

# Economic Growth, ECON 4794

**Professor Carol H. Shiue**

**Tuesdays & Thursdays 12:45 p.m. - 2 p.m. (remote/online)**

**Office Hours:** Thursdays, 2:00-3:00 p.m.

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## Required Text

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 at the undergraduate level and to survey the leading explanations for the causes of growth. This course is organized into three substantive sections. The first examines the degree to which income variations across countries can be attributed to variations in factor accumulation, and, the determinants of factor accumulation. 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.

Econ 3070 Intermediate Micro or Econ 3080 Intermediate Macro.

## Course Requirements and Evaluation

There will be an emphasis on quantitative reasoning and problem-solving, including the analysis and interpretation of data. The format of classes will consist of lectures and problem-solving demonstrations. Demonstrations basically consist of empirical problems that we will solve in class and hands-on examples of how data may be used to analyze issues in economic growth.

Your grade will have the following components:

2 Quizzes (15% each)	30%
Country Analysis Paper	20%
Presentation of an Article on the Syllabus	10%
Discussion (5%) and Canvas Assignments (5%)	10%
Final Exam	30%

**Country Analysis Paper:** The aim of your paper is to compare the growth performance of a country (of your choosing) with the growth performance of any two other countries. 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, while discussing the role of education, savings, and productivity in driving the relative differences in growth. Your goal is to assess the causal factors behind the performance of the country in question by drawing on concepts covered in class, while demonstrating competence in quantitative methods and qualitative interpretation. You may work independently, or you may team up with one or two other classmates for this project. *Timeline:* Decide which countries to study by Feb. 25. Prepare a preliminary draft (3 pages plus References) to turn in before March 12. I will schedule student conferences between March 16-23 to give personalized feedback. *Deadline:* The final draft of the paper is due via Canvas submission before **Wednesday, April 28 at 11 p.m.**

**Presentation of an Article on the Syllabus:** Teams of students will be responsible for a presentation (about 30 minutes) of an article on the syllabus. Be sure to present each section of the paper and talk about the data or evidence used, the key arguments, the tables and figures (you can be selective if time is constrained), and the results and conclusions. Each person on the team will craft a well-written question directed to the class to initiate a discussion about the article. Thus, if there are 3 students on a team, there should be 3 questions. The questions can be open-ended and can relate to anything mentioned in the paper that you think the class might be interested to discuss further, whether in the context of the paper or in the context of your own perspective(s). The goal is to generate further thoughts and class participation. The questions proposed for class discussion should be listed together on the final slide of the presentation.

The number of students in each team will depend on class size. Presentations should be written in Powerpoint (or Google slides) and recorded with Zoom screen share. The slides and the Zoom presentation video must be uploaded on Canvas by the due date. This can be done by Replying to the pinned Discussion post that shows the title of your article. Team members should establish contact two weeks ahead of the scheduled due date to form a plan on how to proceed. Teams are responsible for uploading their presentation by **12 noon** on the day it is due. Points will be deducted for late or incomplete presentations.

**Discussion and Canvas Assignments:** “Discussion” and “Canvas Assignments” each account for 5% of the course grade.

Canvas Assignments will be posted regularly on Canvas throughout the semester. The assignments are closely related to the material we are working on during class. However, everyone must individually submit answers to receive credit. There is only one deadline for all of the Canvas assignments in this course, **May 1 at 11 p.m.** All homework assignments must be completed by that time. No extensions.

To earn points on Discussions of Student Presentations, post comments in Canvas in response to the questions posed in the Student Article Presentations. You can earn full points in this category just by posting to 5 articles, but extra credit may be earned if you post on more than 5 articles, including the article you will present yourself—simply post a response to someone else’s comment. Grading is simple: 5 points for considered, thoughtful comments that demonstrate you read the article and listened to the presentation; 1 point for relatively cursory posts; and 0 points if nothing is posted. The Discussion board will close on **May 1 at 11 p.m.** All posts must be completed by that time. No extensions.

**Policy on Late Papers and Missed Quizzes:** If you miss a quiz for any reason, contact me immediately. The Country Analysis Paper is a long-term project; plan accordingly. To ensure I have sufficient time to read the paper and turn in grades, late papers will be penalized by one letter grade per day late, i.e., a paper that would have received an “B” grade if turned in on time will instead receive a C grade if turned in during any 24-hour period after the deadline. Reports that are 3 days late will not be graded.

**Quizzes and Final Exam:** There are two Quizzes. The Final Exam for this course has been scheduled by the CU Registrar for **May 2, 4:30 - 7 p.m.** The Final Exam will be comprehensive. All students must take the final exam to pass the course.

**Note:** You will need a laptop with a camera or a webcam. We will be using the [Proctorio Online Exam Proctoring Service](#) in this course. Proctorio is a software extension in Chrome that uses your computer’s screen, webcam, and microphone to create a remote proctored environment, and enables you to take exams via Canvas in the location of your choice. You must have a strong and stable internet connection for Proctorio to work well. During the exam, you, your computer, your BuffOne Card, and the environment you are taking the exam in may all be recorded.

For information about Proctorio’s privacy policies, please visit [OIT’s Proctorio Privacy page](#). The instructor of this course is the only one who will view the recordings. CU’s Proctorio administrators also have access to all recordings. The Chrome browser extension must be installed before you can take the exam, and you can [remove it once the exam is complete](#).

I will be giving a practice run so you can become familiar with Proctorio, and surface any issues you may encounter with Proctorio.

There are limitations in [Proctorio’s accessibility](#) for those who utilize screen readers and keyboard navigation. Also, you must be over the age of 18 to consent to use Proctorio. If you have concerns about your ability to use or consent to use Proctorio, please contact me at least two weeks ahead of the exam to discuss alternate arrangements.

# Additional University Policy Statements

## **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 behavior](#) and [Student Code of Conduct](#).

## **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 website](#). 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 Conditions](#) 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 website](#).

## **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](#), and the campus resources can be found on the [OIEC website](#).

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, contact me by the third week of class to make alternative arrangements.

See the [campus policy regarding religious observances](#) for full details.

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## **Topic Outline and Readings**

The schedule below is an outline of the topics covered this semester and is subject to change based on class progress. Additional, supplementary material (e.g. current events articles and videos) will be made available on Canvas. Use the **CU Boulder Libraries** link in the left menu in Canvas to access the articles. Other readings will be linked.

## **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. [\[Link\]](#)
- Lant Pritchett, “Divergence, Big Time,” *Journal of Economic Perspectives*, 11(3), 1997. [\[Link\]](#)
- Roger Fouquet and Stephen Broadberry, “Seven Centuries of European Economic Growth and Decline,” *Journal of Economic Perspectives*, 29(4), Fall 2015. [\[Link\]](#)

**Student Presentation A:** Abhijit Banerjee and Esther Duflo, “The Economic Lives of the Poor,” *Journal of Economic Perspectives*, 21(1), Winter 2007. [\[Link\]](#)

**Student Presentation 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. [\[Link\]](#)

## II. Factor Accumulation

Chapter 3: Capital’s Role in Production

Theory: Harrod-Domar Model; the Solow Model.

Reading:

- Ray, pp. 47-57. [\[Link\]](#)

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

Theory: The Malthusian Model; Fertility Transition.

Readings:

**Student Presentation D:** 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. [\[Link\]](#)

**Student Presentation E:** Tiloka de Silva and Silvana Tenreyro, “Population Control Policies and Fertility Convergence,” *Journal of Economic Perspectives*, 31(4): 205-228, Fall 2017. [[Link](#)]

Chapter 6: The Effect of Human Capital on Growth

Theory: Returns to Education.

**Student Presentation F:** 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. [[Link](#)]

## III. Productivity

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

Theory: Growth Accounting, Total Factor Productivity

Reading:

**Student Presentation G:** Barry Bosworth and Susan M. Collins, “Accounting for Growth: Comparing China and India,” *Journal of Economic Perspectives*, 22(1), Winter 2008. [[Link](#)]

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. [[Link](#)]

**Student Presentation H:** 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:

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

**Student Presentation J:** Sergei Guriev, Daniel Treisman, "Informational Autocrats," *Journal of Economic Perspectives*, 33(4), 2019.

## IV. Historical (Fundamental) Factors of Growth

Chapter 15: Historical Influences Explaining Differences in Economic Performance Today

Reading:

- Nathan Nunn and Wantchekon, "The Slave Trade and the Origins of Mistrust in Africa," *American Economic Review*, 101(7), 2011. [\[Link\]](#)
- Anthony Venebles, "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.