obtained from publications. The *World Development Reports*, which are annual publications of the World Bank [www.worldbank.org](http://www.worldbank.org), are good places to start for sources and guide to available data. A key data set, *The World Development Indicators*, may be found at Ginn Library:

http://www.library.tufts.edu/ginn/a-z.htm.

See also a nearly exhaustive list of data and of other resources for economists on the web at [http://rfe.wustl.edu/EconFAQ.html](http://rfe.wustl.edu/EconFAQ.html).


A special class session with Connie Reik, a research librarian, has been planned for September 24 in the ERC Room, Tisch Library.

It will help you in taking advantage of resources for economists available through the library system and over the Web. See also HVdB, 30–33, and CJ, Appendix C. And, I personally have a fair amount of experience with electronic resources and am anxious to help you.

Last but not least, I urge all of you to become acquainted with the academic integrity policies at Tufts University. Please check the following site and its hyperlinks:

http://ase.tufts.edu/Infobook/facilities/integrity.htm

1.3 Books

The two textbooks assigned below constitute a substantial basis for this course. Only two sections of the course will depend on outside readings. The synthesis presented in class in indispensable for your understanding and will define the course entirely.


This book is a new undergraduate text that presents the modern theory of economic growth, its application to the study of economic development, and extensive evidence on the worldwide experience of economic growth. Extensive sections of it would be assigned for readings and you should purchase it.

Those of you with substantial mathematical skills might find it more interesting to read recommended material from this book. It covers the same fundamentals as Van der Berg, yet more concisely but more mathematically. Because of its mathematical difficulty, which is entirely due to its use of continuous time and its conciseness, it is recommended only for those of you who feel comfortable with the math. Those of you who do not feel as comfortable with its mathematical level, please be assured that the same concepts will be covered in class in ways that you would be perfectly accessible to you.

Sections of other books and material on the web will be used for assigned supplementary reading. The books, listed below, are being placed on reserve at the Tisch Library. These books are noteworthy because they provide important historical background to understanding modern economic growth:


   This book is a structured guide to the facts of economic growth as a global process during the last 2000 years! It emphasizes the role of the “West” on the “Rest.” It may be used best as a resource for the institutional aspects of economic growth, when you carry out your research.


   The book by Landes revisits the classical theme of Adam Smith and provides a renewed perspective on the importance of geography — “nature’s inequities” — for economic growth. The book by Diamond — a modern classic — also addresses the same broad question of the importance of geography, as seen by a non-economist. The book by Ray is a graduate reference and text, but a large part of it is accessible by you.

   Articles in scholarly journals and other publications will also be assigned as required reading and will be put on reserve at Tisch *only if* they are *not* available on line. Personal notes will be handled out occasionally and posted on the web page for the course, at [http://crs.ase.tufts.edu](http://crs.ase.tufts.edu). Just go there, select the course and follow the instructions about how to login. If you are not yet registered for the class, you may enter as “guest” and then let me know, giving me your email address, so that I may register you on the site.

   Items marked by asterisk (*) denote very technical material which is typically optional. Its intuitive content will be presented in simple terms on class. Required readings will be available on reserve. URL is provided, when appropriate, for material on the web.
Do not be deterred by the list! Most of the course depends on the texts!

**READING LIST**

2 **Introduction to economic growth**

HVdB, p. 2–34.
AM, p. 27–48.
DR: p. 3–21, 47–51.

3 **Some Nuts and Bolts**

The power of compounding: HVdB, p. 18–22.

4 **Evolution of Output and Economic Growth**

4.0.1 **Saving and Investment**

4.1 **The Descriptive (Solow) Neoclassical Growth Model**

CJ: p. 20–45.
DR: p. 64–71, 91–94.

4.2 **Total factor productivity**

DR: p. 117–123.
5 Technology and the neoclassical growth model

CJ: p. 36–43.
DR: p. 71–73.

6 Human capital and the neoclassical growth model

CJ: p. 54–63.
DR: p. 100–105.


6.1 An Application: Health and Economic Growth


7 Saving and growth in the international economy

HVdB: p. 274–305.

8 The Overlapping-Generations Neoclassical Growth Model


8.1 An Application to Foreign Aid


*Stiglitz, Joseph E., *Globalization and its Discontents*, W. W. Norton, 2002. This is a much discussed, and slightly polemical book by a real insider and a towering scholar (Nobel Laureate 2001), that has attacked the so-called “Washington Consensus,” and rocked the multilateral aid agency establishment.

9 Convergence, Divergence and Policy


Glaeser, Edward L., Rafael La Porta, Florencio Lopez-de-Silanes and Andrei Shleifer, “Do Institutions Cause Growth?” NBER working paper 10568, 2004; downloadable from:


Hausmann, Ricardo, Lant Pritchett and Dani Rodrik, “Growth Accelerations,” NBER working paper 10566, 2004; downloadable from:


10 Inequality and Economic Growth


11 Topics on new growth theories, endogenous growth and technological progress


12 Topics and Applications of modern tools of economic growth

We will not be able to cover all of the topics listed below in a thorough fashion. We will simply pick some, especially after consultations with the class. However, towards the end of the term, the class presentation of student research papers will be grouped according to topics. The presentations will function as applications of the core material of the course. Whenever needed, I will provide some additional background or applications material.
12.1 Geography and economic growth: Why are we so rich and they so poor?


http://www2.cid.harvard.edu/hiidpapers/geoecd.pdf


http://www.cid.harvard.edu/cidwp/097.htm


Diamond, summary. On reserve at Tisch.

For a new data approach to geography and the economy, see:

http://www.econ.yale.edu/~nordhaus/homepage/economics_and_geography.htm

12.2 Information Technology, the “New Economy”, and Economic Growth


http://www.brook.edu/dybdocroot/views/papers/blinder/20000131.htm,

http://www.brook.edu/dybdocroot/comm/policybriefs/pb060/pb60.pdf


http://faculty-web.at.northwestern.edu/economics/gordon/Productivity-Brookings.pdf
12.3 Urbanization and Economic Growth


12.4 Natural Resources and Economic Growth


13 Student Class Presentations

A detailed schedule of presentations will be handed out once students have decided on the final drafts of their papers.

14 Conclusion

Speculative thoughts about the 21st Century: