**ECONOMICS (ECON)**

* **ECON 001b, Economic Ideas Worth a Nobel Prize**  Jose-Antonio Espin-Sanchez  
This course introduces students to a selection of ideas that in the past fifty years have merited a Nobel Prize in economics. The goal of the course is twofold. First, it serves as an introduction to a wide range of economic topics. Second, by studying the most influential economic ideas, students learn firsthand how economic science has evolved. The course is not structured chronologically, but according to economic areas, such as microeconomics, macroeconomics, finance, poverty, and the environment. No prior knowledge of economics or statistics is assumed. Enrollment limited to first-year students.

* **ECON 002b, Social Issues in America**  Rebecca Toseland  
This seminar investigates how data and economics can be used to understand and solve some of the most pressing contemporary social issues in the United States. Topics include equality of opportunity, education, health, climate change, criminal justice, and discrimination. In the context of these topics, the course provides an introduction to some basic economic concepts and data analysis techniques. No prior knowledge of economics or statistics is assumed. Enrollment limited to first-year students.

* **ECON 108a or b, Quantitative Foundations of Microeconomics**  Tolga Koker  
Introductory microeconomics with a special emphasis on quantitative methods and examples. Intended for students with limited or no experience with calculus. Enrollment limited. May not be taken after ECON 110 or 115.

* **ECON 110a or b, An Introduction to Microeconomic Analysis**  Staff  
Similar to ECON 115, but taught as a lecture discussion with limited enrollment. Enrollment limited to first-years and sophomores. May not be taken after ECON 108 or 115.

**ECON 115a, Introductory Microeconomics**  Steven Berry  
An introduction to the basic tools of microeconomics to provide a rigorous framework for understanding how individuals, firms, markets, and governments allocate scarce resources. The design and evaluation of public policy. May not be taken after ECON 108 or 110.

**ECON 121a or b, Intermediate Microeconomics**  Staff  
The theory of resource allocation and its applications. Topics include the theory of choice, consumer and firm behavior, production, price determination in different market structures, welfare, and market failure. After introductory microeconomics and completion of the mathematics requirement for the major or its equivalent. Elementary techniques from multivariate calculus are introduced and applied, but prior knowledge is not assumed. May not be taken after ECON 125.

**ECON 123b, Intermediate Data Analysis and Econometrics**  Ed Vytlacil  
Comprehensive and theoretical examination of econometrics, with further exploration of topics covered in ECON 117. A term research project addresses a research question chosen by the student, and involves the application of learned methods to a relevant data set. Prerequisites: ECON 108, 110, 115, or equivalent; ECON 117; and familiarity with single variable calculus.
ECON 159a / GLBL 159a, Game Theory  Benjamin Polak
An introduction to game theory and strategic thinking. Ideas such as dominance, backward induction, Nash equilibrium, evolutionary stability, commitment, credibility, asymmetric information, adverse selection, and signaling are applied to games played in class and to examples drawn from economics, politics, the movies, and elsewhere. After introductory microeconomics. No prior knowledge of game theory assumed.  QR, SO  o Course cr

ECON 170a, Health Economics and Public Policy  Howard Forman
Application of economic principles to the study of the U.S. health care system. Emphasis on basic principles about the structure of the U.S. system, current problems, proposed solutions, and the context of health policy making and politics. After introductory microeconomics.  SO

ECON 171b / AFAM 146b / EDST 271b, Urban Inequalities and Educational Inequality  Gerald Jaynes
Analysis of contemporary policy problems related to academic under performance in lower income urban schools and the concomitant achievement gaps among various racial and ethnic groups in United States K-12 education. Historical review of opportunity inequalities and policy solutions proposed to ameliorate differences in achievement and job readiness. Students benefit from practical experience and interdisciplinary methods, including a lab component with time spent in a New Haven high school. Prerequisites: Any course offered by Education Studies, or one course in history or any social science, either: Anthropology, Economics, Political Science, Psychology, Sociology. EDST 110 is preferred, although not required.  SO

ECON 184b / GLBL 234b, International Economics  Samuel Kortum
Introduction to conceptual tools useful for understanding the strategic choices made by countries, firms, and unions in a globalized world. After two terms of introductory economics.  SO

* ECON 185a / GLBL 237a, Global Economy  Sigridur Benediktsdottir and Aleh Tsyvinski
A global view of the world economy and the salient issues in the short and the long run. Economics of crises, fiscal policy, debt, inequality, global imbalances, climate change. The course is based on reading, debating, and applying cutting edge macroeconomic research.  SO

* ECON 209a / EP&E 313a, Economic Analysis of Law  Robin Landis
This course is intended to provide an introduction to the economic analysis of law. We examine the economic rationale(s) underlying various legal doctrines of both common law and statutory law, as well as the economic consequences of different legal doctrines. Previous coursework in economics, while helpful, is not a prerequisite for the course.  SO

ECON 350a, Mathematical Economics: General Equilibrium Theory  John Geanakoplos
An introduction to general equilibrium theory and its application to finance and the theory of money. Recommended for students considering graduate study in economics, or a career in quantitative finance. Prerequisites: After MATH 118 or 120, and intermediate microeconomics.  QR, SO  o Course cr
**ECON 363a, The Global Financial Crisis**  Andrew Metrick and Timothy Geithner
Comprehensive survey of the causes, events, policy responses, and aftermath of the recent global financial crisis. Study of the dynamics of financial crises in a modern economy. Prerequisite: Successful completion of a course in introductory economics.

**ECON 365a / CPSC 365a, Algorithms**  Andre Wibisono
Paradigms for algorithmic problem solving: greedy algorithms, divide and conquer, dynamic programming, and network flow. NP completeness and approximation algorithms for NP-complete problems. Algorithms for problems from economics, scheduling, network design and navigation, geometry, biology, and optimization. Provides algorithmic background essential to further study of computer science. Only one of CPSC 365, CPSC 366, or CPSC 368 may be taken for credit. Prerequisites: CPSC 202 and 223.

**ECON 375b / GLBL 219b, Monetary Policy**  William English
Introduction to modern macroeconomic models and how to use the models to examine some of the key issues that have faced monetary policymakers during and after the global financial crisis of 2008–2009. Prerequisites: Intermediate level macroeconomics (ECON 122 or 126) and introductory econometrics.

**ECON 407a / GLBL 310a, International Finance**  Ana Fieler
A study of how consumers and firms are affected by the globalization of the world economy. Topics include trade costs, the current account, exchange rate pass-through, international macroeconomic co-movement, multinational production, and gains from globalization. Prerequisite: intermediate macroeconomics or equivalent.

**ECON 409b, Firms, Markets, and Competition**  Philip Haile
Analysis of imperfectly competitive markets, focusing on the interactions among firm behavior, market structure, and market outcomes. Topics include oligopoly, collusion, predation, firm entry, advertising, and price discrimination as well as public policy implications of market behavior. After intermediate microeconomics or equivalent.

**ECON 411b, Economics of Uncertainty and Information**  Soenje Reiche
Individual and collective choice in the presence of uncertainty and asymmetric information. Implications of such decision making for economic phenomena. Basic analytical tools for studying decisions under uncertainty. Asset markets, adverse selection, screening, signaling, moral hazard, incomplete contracts, bilateral trade with asymmetric information, and mechanism design. Prerequisites: intermediate microeconomics and econometrics.

**ECON 412a, International Environmental Economics**  Samuel Kortum
Introduction to international and environmental economics and to research that combines the two fields. Methods for designing and analyzing environmental policy when economic activity and pollution cross political borders. Effects of market openness on the environment and on environmental regulation; international economics and climate change. Prerequisites: intermediate microeconomics and econometrics.
ECON 424a / GLBL 308a, Central Banking  William English
Introduction to the different roles and responsibilities of modern central banks, including the operation of payments systems, monetary policy, supervision and regulation, and financial stability. Discussion of different ways to structure central banks to best manage their responsibilities. Prerequisites: Intermediate Microeconomics, Intermediate Macroeconomics, and Introductory Econometrics.  

ECON 425a / CPSC 455a, Economics and Computation  Staff
A mathematically rigorous investigation of the interplay of economic theory and computer science, with an emphasis on the relationship of incentive-compatibility and algorithmic efficiency. Our main focus is on algorithmic tools in mechanism design, algorithms and complexity theory for learning and computing Nash and market equilibria, and the price of anarchy. Case studies in Web search auctions, wireless spectrum auctions, matching markets, and network routing, and social networks. Prerequisite: CPSC 365 or permission of the instructor. Familiarity with basic microeconomic theory is helpful but not required.  

* ECON 434a, Labor Economics: Inequality and Social Mobility  Orazio Attanasio
The objective of this advanced course is to study various aspects of inequality and social mobility and to understand their trends over time and their drivers. Although we briefly study some international comparisons, the focus of the course is inequality in the US and, to a less extent, the UK. We consider inequalities among different countries only tangentially. Prerequisites: ECON 121 and Econometrics.  

ECON 438a, Applied Econometrics: Politics, Sports, Microeconomics  Ray Fair
This course has an applied econometrics focus. Topics include voting behavior, betting markets, and various issues in sports. The aim of the course is to help students prepare original empirical research using econometric tools and to read empirical papers in economics and other social sciences. Students write three empirical papers. The first can be an extension of an existing article, where some of the results are duplicated and then extended. The second is similar to the first with no example provided. The third is an original paper within the range of topics covered in the course, where data are collected and analyzed using relevant econometric techniques. Prerequisites: Two courses in econometrics or statistics, or one course with special permission from the instructor.  

ECON 439b, Applied Econometrics: Macroeconomic and Finance Forecasting  Ray Fair
This course has an applied econometrics focus. The focus is on forecasting macroeconomic and financial variables. Macroeconomic forecasting concerns forecasting variables like GDP, components of GDP like consumption, investment, and imports, inflation, the unemployment rate, interest rates, the government deficit, and exchange rates. There are various forecasting methods, some purely statistical time series techniques and some using economic theory. We consider both. Financial forecasting is more problematic, since changes in asset prices may be roughly unpredictable. We also examine topics like momentum forecasting to see if some asset prices are predictable. Prerequisites: Two courses in econometrics or statistics, or one course with special permission from the instructor.
* ECON 441b, Economics of Information, Learning, and Communication  Mira Frick
A theoretical introduction to economic models of social learning and strategic
information transmission, using tools from game theory and probability theory.
The rationality of individual behavior as affected by pathologies such as herding,
informational cascades, or strategic delays; the effectiveness of communication in
settings in which an informed agent communicates information to a less informed
agent. Prerequisites: intermediate microeconomics, a course in probability theory, and
completion of the mathematics requirement for the Economics major.  so

* ECON 444a, Market Inefficiencies and the Limits of Arbitrage  Michael J Pascutti
The role of hedge funds in the United States financial markets and hedge fund
behavior; understanding what hedge funds do, why they exist, and how they are
different from other investment vehicles. Study of investment strategies that provide
opportunity and risk for investors and study of academic papers analyzing (risky)
arbitrage strategies. Prerequisite: intermediate microeconomics and econometrics.  so

* ECON 445b, The U.S. Banking System  Michael J Pascutti
The special functions of banks in the U.S. economy. The benefits but fragile nature of
the banking system. Prerequisites: intermediate macroeconomics, microeconomics, and
econometrics.  so

* ECON 450b, Investment Analysis  Alex Hetherington and Chivetta Amelia
This seminar seeks to introduce the world of investment management to students,
across a range of investment strategies from public stocks to private equity and
real estate. The instructors, both senior members of the Yale Investment Office,
the department that manages the University’s $41 billion endowment, guide class
discussion in response to assigned reading and guest speaker visits. The distinguished
guest speakers, including world-renowned hedge fund managers, venture capital
luminaries and Yale’s chief investment manager Matthew Mendelsohn ’07 are at the
heart of the course. These speakers join the seminar for a discussion of how their firms
approach the investment landscape and how they seek to achieve market-beating
returns. Students are asked to engage with and analyze the speaker’s investment
strategy and to think about the strategy from the perspective of an institutional investor
like Yale. Registration requires instructor permission.  so

* ECON 455a, Economic Models of New Technology  Evangelia Chalioti
Analysis of firms’ incentives to innovate, focusing on the effects of market power on
the intensity of innovative activity. Topics include strategic investment in innovation,
patent races, the diffusion of knowledge, intellectual property (IP) protection systems,
IP licensing, research joint ventures, litigation, venture capital, and conflicts between IP
rights and antitrust regulation. Prerequisite: Intermediate Microeconomics  so

* ECON 456a, Private Equity Investing  Michael Schmertzler
A case-oriented study of principal issues and investment types found in substantial
private equity portfolios. Discussion of enterprise valuation, value creation, business
economics, negotiation, and legal structure, based on primary source materials and
original cases. Prerequisite: ECON 251 or ECON 252 or ECON 255.  so

* ECON 463b / BENG 403b, The Economics and Science of Medicine  Gregory Raskin
This multidisciplinary class is an exploration of the background of today’s bestselling
medicines, their huge commercial impact, and the companies that created them. It
focuses on the most compelling aspects of drug development and company formation in the context of topical issues like cancer treatment, gene editing, stem cell therapy, the opioid epidemic, and drug pricing controversies. Prerequisite: Introductory or intermediate microeconomics, introductory or intermediate Biology, Molecular Biology, Chemistry or Biomedical Engineering.  

* ECON 465b / EP&E 224b / GLBL 330b, Debating Globalization  Ernesto Zedillo
Facets of contemporary economic globalization, including trade, investment, and migration. Challenges and threats of globalization: inclusion and inequality, emerging global players, global governance, climate change, and nuclear weapons proliferation. Prerequisite: background in international economics and data analysis. Preference to seniors majoring in Economics or EP&E.  

* ECON 467a / GLBL 307a, Economic Evolution of the Latin American and Caribbean Countries  Ernesto Zedillo
Economic evolution and prospects of the Latin American and Caribbean (LAC) countries. Topics include the period from independence to the 1930s; import substitution and industrialization to the early 1980s; the debt crisis and the "lost decade"; reform and disappointment in the late 1980s and the 1990s; exploration of selected episodes in particular countries; and speculations about the future. Prerequisites: intermediate microeconomics and macroeconomics.  

* ECON 472a, Economics of Artificial Intelligence and Innovation  Evangelia Chalioti
This course studies the economics of innovation and the effects of artificial intelligence on different industries. Topics include economics of the intellectual property (IP) protection system; strategic choices in innovation and competition; patent races; measurement and big data; the sharing and digitalized economy; collective intelligence and decisions; online auctions; venture capital; legal and social infrastructure. Prerequisites: ECON 115 or equivalent; ECON 121.  

* ECON 475a / EP&E 286a, Discrimination in Law, Theory, and Practice  Gerald Jaynes
How law and economic theory define and conceptualize economic discrimination; whether economic models adequately describe behaviors of discriminators as documented in court cases and government hearings; the extent to which economic theory and econometric techniques aid our understanding of actual marketplace discrimination. Prerequisites: introductory microeconomics and at least one additional course in Economics, African American Studies, Ethnicity, Race, and Migration, or Women’s, Gender, and Sexuality Studies.  

* ECON 480b / GLBL 311b, Banking Crises and Financial Stability  Sigridur Benediktsdottir
Focus on systemic risk, banking crises, financial stability and macroprudential policies. Additional emphasis on systemic risk and prudential policies in peripheral European economies and emerging economies. Prerequisites: ECON 115 and 116, or equivalent.  

* ECON 491a and ECON 492b, The Senior Essay  Staff
Senior essays are an opportunity for students to engage in independent, original economic research. Essays are not reviews of the literature, rather each should be an examination of a hypothesis using the tools of economics. In particular, the essay must contain original research and/or analysis. They can be theoretical, empirical or
computational. The senior essays that receive A’s and are awarded prizes are typically those that use economics tools (and, where appropriate, data) to offer fresh insights on questions. Students enrolling in this one-term course need to find an advisor. There are no page requirements or formatting requirements. Generally, essays run about 30 pages. Advice regarding bibliographies, graphs, etc. should be given by your advisor. For further information, including relevant dates and deadlines, please see economics.yale.edu/undergraduate/senior-essay.

* ECON 498a and ECON 499b, Directed Reading  Giovanni Maggi

Junior and senior economics majors desiring a directed reading course in special topics in economics not covered in other graduate or undergraduate courses may elect this course, not more than once, with written permission of the director of undergraduate studies and of the instructor. The instructor meets with the student regularly, typically for an hour a week, and the student writes a paper or a series of short essays. Junior and senior majors may take this course for a letter grade, but it does not meet the requirement for a department seminar. The application form may be found here: https://economics.yale.edu/undergraduate/forms-documents