Department of Economics
香港科技大學 THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY
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Economic Development and Growth
Econ 4434 – Fall 2026

	Time and Location		Contact Info
Time	Tuesday 4:30 - 5:50 PM Thursday 4:30 - 5:50 PM	Instructor Email	SHIUE, Carol H. shiue@ust.hk
Location Zoom link	LSK 1034 See https://canvas.ust.hk/	TA Email Office Hrs.	CHEN, Emily eckuan@ust.hk Wed 10:30-11:30 AM LSK 6066

1. Prof. Shiue's office is located in LSK, Room 6075. Office hours are by appointment.
2. Tutorial time and location: Thursday 9:30 – 10:20 PM in LSK 1033. Tutorial sessions will be used for reviewing, going over practice problems, and TA office hours. Check Canvas announcements. No tutorials unless explicitly scheduled.

Course Description
The aim of this course is to synthesize recent ideas and approaches in economic growth and to survey leading explanations for the causes of growth. The first part of the course examines the degree to which income variations across countries can be attributed to variations in capital as one of the determinants of factor accumulation. The second part focuses on the role of population and labor. In the third part, we study how productivity and technology explain income differences. We also spend some time exploring the deeper or fundamental characteristics of countries that may underlie differences in factor accumulation and productivity across countries. Textbook material will be supplemented with articles about country experiences and other contemporary topics of interest.

Prerequisites: ECON3014 or ECON3133

Required Textbook
Economic Growth, 4rd edition, by Quamrul H. Ashraf and David N. Weil. Routledge.

Assessment Scheme

Your course grade will have the following components:

1. Midterm (30%)
    - Short-answer and longer-answer problem solving questions.
    - There are no makeup dates. If you miss the midterm due to a valid documented emergency, your midterm grade will be reweighed by the final exam. You must inform the instructor by email before the midterm and obtain medical proof within the day. Failure to do so will result in a zero being entered in the gradebook.

2. Article Presentation and Discussion (10%)
    - You will present an article on the reading list (20 minutes) and facilitate a class discussion, as part of a team. These are labelled Student Article Presentations in the syllabus.
    - The team will guide a discussion (~10 minutes) based on open-ended questions crafted by the team. Questions may draw on the paper or on own perspectives, to encourage further class discussion about the article.
    - One presenter from the team must email me the presentation slides and discussion questions by 5pm of the day before the presentation.

3. Class Participation (10%)
    - Those not presenting will be asked to participate in the article discussions presented by student teams throughout the semester.
    - There will be short in-class writing prompts and quizzes to gauge student understanding. Grades are based on effort.

4. Assignments (5%)
    - Assignments are for review of the material covered in lecture and will consist of short-answer questions to be submitted in Canvas. There will be 3 assignments.

5. Final Exam (45%)
    - The Final Exam is comprehensive.
    - If you miss the final exam for a valid documented reason, a new exam will be scheduled at the discretion of the instructor; this exam may be a written exam or an oral exam.

Intended Learning Outcomes

This course emphasizes quantitative reasoning in application to questions of economic growth. We will focus on understanding economic modeling, the analysis of data, and applications to global events. The format of classes will consist of lectures, in-class problem solving, and student presentation of articles and in-class discussion. Tutorials will support your learning: the time will be used to go over assignments, review for exams, and provide assistance as needed. Please refer to the Program Intended Learning Outcomes list (link) for details of the learning goals. Upon completion of this course, you will be able to:

1. Gain a thorough understanding of the stylized facts of growth and apply analytical and statistical techniques to evaluate factors contributing to income differences across countries. (Learning Goal #1)
2. Collaborate effectively in group projects and presentations that examine topics relevant to economic growth, present and discuss academic research on economic growth clearly and critically. (Learning Goal #2)
3. Use economic data to decompose growth into contributions from capital, labor, human capital, and productivity, and understand how quantitative evidence may be used to assess policy-relevant explanations for growth outcomes. (Learning Goal #3)
4. Examine how institutions, inequality, demographic change, and social norms affect long-run economic growth. (Learning Goal #4)

Grading Rubrics

The following rubric will be used to guide course grades.

Grade	Short Description	Elaboration
A	Excellent Performance	Students demonstrate a strong grasp of course materials, effectively utilize tools discussed, perform exceptionally on exams, presentations, and final projects. They exhibit exceptional analytical skills, critical thinking, and effective participation in class discussions.
B	Good Performance	Students exhibit a solid understanding of course materials, proficient use of tools, and competent completion of exams, presentations, and final projects. They show commendable analytical skills, effective critical thinking, and participation in class discussions.
C	Satisfactory Performance	Students demonstrate an adequate understanding of course materials, satisfactory use of tools, and completion of exams, presentations, and final projects. They display acceptable analytical skills and participation in class discussions.
D	Marginal Pass	Students show limited understanding of course materials, inconsistent use of tools, and incomplete performance in exams, presentations, and final projects. Their participation in class discussions is minimal.
F	Fail	Students display a lack of understanding of course materials, inadequate use of tools, and unsuccessful completion of exams, presentations, and final projects. They show little to no participation in class discussions.

Additional Course Information

1. Course website
    - Website address: http://canvas.ust.hk.
    - Course materials will be posted on the course website.

2. Communication
    - Check Canvas Announcements regularly to make sure you receive all updates.
    - Keep me informed if you are facing difficulties and be proactive by suggesting possible solutions.
    - Assessment marks for individual assessed tasks will be communicated via Canvas within two weeks of submission. Feedback on assignments will include strengths and areas for improvement. Students who have further questions about the feedback, including marks, should consult the instructor within five working days after the feedback is received.

3. Class participation and attendance is important.
    - Attendance will be taken randomly.
    - Everyone automatically receives 3 excused absences at the start of semester to cover contingencies such as minor illnesses and personal emergencies.
    - Beyond 3 absences, each recorded absence will negatively impact the final course grade by 1-percentage point.
    - Late assignments are not accepted.

4. AI Policy
    - You are allowed to use generative artificial intelligence (AI) for ungraded study, including requesting explanations and checking understanding. Generative AI may not be used during exams, quizzes, in-class writing, or other assessments designated "AI-free". If AI is used as an aid for preparing the Article Presentation and Discussion, students must fill out a separate document to explain how AI was used; students remain responsible for the accuracy of all claims, interpretations, and references.

5. Electronic Devices
    - You may use electronic devices during class to take notes or support learning objectives for this class.
    - Electronic devices should not be used for non-class-related tasks (texting, social media, etc.), or in a way that is distracting to anyone in the class.

6. Academic Honesty
    - Academic honesty and integrity are central to HKUST. Please familiarize yourself with university rules and the HKUST academic honor code. The code will be strictly enforced, and any violation cases will be reported to the university.

Topic Outline

The schedule below is an outline of the topics covered this semester. The schedule will adapt to class progress as needed.

Module	Dates	Topics
Part I:		
Module 1	Sept 1, 3	Intro; Course Overview
Module 2	Sept 8, 10	Growth Equation, PPP
Module 3	Sept 15	Poverty and Inequality
Module 4	Sept 17, 22	Physical Capital
Module 5	Sept 24	Evolution of Capital
Module 6	Sept 29 *Oct 1 – National Day (holiday, no class)*	Optimal Savings
Midterm review: Oct 6 Midterm exam: Oct 8, 4:30 - 5:50PM		
Part II:		
Module 7	Oct 13, 15	Population and Demographics
Module 8	Oct 20, 22	Human Capital: Health
Module 9	Oct 27, 29	Human Capital: Education
Part III:		
Module 10	Nov 3, 5	Productivity
Module 11	Nov 10, 12, 17	Technological Change
Module 12	Nov 19, 24, 26	Fundamentals of Growth

Course Readings

AW refers to the course textbook. *Journal of Economic Perspectives* articles can be accessed at https://www.aeaweb.org/journals/jep. The reading list is subject to change as determined by the needs of the class.

Modules 1-3.
Stylized facts of growth**;** Working with growth rates; PPP; Introduction to inequality.

- AW Chapter 1 and 2: Differences in the level and rate of income growth among countries.
- AW Chapter 13.1: Income inequality: The Facts.

- Ray, Development *Economics,* Ch 2.
- Lant Pritchett. 1997. "Divergence, Big Time," *Journal of Economic Perspectives*, 11(3).
- Banerjee, Abhijit, V., and Esther Duflo. 2007. "The Economic Lives of the Poor." *Journal of Economic Perspectives*, 21 (1): 141–168.

Student Presentation A: Angrist, Noam, Pinelopi Koujianou Goldberg, and Dean Jolliffe. 2021. "Why Is Growth in Developing Countries So Hard to Measure?" *Journal of Economic Perspectives*, 35 (3): 215–242.

Modules 4-6. Factor Accumulation: Physical Capital
The Harrod-Domar Model. The Solow Model; the evolution of capital over time, steady state, predictions of the Solow Model. Optimal savings.

- Ray, pp. 47-57.
- AW Chapter 3: Physical Capital; Capital's Role in Production

Modules 7-9. Population and Demographics
The Malthusian Model; The Demographic Transition in economic history. Modern demographic change. The relationship between Health and Income; Returns to Education.

- AW Chapter 4: The Role of Population in Economic Growth (skip appendix).
- AW Chapter 5.2
- AW Chapter 6: The Effect of Human Capital on Growth

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

Student Presentation B: Dinkelman, Taryn, and L. Rachel Ngai. 2022. "Time Use and Gender in Africa in Times of Structural Transformation." *Journal of Economic Perspectives*, 36 (1): 57–80.

Student Presentation C: Das, Jishnu, and Quy-Toan Do. 2023. "The Prices in the Crises: What We Are Learning from 20 Years of Health Insurance in Low- and Middle-Income Countries." *Journal of Economic Perspectives*, 37 (2): 123–152.

Student Presentation D: Deming, David J. 2022. "Four Facts about Human Capital." *Journal of Economic Perspectives*, 36 (3): 75-102.

Modules 10-11. Productivity and Technology
Growth Accounting; Development Accounting; Total Factor Productivity. Economics of Ideas; The One-Country and Two-Country Model of Technological Change. Decomposing productivity into technology and efficiency.

- AW Chapter 7: How much does productivity growth differ among countries?
- AW Chapters 8 and 9: Can technological gaps explain differences in productivity?
- AW Chapter 10: How much of the productivity differences across countries come from inefficiency?

Student Presentation E: Corrado, Carol, Jonathan Haskel, Cecilia Jona-Lasinio, and Massimiliano Iommi. 2022. "Intangible Capital and Modern Economies." *Journal of Economic Perspectives*, 36 (3): 3–28.

Student Presentation F: Jones, Charles I. 2026. "AI and Our Economic Future." *Journal of Economic Perspectives* 40 (3): 3–22.

Student Presentation G: Juhász, Réka, and Nathan Lane. 2024. "The Political Economy of Industrial Policy." *Journal of Economic Perspectives*, 38 (4): 27–54.

Student Presentation H: Cherif, Reda, and Fuad Hasanov. 2025. "Industrial Policy, Asian Miracle Style." *Journal of Economic Perspectives* 39 (4): 101–26**.**

Module 12. Fundamental Factors of Growth
Aside from proximate factors, fundamental factors such as inherited culture, endowed natural resources, given historical legacy, and pre-determined institutions can affect current growth performance.

- AW Part IV Fundamentals, skim.
- Inglehart, R., C. Haerpfer, A. Moreno, C. Welzel, K. Kizilova, J. Diez-Medrano, M. Lagos, P. Norris, E. Ponarin & B. Puranen et al. (eds.). 2014. *World Values Survey*.

Student Presentation I: Campos, Nicolás, Eduardo Engel, Ronald D. Fischer, and Alexander Galetovic. 2021. "The Ways of Corruption in Infrastructure: Lessons from the Odebrecht Case." *Journal of Economic Perspectives*, 35 (2): 171–190.

Student Presentation J: Canen, Nathan, and Leonard Wantchekon. 2022. "Political Distortions, State Capture, and Economic Development in Africa." *Journal of Economic Perspectives*, 36 (1): 101–124.