

The syllabus PDF file is [here](#). **NOTE: THIS IS ALSO THE SYLLABUS AND WEBSITE FOR ECONOMICS 1000.**

The course meets in Harvard Hall 101.

The syllabus PDF file is [here](#).

Fall 2022 (8-23-22)

Economics 1000 / English 195EC

Growth, Technology, Inequality, and Education

Professors James Engell, Benjamin M. Friedman, and others

Teaching fellows: Lucy Luo (Economics 1000) and Andrew Zanelli (English 195EC)

Tuesdays and Thursdays, TBA, 1:30-2:45,

and a section hour to be arranged

Course Information

An economist and a humanist, together with other professors from the natural and social sciences, analyze conceptual and policy-relevant issues from viewpoints of their respective disciplines. For example, how do we measure inequality, and at what point does it become problematic—and how do we know? How then should it be addressed (e.g., tax code, minimum wage)? What role does, and can, education play? What are the best policies to confront job losses from technology? What does “sustainable growth” mean?

The goal is not merely to examine four intertwined issues—growth, technology, inequality, and education—but to understand the distinct concerns and methods of the humanities, social sciences, and natural sciences and to realize that many challenges we face as individuals, as a society, and even as a global population, can properly be met only by calling on multiple disciplines and coordinating their knowledge and judgments. The course seeks to impart such knowledge and to explore different modes of thinking. It also challenges everyone in the course, instructors included, to consider what we do not know, as well as how we might best formulate action for the problems that we identify.

All students meet together for lectures; fostering discussion among people with different points of view, grounded in different disciplines, is what the course is all about. Students meet separately for sections, with one group of sections for Economics concentrators, or probable concentrators, and another for non-Economics concentrators. Some assignments, and some questions on the final examination, differ between the two sections; others are in common. The readings are in common, again, in order to foster group discussion.

Economics 1000/English 195EC qualifies for concentration credit in Economics or English.

Readings: *In order to facilitate discussion, please complete the designated readings for each lecture or section meeting.* The readings for each week are listed on the syllabus **in the order to be read**. Films will be available to view. There may be class screenings.

Most readings are available in PDF form on the course website under Files, listed alphabetically by author's *last* name, or by title if title only is given in the syllabus. Some readings and viewings are available by Internet link only, which is provided. Some readings are available by PDF on the course website and also by Internet link. The Harvard Library has many of the readings (sign into Hollis with your Harvard Key).

Please purchase these books, available at the Coop:

G. Wells, *The Time Machine*

Henry David Thoreau, *The Portable Thoreau*, which includes *Walden*

Jesmyn Ward, *Men We Reaped*

Margaret Atwood, *The Handmaid's Tale*

Please bring the relevant texts to lecture and section.

Sections: Participation in all section discussions is required. While everyone meets together for course lectures, there will be separate sections for students who have or have not taken Economics 10 (or equivalent). Concentrators in English who have taken Economics 10 may enroll in either section but must stay in that section. Sectioning will take place immediately following the course registration deadline. Sections meet for the first time the following week.

Assignments, Exams, and Course Policies:

- Four short (3-5 page) papers, or problem sets, or statistical exercises – one based on each of the four main topics in the course, due **September 23, October 14, November 11, and December 2.**
- A mid-term exam based on the course introduction, the first topic (Growth) and materials through the second topic (Technology): **Thursday, October 20**
- Final examination: date set by the Registrar

Evaluation: For purposes of evaluating course performance, each of the four short assignments will represent 10% of a student's grade (total 40%), the mid-term exam 15%, and the final exam 35%, with an additional 10% based on attendance and contribution in sections.

Late assignments will be downgraded. There are only two excuses accepted for lateness: (1) a note or email from UHS; (2) a note or email from your academic dean (Yard dean for first-year students, Allston Burr Resident Dean for others). No other excuses will be accepted, and no due dates will be changed to accommodate other academic work such as senior theses or mid-term exams in other courses.

Polling: In addition to oral discussion, in some lectures we will invite your participation through online, real-time polling, using the PollEverywhere platform. We ask that you bring along to lectures a smart device – phone, tablet, or laptop – to enable you to participate. When we are not running a poll, you should put your device away so that it does not become a distraction.

Academic Integrity: Discussing ideas and work-in-progress with others is a natural and healthy part of the intellectual process. It is what professors do, it is what researchers do, and it is both expected and desirable that students do so as well. But in the end assigned student work in this course must be an individual effort, written or performed by the student and based on individual thinking and judgment. Discussing ideas with others is certainly not prohibited. Turning in someone else's work certainly is. *You must ensure that work you submit is the result of your own judgment in research and your own writing or calculation, and that it reflects your own approach to the topic. Work that seems to lack proper citation or work that appears copied from other submissions or external sources will be investigated.*

Disability Access Office: Harvard University values inclusive excellence and providing equal educational opportunities for all students. Our goal is to remove barriers for disabled students related to inaccessible elements of instruction or design in this course. If reasonable accommodations are necessary to provide access, please contact the Disability Access Office (DAO). Accommodations do not alter fundamental requirements of the course and are not retroactive. Students should request accommodations as early as possible since they may take time to implement. Students should notify DAO at any time during the semester if adjustments to their communicated accommodation plan are needed.

Office Hours: We hope students will feel free, throughout the term, to visit during office hours or to make additional appointments if office hours are insufficient. Our office hours:

Engell: Thursdays, 3:00-4:30, and by appointment

Friedman: Mondays, 4:30-6:00 (in weeks when Monday is not available, Wednesdays, 5:00-6:30), and by appointment

Individual conversation is an important part of the learning process for both students and teachers.

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Economics 1000 / English 195EC

Growth, Technology, Inequality, and Education

Course Introduction

September 1 (Th) Outline and nature of the course

Modes of thought of economists and humanists (Engell, Friedman)

Essay on education by Edward O. Wilson, in *Essays on General Education in Harvard College* (2004), 120-21 (third essay in the PDF on course website, posted under "Wilson")

John F. Kennedy, speech at Amherst College, Robert Frost Library, October 26, 1963: Available [here](#)
Available to download [here](#) Full transcript (recommended) to view [here](#) and the full transcript is also in PDF on the course website.

September 6 (Tu) Growth as seen by an economist (Friedman)

September 8 (Th) Growth as seen by an economist (Friedman)

Angus Deaton, *The Great Escape* (2013), Introduction and Ch. 1, 6, on course website

Robert J. Gordon, *The Rise and Fall of American Economic Growth* (2016), Chs. 8, 15, on course website

Richard Easterlin, "Does Economic Growth Improve the Human Lot?" (1974), on course website, also available [here](#)

David Sacks, Betsy Stevenson and Justin Wolfers, "The New Stylized Facts About Income and Subjective Well-Being" (2012), on course website, also [here](#)

Gene Grossman and Alan Kreuger, "Economic Growth and the Environment" (1995), on course website, also [here](#)

William Nordhaus, "Climate Change: The Ultimate Challenge for Economics" (2019), on course website, also [here](#)

Joel E. Cohen, "How Many People Can the Earth Support?" (2017), on course website

Watch the animated presentation, "200 Years That Changed the World" (may be downloaded [here](#))

Film, *Modern Times* (1936), starring, written, directed, and with music by Charles (Charlie) Chaplin. Also starring Paulette Goddard and Henry Bergman. **This film will be discussed September 22 and must be viewed before that class.**

September 13 (Tu) Growth as seen by a humanist and sustainer (Engell)

Henry David Thoreau, from *Walden, or, Life in the Woods* (1854), Chapter 1, "Economy"; Chapter 2, "Where I Lived and What I Lived For," any decent edition, but *The Portable Thoreau* is highly recommended (199-277)

Benjamin M. Friedman, from *The Moral Consequences of Economic Growth* (2005), 1-18, on course website

Klas Rånby, "Were Slaves Cheap Laborers? A Comparative Study of Labor Costs in the Antebellum U.S. South," *Labor History* 62.5-6 (Sept. 2021): 721-41, especially 721-36, on course website

Kerry Emanuel, *What We Know About Climate Change* (2nd ed., 2012, MIT Press), chapters 1-5 and 68-71, on course website (please start reading this now)

September 15 (Th) Growth as seen by a humanist and sustainer (Engell)

Garrett Hardin, from "The Tragedy of the Commons" in *Scientific American* (1968), in *Environment: An Interdisciplinary Anthology*, ed. Adelson, Engell, Ranalli, Van Anglen, 805-06, on course website

Bill McKibben, "Do the Math" in *Rolling Stone* (2012): Available [here](#)

Herman Daly, from *Beyond Growth: The Economics of Sustainable Development* (1996) in *Environment*, 774-81, on course website

"Planetary Boundaries": view chart on course website

Excerpts from the Holy Father Francis, Papal Encyclical Letter, "Laudato Si' or On Care for Our Common Home," May 24, 2015. PDF on course website; full version [here](#) Paragraphs 1-2, 10-26, 48-52, 56-59, 93-95, 101-123, and especially Chapter Four (137- 162); also paragraphs 163-232

Timothy M. Lenton et al., "Climate Tipping Points" "Too Risky to Bet Against" and Global Emergency, *Nature* (November 28, 2019), 592-95, on course website

Jay Lifton, "Becoming Aware of Our Species": Available to download [here](#)

film clip, *Unchained Goddess* (dir. Frank Capra, 1958) Available [here](#)

film clip, *You Can't Take It With You* (dir. Frank Capra, 1938), audio sketchy, turn up volume Available [here](#)

2. Technology

Film, *Forbidden Planet* (1956), directed by Fred M. Wilcox, starring Walter Pidgeon, Anne Francis, Leslie Nielsen, screenplay by Cyril Hume based on a story by Irving Block, an adaptation of William Shakespeare's *The Tempest*. **This film will be discussed in class and must be viewed before September 29.**

September 20 (Tu) Technology as seen by an economist (Friedman)

M. Keynes, "Economic Possibilities for Our Grandchildren" (1930), on course website and available [here](#)

Joel Mokyr, "The Past and Future of Innovation: Some Lessons from Economic History" (2018), on course website

Erik Brynjolfsson and Andrew McAfee, *The Second Machine Age* (2014), Chs. 2, 3, 6-8, on course website

Robert J. Gordon, "Declining American Growth Despite Ongoing Innovation" (2018), on course website

September 22 (Th) Technology as seen by a humanist (Engell)

William Shakespeare, *The Tempest* (any good edition with notes)

Olaf Stapledon, from *Last and First Men* (1930 [rpt.]), on course website

Jared Diamond, from *Collapse: How Societies Choose to Fail or Succeed* (2005), chapter 14, on course website

September 23 (Fri) Growth Assignment Due

September 27 (Tu) Growth (and Technology) as seen by a natural scientist, Prof. James Anderson, Atmospheric Chemistry, SEAS. Professor Anderson asks students to review the climate readings (September 13, 15).

September 29 (Th) Growth (and Technology) as seen by a financial professional, Lisa Jones, Head of the Americas, Amundi Asset Management, President and CEO, Amundi US, Inc., and President and CEO, Pioneer Funds; her emphasis will be on ESG issues (Environmental, Social, Governance).

October 4 (Tu) Technology as seen by a humanist (Engell)

G. Wells, *The Time Machine* (1895, short novel). Any edition, but the best is the Norton Critical Edition (W. W. Norton, 2009) available at the Coop. Original edition online available [here](#)

Erik Brynjolfsson and Andrew McAfee, *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies* (2014), 9-12, 39-50, 129-46, 168-73, on course website (supplements reading in this book assigned by Prof. Friedman)

Jonathan Zittrain, "Netwar: The unwelcome militarization of the Internet has arrived," on course website

Harvard School of Public Health Report on Use of Smartphones and cognitive tasks. Available [here](#)

October 6 (Th) Technology as seen by an economist (Friedman)

David H. Autor, “Why Are There Still So Many Jobs? The History and Future of Workplace Automation” (2015), on course website and [here](#)

Erik Brynjolfsson, “The Turing Trap: The Promise and Peril of Human-Like Artificial Intelligence” (2022), on course website

Tyler Cowen, “Neglected Open Questions in the Economics of Artificial Intelligence” (2019), on course website

October 11 (Tu) Technology as seen by a computer scientist, Professor Emeritus Harry Lewis, Computer Science and SEAS

Gordon E. Moore, “Cramming More Components onto Integrated Circuits” (1965), on course website

John Perry Barlow, “A Declaration of the Independence of Cyberspace” (1996), on course website and [here](#)

Harry R. Lewis, “The Internet and Hieronymus Bosch: Fear, Protection, and Liberty in Cyberspace” (2011), on course website “ and view the Bosch painting [here](#)

October 13 (Th) Technology as seen by a molecular biologist, Professor Rich Losick, Department of Molecular and Cellular Biology: basic research to applied technology in mRNA vaccines

David Cox, “How mRNA went from a scientific backwater to a pandemic crusher,” *Wired UK*, on course website

Video to watch: <https://www.ibiology.org/immunology/the-immune-system/>

Lucy Shapiro and Richard Losick, “Delivering the Message: How a novel technology enabled the rapid development of effective vaccines,” *Cell*, on course website

October 14 (Fri) **Technology Assignment Due**

Please begin to read Margaret Atwood, *The Handmaid’s Tale*.

3. Inequality

Film, *The Grapes of Wrath* (1940), directed by John Ford, starring Henry Fonda, Jane Darwell, John Carradine, screenplay by Nunnally Johnson, based on Steinbeck’s novel. **The film will be discussed in class and must be viewed before October 25.**

October 18 (Tu) Inequality as seen by a humanist (Engell)

E. B. Du Bois, *The Souls of Black Folk* (1903), chapters I-IV, on course website and online

Amartya Sen, “Equality of What?” on course website

Fiona Hill, from *There Is Nothing for You Here: Finding Opportunity in the 21st Century*, 6-14, 17-23, on course website

Michael Norton and Dan Ariely, “Building a Better America” “One Wealth Quintile at a Time,” *Perspectives on Psychological Science* 6:1 (January 2011), 9-12 “ also a Podcast with Michael Norton from NPR under “Norton Wealth Inequality,” on course website

Margaret Atwood, *The Handmaid’s Tale*, please continue reading in this timely novel (discussion will be October 27)

October 20 (Th) Hour Examination on Growth and Technology Units

October 25 (Tu) Inequality as seen by an economist and big-data scientist, Professor Raj Chetty, Inequality through the lens of big data

Raj Chetty et al., "Social Capital and Economic Mobility," on course website

Raj Chetty et al., "Determinants of Income Segregation," on course website

Raj Chetty et al., "Race and Economic Opportunity," on course website

October 27 (Th) Inequality as seen by a humanist (Engell)

Margaret Atwood, *The Handmaid's Tale* (1985)

November 1 (Tu) Inequality as seen by an economist (Friedman)

November 3 (Th) Inequality as seen by an economist (Friedman)

Simon Kuznets, "Economic Growth and Income Inequality" (1955), on course website and [here](#)

Jeffrey Williamson, *Inequality, Poverty and History* (1991), Ch. 1, on course website

Thomas Piketty and Emmanuel Saez, "Income Inequality in the United States, 1913-1998," *Quarterly Journal of Economics* (2003): Available [here](#)

and update in "Striking it Richer: The Evolution of Top Incomes in the United States" (2013): Available [here](#)

Claudia Goldin and Lawrence Katz, *The Race Between Education and Technology* (2008), Ch. 3, on course website

David H. Autor, "Skills, Education, and the Rise of Earnings Inequality among the Other 99 Percent," (2014), on course website and available [here](#)

Thomas Piketty, *Capital in the Twenty-First Century* (2014), pp. 20-27, 350-376, 571-573, on course website

Raj Chetty et al., "Is the United States Still a Land of Opportunity? Recent Trends in Intergenerational Mobility" (2014): Available on course website and [here](#)

Alex Bell et al., "Who Becomes an Inventor in America?" on course website and [here](#)

November 8 (Tu) Inequality as seen by a social scientist and historian of race and slavery, Professor Orlando Patterson, Department of Sociology

November 11 (Fri) Inequality Assignment Due

4. Education

November 10 (Th) Education (and Inequality) as seen by a humanist (Engell)

Jesmyn Ward, *Men We Reaped* (2013), please begin reading this powerful memoir, which will be discussed November 17

John Locke, from *On Education* (1693), on course website

James Ryan, excerpts from *Five Miles Away, A World Apart: One City, Two Schools, and the Story of Educational Opportunity in Modern America* (2010), 1-29, 184-213, 271-81, 304, on course website

Tressie McMillan Cottom, excerpt from *Lower Ed: The Troubling Rise of For-Profit Colleges in the New Economy* (2017), 1-68, on course website

Greg J. Duncan and Richard J. Murnane, *Restoring Opportunity: The Crisis of Inequality and the Challenge for American Education* (2014), 1-33, 123-33, 140-44, on course website

November 15 (Tu) Education as seen by an economist (Friedman)

Alan Krueger and Diane Whitmore, "The Effect of Attending a Small Class in the Early Grades on College-Test Taking and Middle School Test Results: Evidence from Project STAR" (2001), on course website and [here](#)

Erik Hanushek, "The Failure of Input-Based Schooling Policies" (2003), 64-77, 85-95, on course website

Daniel Susskind, *A World Without Work* (2020), Ch. 9, on course website

November 17 (Th) Education (and Inequality) as seen by a humanist and scholar of race, Professor Jesse McCarthy of English and African and African American Studies

Jesmyn Ward, *Men We Reaped*

November 22 (Tu) Education (and Inequality) as seen by a humanist (Engell)

Jesmyn Ward, *Men We Reaped* (2013)

Jaison R. Abel and Richard Deitz, "Do the Benefits of College Still Outweigh the Costs?" *Current Issues in Economics and Finance*, Federal Reserve of New York, on course website and available [here](#)

Documents for "Wealth Inequality and Education Inequality" in Higher Education (material by Norton and Ariely, Tamar Lewin, David Brooks, W. Bradford Wilcox, Harold Meyerson), on course website under title "Wealth Inequality"

November 24 (Th) Thanksgiving recess, no class

November 29 (Tu) Education as seen by an economist (Freidman)

Martha J. Bailey et al., "Prep School for Poor Kids: The Long-Run Impacts of Head Start on Human Capital and Economic Self-Sufficiency" (2021), introduction and Sections I, II, V, VI, on course website

Raj Chetty et al., "\$320,000 Kindergarten Teachers" (2010), on course website and [here](#)

Raj Chetty et al., "Great Teaching" (2012), on course website and available [here](#)

Diane Whitmore Schanzenbach et al., "Seven Facts on Noncognitive Skills from Education to the Labor Market" (2016), on course website and available [here](#)

David J. Deming, "The Growing Importance of Social Skills in the Labor Market" (2017), pp. 1593-1601, 1635-1634, on course website

What Is Concluded?

December 1 (Th) What have we learned? What don't we still know? (Engell, Friedman)

Daniel Bell, *The Cultural Contradictions of Capitalism* (1976), 244-51

Henry David Thoreau, "Life Without Principle," in *The Portable Thoreau*, 591-612

December 2 (Fri) Education Assignment Due

Final Exam Date, time, and place TBA