

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. SO

*** 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. SO

*** 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. QR, SO

*** 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. QR, SO

*** ECON 111a or b, An Introduction to Macroeconomic Analysis** Staff
Similar to ECON 116, but taught as a lecture discussion with limited enrollment. Enrollment limited to first-years and sophomores. May not be taken after ECON 116. Prerequisite: ECON 108, 110, or 115. SO

ECON 115a or b, Introductory Microeconomics Staff
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. QR, SO o Course cr

ECON 116a or b, Introductory Macroeconomics Staff
An introduction that stresses how the macroeconomy works, including the determination of output, unemployment, inflation, interest rates, and exchange rates. Economic theory is applied to current events. May not be taken after ECON 111. Prerequisite: ECON 108, 110, or 115. SO o Course cr

ECON 117a or b, Introduction to Data Analysis and Econometrics Staff
Introduction to data analysis from the beginning of the econometrics sequence; exposure to modern empirical economics; and development of credible economic analysis. This course emphasizes working directly and early with data, through

such economic examples as studies of environmental/natural resource economics, intergenerational mobility, discrimination, and finance. Topics include: probability, statistics, and sampling; selection, causation and causal inference; regression and model specification; and machine learning and big data. Prerequisites: ECON 108, 110, 115, or equivalent and familiarity with single variable calculus. Students who have taken ECON 131 may not receive major credit for this course. QR, SO o Course cr

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. QR, SO o Course cr

ECON 122a or b, Intermediate Macroeconomics Staff

Contemporary theories of employment, finance, money, business fluctuations, and economic growth. Their implications for monetary and fiscal policy. Emphasis on empirical studies, financial and monetary crises, and recent policies and problems. After two terms of introductory economics and completion of the mathematics requirement for the major or its equivalent. May not be taken after ECON 126. QR, SO o Course cr

ECON 123a or b, Intermediate Data Analysis and Econometrics Staff

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. QR, SO o Course cr

ECON 125a, Microeconomic Theory Staff

Similar to ECON 121 but with a more intensive treatment of consumer and producer theory, and covering additional topics including choice under uncertainty, game theory, contracting under hidden actions or hidden information, externalities and public goods, and general equilibrium theory. Recommended for students considering graduate study in economics. After introductory economics, and MATH 118 or 120 or equivalent. May not be taken after ECON 121. QR, SO o Course cr

ECON 135a, Introduction to Probability and Statistics Yusuke Narita

Foundations of mathematical statistics: probability theory, distribution theory, parameter estimation, hypothesis testing, regression, and computer programming. Recommended for students considering graduate study in economics. Prerequisites: Introductory microeconomics and MATH 118 or MATH 120 and MATH 222; or MATH 120 and MATH 225. QR, SO o Course cr

ECON 136b, Econometrics Ed Vytlačil

Continuation of ECON 135 with a focus on econometric theory and practice: problems that arise from the specification, estimation, and interpretation of models of economic behavior. Topics include classical regression and simultaneous equations models; panel data; and limited dependent variables. Recommended for students considering graduate study in economics. Prerequisites: After ECON 135 or STAT 241 and 242. May not be taken concurrently with STAT 242. QR, SO o Course cr

ECON 159a / GBLB 159a, Game Theory Staff

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 / GBLB 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 / GBLB 237a, Global Economy** Sigridur Benediktstottir 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 210b / EDST 201b, Economics of Education Daniela Morar

Application of basic economic concepts and empirical methods to the analysis of education. Topics include the economic return to secondary and postsecondary education, the quality of elementary and secondary education, the market for teachers, inequality in education attainment, and school choice. Prerequisites: ECON 108, 110, or 115. A prior course in statistics or econometrics is helpful but not required. SO

ECON 265a, History of Economic Thought Robert Dimand

The objective of this course is to give an overview of how economic analysis has developed, and an introduction to the varied ways in which some of the great economists of the past have gone about studying how the economy functions. We discuss the relevance of their theories to public policy and the role of the state, and consider the roles of pre-analytic vision, improvements in analytical technique, and external events (such as the Great Depression or Global Financial Crisis) in the development of economic analysis. Prerequisites: ECON 115 and ECON 116. SO

ECON 326b, Fundamentals of Economic Development Kaivan Munshi

The objective of this course is to examine some of the fundamental forces that shape the process of economic development. This course is divided into three sections: (i) Market Failure: with an analysis of credit, labor, and insurance markets in developing countries. (ii) Social Response: how community networks emerge in response to market failure. We study the positive and negative consequences of this community involvement for growth and development; in the short-run and the long-run. We also provide economic foundations for the emergence of social norms and identity, as well as the dynamic inefficiencies that they can generate with economic development. (iii) Biological Response: how biological adaptation to economic conditions in the pre-modern economy can have negative consequences for nutritional status and health in developing economies. Apart from providing a particular perspective on development, an additional objective of this course demonstrates the use of economic theory in informing empirical research. Prerequisites: Intermediate Microeconomics, Introductory Econometrics and Data Analysis. Students are expected to be familiar with calculus, basic microeconomics, and basic econometrics. SO

ECON 350a, Mathematical Economics: General Equilibrium Theory Staff

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 351b, Mathematical Economics: Game Theory Philipp Strack

Introduction to game theory and choice under uncertainty. Analysis of the role of information and uncertainty for individual choice behavior, as well as application to the decision theory under uncertainty. Analysis of strategic interaction among economic agents, leading to the theory of auctions and mechanism design. Recommended for students considering graduate study in economics. After MATH 118, 120, and intermediate microeconomics. QR, SO o Course cr

*** ECON 360a, Capital Markets** Gary Gorton

Topics related to capital markets, with emphasis on the financial crisis of 2007–2008. The design, pricing, and trading of corporate bonds, credit derivatives, and money market instruments; bond restructuring, bond ratings, and financial crises; basic tools used to address such issues, including fixed income mathematics, binomial option pricing, and swaps. Prerequisites: intermediate microeconomics and econometrics. Note: ECON 360a "Capital Markets" is cross-listed with SOM MGT 947a and has space for up to five undergraduates.

ECON 361b, Corporate Finance Christopher Clayton

Financial management from inside the corporation or operating entity. Topics include capital budgeting and valuation, optimal capital structure, initial public offerings, mergers, and corporate restructuring. Cases and problem sets provide applications. Prerequisites: intermediate microeconomics and econometrics. 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 global financial crisis of 2007–09. Study of the dynamics of financial crises in a modern economy. Prerequisite: Successful completion of a course in introductory economics. so

ECON 365a or b / CPSC 365a or b, Algorithms Staff

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. QR

*** ECON 366b / AMTH 366b / CPSC 366b, Intensive Algorithms** Anna Gilbert

Mathematically sophisticated treatment of the design and analysis of algorithms and the theory of NP completeness. Algorithmic paradigms including greedy algorithms, divide and conquer, dynamic programming, network flow, approximation algorithms, and randomized algorithms. Problems drawn from the social sciences, Data Science, Computer Science, and engineering. For students with a flair for proofs and problem solving. Only one of CPSC 365, CPSC 366, or CPSC 368 may be taken for credit. Prerequisites: MATH 244 and CPSC 223. QR

ECON 375b / GBL 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. WR, SO o Course cr

*** ECON 407a / GBL 310a, International Finance** Ana Fielor

A study of the implications of increasing integration of the world economy, through international trade, multinational production, and financial markets. Topics include foreign exchange markets, capital flows, trade and current account imbalances, coordination of monetary and fiscal policy in a global economy, financial crises and their links to sovereign debt crises and currency devaluations. Prerequisite: intermediate macroeconomics or equivalent. so o Course cr

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. QR, so

*** 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. SO O Course cr

*** 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. SO

ECON 424a / GBLB 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. SO O Course cr

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. QR

ECON 431a / AMTH 431a / S&DS 431a, Optimization and Computation Yang Zhuoran

This course is designed for students in Statistics & Data Science who need to know about optimization and the essentials of numerical algorithm design and analysis. It is an introduction to more advanced courses in optimization. The overarching goal of the course is teach students how to design algorithms for Machine Learning and Data Analysis (in their own research). This course is not open to students who have taken S&DS 430. Prerequisites: Knowledge of linear algebra, multivariate calculus, and probability. Linear Algebra, by MATH 222, 223 or 230 or 231; Graph Theory, by MATH 244 or CPSC 365 or 366; and comfort with proof-based exposition and problem sets, such as is gained from MATH 230 and 231, or CPSC 366.

*** 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. so

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 econometrics or statistics courses, one of which has to be ECON 117. Ideally, ECON 123 should also have been taken, but it is not an absolute requirement. ECON 135 and ECON 136 are substitutes for ECON 117 and ECON 123. Special permission from the instructor is needed if ECON 117 or ECON 136 has not been taken. Also required is introductory microeconomics. so

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. so

* **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
o Course cr

* **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 or equivalent: Econ 121 or Econ 125 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 and Yashodhara Dash

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. SO

* **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. SO RP

* **ECON 467a / GBL 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. SO

* **ECON 468b, Institutions and Incentives in Economic Development** Mark Rosenzweig

Assessment of alternative policies and programs designed to promote economic development; examination of fundamental problems of underdeveloped areas and consideration of how and whether such programs resolve them. The roles of indigenous institutions in low-income countries in alleviating problems of underdevelopment. Prerequisites: intermediate microeconomics and econometrics. SO

* **ECON 471b / EP&E 297b, Topics in Cooperative Game Theory** Pradeep Dubey

The theory and applications of cooperative games. Topics include matching, bargaining, cost allocation, market games, voting games, and games on networks. Prerequisite: intermediate microeconomics.

* **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: Intermediate Microeconomics or equivalent: Econ 121 or Econ 125 SO

* **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 478b, The Economics of Internet Markets** Charles Hodgson

Study of online markets with a focus on ongoing policy debates. Students learn about the workings of online markets by studying economic models of platform markets, consumer search, and advertising auctions. Students apply these frameworks to discussions about the regulation of the internet, including net neutrality, privacy, online media bias, and the monopoly power of "big tech." Readings draw from theoretical and empirical academic studies as well as the popular press. Prerequisites: Intermediate microeconomics and econometrics. SO

* **ECON 488b, Agents & Fiduciaries: Economics and Law** Richard Brooks

The seminar introduces students to the basic models in the principal-agent literature, including moral hazard and adverse selection, as well as the legal structures that regulate agents and other fiduciaries. Prerequisite: Intermediate microeconomics. SO

* **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>