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# Economic Growth

## Econ 4794

### Fall 2021

#### Course Outline

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Professor: Carol H. Shiue  
Office: Economics 206B  
Virtual Office Hours: Friday 8:30-11:30 a.m. and by appointment  
Email: [shiue@colorado.edu](mailto:shiue@colorado.edu)

This course is an online course. Lectures will be asynchronous, and all assignments, discussions, and exams will be completed online in Canvas. I will hold regular virtual office hours via Zoom. The [Zoom Meeting ID for virtual conferences is 926 2280 7730](#).

#### Required Textbook

David N. Weil, [Economic Growth](#), 3<sup>rd</sup> edition.

#### Objectives of the course

Economic Growth has emerged as an independent field of active research in Economics. The aim of this course is to synthesize recent ideas and approaches to understanding economic growth and to survey the leading explanations for the causes of growth. This course is organized into three sections. The first part examines the degree to which income variations across countries can be attributed to variations in factor accumulation, that is, capital and labor. In the second part of the course, we study the role of productivity and technology in explaining income differences. The third section explores the deeper or fundamental characteristics of countries that may underlie differences in factor accumulation and productivity among countries. We will supplement textbook material with articles about the economic history of country experiences and contemporary topics of interest.

#### Prerequisites

Econ 1088 Math Tools for Economists II or equivalent. (At least a grade of C-)

Econ 3070 Intermediate Micro or Econ 3080 Intermediate Macro. (At least a grade of C-)

#### Where to Find Class Materials

We will use Canvas in this course. This means all assignments and exams must be submitted through Canvas. Class materials are found by clicking on the left menu link [Modules](#). The materials are organized week by week. You should complete the lectures, quizzes, and any assignments according to the suggested schedule. Information and any news or updates will be posted in [Announcements](#).

#### Course Requirements

**There will be a new Module posted weekly (a total of 15 Modules). Modules will pace you through the weekly work. You must submit assigned work and complete the exams by the deadlines to receive full credit for your work.**

**Lectures:** Complete the lectures by viewing the videos posted and responding to the interactive questions in the lecture video. Some of the lectures will demonstrate how to solve problems such as those given at the end of the chapters in the textbook, and you will need to know how to solve these types of problems for exams.

**Weekly work:** Assignments consist of multiple-choice or short responses to the material in Modules. They are given at regular intervals to review concepts we have covered. Answers are completed and submitted in Canvas. Solutions are posted the following week. You are also going to be asked to read 8 articles and respond to prompts on the [Discussions](#) link in Canvas.

**Country Analysis Paper:** This is a longer project that allows considerable freedom to explore countries that interest you. In preparation for the project, you will need to do the following: 1) by Nov. 1, write a 3-page preliminary draft, 2) sign up for an office hour slot to discuss your draft with me. For the paper, you will write a paper that compares the growth performance of a country of your choice with the growth performance of any two other countries. Your goal is to assess the causal factors behind the performance of the country in question. For example, you may compare the growth performance of Columbia over the years 1970 to 2016 with that of two other countries of similar income and size. The paper is due on or before the last day of class, December 9.

Your course grade will have the following components:

Lectures (10%) and Assignments (15%)	25 %
2 Midterms (15% each)	30 %
Discussion Posts	10 %
Country Analysis Paper	20 %
Final Exam	15 %

In summary, proctored exams will count for 45% of your grade and the remainder will consist of a variety of projects, lectures, and assignments.

**Policy on late work:**

Weekly Assignments not completed by the deadlines will see a deduction of 15% per day late, for up to three days. For example, an assignment that would have received 100% had it been handed in on time will receive instead an 85% if was handed in at any time in the 24-hour period after the deadline, and a 70% if it is late by another 48-hours. After that, the maximum achievable score is 60%.

**Midterms and Final Exam Online Proctoring**

**Exams will be proctored with Proctorio.** Proctorio is a free online proctoring platform that allows students who are taking courses online to have the convenience of taking their course exams at home and not have to go to a test-taking center.

Review [Proctorio Minimum System Requirements \(Links to an external site.\)](#) to ensure you have the correct hardware and software to use this tool.

- *Note: you are required to have a computer with a functioning webcam and microphone or have access to a computer with a functioning webcam microphone to complete your exams.*

**Midterms:** There are two midterm exams. Each must be started and completed within a 24-hour window. Dates will be announced in Modules and in Announcements.

**Final Exam:** The Final Exam for this course must be started and completed within the 48-hour window between December 11 at 10 a.m. to December 13, 10 a.m., Mountain Time. The Final Exam will be comprehensive but will have a larger share of questions from the last third of the course. All students must take the final exam to pass the course.

## Topic Outline and Readings

### **I. Introduction and Preliminaries**

Chapter 1 and 2: Differences in the level and rate of income growth among countries.

Theory: Working with growth rates; review of the logarithm function; inequality.

Readings:

- Ray, Development *Economics*, Ch 2.
- Lant Pritchett, "Divergence, Big Time," *Journal of Economic Perspectives*, 11(3), 1997.

**A:** Abhijit Banerjee and Esther Duflo, "The Economic Lives of the Poor," *Journal of Economic Perspectives*, 21(1), Winter 2007.

**B:** Alvaredo, Facundo, Anthony B. Atkinson, Thomas Piketty, and Emmanuel Saez. 2013. "The Top 1 Percent in International and Historical Perspective." *Journal of Economic Perspectives*, 27 (3): 3-20.

### **II. Factor Accumulation**

Chapter 3: Capital's Role in Production

Theory: From Harrod-Domar Model to the Solow Model.

Reading:

- Ray, pp. 47-57.

Chapter 4: The Role of Population in Economic Growth (skip appendix).

Theory: The Malthusian Model; Fertility Transition.

Readings:

**C:** Karen N. Eggleston and Victor R. Fuchs, "The New Demographic Transition: Most Gains in Life Expectancy Now Realized Late in Life," *Journal of Economic Perspectives*, 26(3), 2012.

**D:** Tiloka de Silva and Silvana Tenreyro, "Population Control Policies and Fertility Convergence," *Journal of Economic Perspectives*, 31(4): 205-228, Fall 2017.

Chapter 6: The Effect of Human Capital on Growth

Theory: Returns to Education.

**E:** Tessa Bold et al. "Enrollment without Learning: Teacher Effort, Knowledge, and Skill in Primary Schools in Africa." *Journal of Economic Perspectives*, 31(4): 185-204, Fall 2017.

### III. Productivity

Chapter 7: How much does productivity growth differ among countries?

Theory: Growth Accounting, Total Factor Productivity

Reading:

**F:** Barry Bosworth and Susan M. Collins, "Accounting for Growth: Comparing China and India," *Journal of Economic Perspectives*, 22(1), Winter 2008.

Chapters 8 and 9: Can technological gaps explain differences in productivity?

Theory: Model of Technological Change

Reading:

- William D. Nordhaus, "Two Centuries of Productivity Growth in Computing" *Journal of Economic History*, 67 (1), 2007.

**G:** Michael Bailey, Rachel Cao, Theresa Kuchler, Johannes Stroebel, and Arlene Wong, "Social Connectedness: Measurement, Determinants, and Effects." *Journal of Economic Perspectives*, 32 (3): 259-80, 2018.

Chapter 10: How much of productivity differences come from inefficiency?

Theory: Decomposing productivity into technology and efficiency

Reading:

**H:** Nicholas Bloom and John Van Reenen, "Why Do Management Practices Differ Across Firms and Countries?" *Journal of Economic Perspectives*, 24(1), 2010.

### IV. Historical (Fundamental) Factors of Growth

Chapter 15: Historical Influences Explaining Differences in Economic Performance Today

Reading (optional):

- Jared Diamond. *Guns, Germs, and Steel: The Fates of Human Societies*, Chapter 10.

- Daron Acemoglu, Simon Johnson, and James Robinson, “The Colonial Origins of Comparative Development, An Empirical Investigation,” *American Economic Review*, 2001.
- Anthony Venables, “Using Natural Resources for Development, Why Has it Proven So Difficult?” *Journal of Economic Perspectives*, 30(1), 2016.

Postscript: Cultural Differences and Growth, Weil, Ch. 14.

- Nathan Nunn and Wantchekon, “The Slave Trade and the Origins of Mistrust in Africa,” *American Economic Review*, 101(7), 2011.

## **Institutional Policies**

### Classroom Behavior

Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the policies on [classroom behaviorLinks to an external site.](#) and the [Student Code of ConductLinks to an external site.](#)

### Requirements for COVID-19

As a matter of public health and safety due to the pandemic, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements, and public health orders in place to reduce the risk of spreading infectious disease. Required safety measures at CU Boulder relevant to the classroom setting include:

- maintain 6-foot distancing when possible,
- wear a face covering in public indoor spaces and outdoors while on campus consistent with state and county health orders,
- clean local work area,
- practice hand hygiene,
- follow public health orders, and
- if sick and you live off campus, do not come onto campus (unless instructed by a CU Healthcare professional), or if you live on-campus, please alert [CU Boulder Medical ServicesLinks to an external site.](#)

Students who fail to adhere to these requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to [Student Conduct and Conflict ResolutionLinks to an external site.](#) For more information, see the policies on [COVID-19 Health and SafetyLinks to an external site.](#) and [classroom behaviorLinks to an external](#)

[site](#), and the [Student Code of ConductLinks to an external site.](#). If you require accommodation because a disability prevents you from fulfilling these safety measures, please see the “Accommodation for Disabilities” statement on this syllabus.

Before returning to campus, all students must complete the [COVID-19 Student Health and Expectations CourseLinks to an external site.](#). Before coming on to campus each day, all students are required to complete a [Daily Health FormLinks to an external site.](#).

Students who have tested positive for COVID-19, have symptoms of COVID-19, or have had close contact with someone who has tested positive for or had symptoms of COVID-19 must stay home and complete the [Health Questionnaire and Illness Reporting FormLinks to an external site.](#) remotely. I

## Accommodation for Disabilities

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the [Disability Services websiteLinks to an external site.](#). Contact Disability Services at 303-492-8671 or [dsinfo@colorado.edu](mailto:dsinfo@colorado.edu) for further assistance. If you have a temporary medical condition, see [Temporary Medical ConditionsLinks to an external site.](#) on the Disability Services website.

## Preferred Student Names and Pronouns

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

## Honor Code

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code ([honor@colorado.edu](mailto:honor@colorado.edu)); 303-492-5550). Students found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the [Honor Code Office websiteLinks to an external site.](#).

## Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation

The University of Colorado Boulder (CU Boulder) is committed to fostering an inclusive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking,

or protected-class discrimination or harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or [cureport@colorado.edu](mailto:cureport@colorado.edu). Information about the OIEC, university policies, [anonymous reporting \(Links to an external site.\)](#), and the campus resources can be found on the [OIEC websiteLinks to an external site.](#).

Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, dating and domestic violence, stalking, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

### Religious Holidays

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, students should inform the instructor as early as possible of conflicts. See the [campus policy regarding religious observancesLinks to an external site.](#) for full details.