



**HARVARD PH.D. PROGRAM IN HEALTH POLICY
ECONOMICS CONCENTRATION
2018–2019**

The economics concentration focuses on the economic behavior of individuals, providers, insurers, and international, federal, state, and local governments and actors, as their actions affect health and medical care. In addition to examining the literature on health economics, the training emphasizes microeconomic theory, econometrics, and interactions with other disciplines, including clinical medicine. The concentration prepares students for research and teaching careers as health economists.

Guide for students in the PhD in Health Policy economics concentration:

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SUMMARY OF REQUIREMENTS

- (1) One year of graduate-level microeconomic theory – This requirement is fulfilled by taking **Economics 2020A** and **2020B** (also listed at the Harvard Kennedy School and Harvard Business School).
- (2) Statistics and Econometrics – Economics track students are required to take Econometrics I (**Economics 2110**) offered in the Fall and Econometrics II (**Economics 2115**) offered in the Spring. If a student has significant econometric training, Econometric Methods (**Economics 2140**) can substitute for **Economics 2115**, pending approval of track chair. Please note that the completion of this sequence also fulfills the two-semester statistics distribution requirement required of all Health Policy PhD students.
- (3) Field Courses – Students must take four one-semester courses from the following applied fields: public economics (**Economics 2450A and 2450B or MIT 14.472**), labor economics (**Economics 2810A and Economics 2810B or Economics 2811 or Economics 2330**), industrial organization (**Economics 2610 and 2611**), development economics (**Economics 2325, 2326, 2390, and 2392**), behavioral economics (**Economics 2030**), or methods (**Economics 2140**, if not used to substitute for Economics 2115 in the statistics and econometrics requirement). The four courses can come from any of the courses listed above. Other graduate level economics courses – for example, MIT or Harvard courses not listed, such as data science, machine learning, or statistics – may be substituted for these courses with permission of the chair of the committee. Such permission, however, will not be routinely granted, and students asking to substitute should have a strong reason for wishing to substitute. Note that other econometrics courses can be counted toward the field course requirement only if the student has already had courses equivalent to the required econometrics sequence (**Economics 2110 and Economics 2115**).
- (4) Health Economics Reading Courses (**Economics 2465 and 3460C**) – Second-year students must take Health Economics (**Economics 2465**), led by Professor David Cutler, *and* Research in Health Economics (**Economics 3460c**). These courses prepare students for the qualifying exam in the economics track.
- (5) Research seminar – The program requires the completion of **Economics 3117**, the Harvard/BU/MIT joint Health

Economics Seminar by the second year. In addition, attendance is recommended for third year and higher. This is in addition to the weekly research seminar (**Health Policy 3040**) led by Professors Laura Hatfield and Bapu Jena, which is required of all third-year and higher Health Policy students. Although this is a joint seminar, students must register for this course to receive credit.

- (6) Third year students organize a year-long weekly Health Economics Seminar with support from faculty members. This seminar is typically held at the Department of Health Care Policy at Harvard Medical School, and is a venue for students in the concentration to present work in progress and receive feedback from peers and faculty.

FACULTY ASSOCIATED WITH THE ECONOMICS TRACK

- **Sebastian Bauhoff** – Assistant Professor of Global Health, Harvard T.H. Chan School of Public Health
- **David Bloom** – Clarence James Gamble Professor of Economics and Demography, Harvard T.H. Chan School of Public Health
- **David Canning** – Richard Saltonstall Professor of Population Sciences and Professor of Economics and International Health, Harvard T.H. Chan School of Public Health
- **Amitabh Chandra** – Malcolm Weiner Professor of Social Policy, Harvard Kennedy School, and Henry and Allison McCance Professor of Business Administration, Harvard Business School
- **Michael Chernew** – Leonard D. Schaeffer Professor of Health Care Policy, Harvard Medical School
- **Jessica Cohen** – Associate Professor of Global Health, Harvard T.H. Chan School of Public Health
- **Vilsa Curto** – Assistant Professor of Health Economics and Policy, Harvard T.H. Chan School of Public Health
- **David Cutler** – Otto Eckstein Professor of Applied Economics, Faculty of Arts and Sciences; Member of Faculty, Harvard Kennedy School; Professor in the Dept of Global Health and Population (Harvard T.H. Chan School of Public Health); Harvard College Professor; Chair, PhD Program in Health Policy
- **Leemore Dafny** – Bruce V. Rauner Professor of Business Administration, Harvard Business School
- **Richard Frank** – Margaret T. Morris Professor of Health Economics, Harvard Medical School
- **David Grabowski** – Professor of Health Care Policy, Harvard Medical School
- **Jerry Green** – John Leverett Professor in the University, David A. Wells Professor of Political Economy, Faculty of Arts and Sciences
- **Robert Huckman** – Albert J. Weatherhead III Professor of Business Administration, Harvard Business School
- **Haiden Huskamp** – 30th Anniversary Professor of Health Care Policy, Harvard Medical School
- **Anupam Jena** – Ruth L. Newhouse Associate Professor of Health Care Policy, Harvard Medical School
- **Michael Kremer** – Gates Professor of Developing Societies, Faculty of Arts and Sciences
- **Timothy Layton** – Assistant Professor of Health Care Policy, Harvard Medical School
- **Nicole Maestas** – Associate Professor of Health Care Policy, Harvard Medical School
- **Margaret McConnell** – Associate Professor of Global Health Economics, Harvard T.H. Chan School of Public Health
- **Thomas McGuire** – Professor of Health Economics, Harvard Medical School
- **Joseph Newhouse** – John D. MacArthur Professor of Health Policy and Management (Harvard Medical School, Harvard T.H. Chan School of Public Health, Harvard Kennedy School); Chair, Economics track, PhD Program in Health Policy
- **Ariel Pakes** – Thomas Professor of Economics, Faculty of Arts and Sciences
- **Meredith Rosenthal** – C. Boyden Gray Professor of Health Economics and Policy, Harvard T.H. Chan School of Public Health
- **Anna Sinaiko** – Assistant Professor of Health Economics and Policy, Harvard T.H. Chan School of Public Health
- **Benjamin Sommers** – Associate Professor of Health Policy and Economics, Harvard T.H. Chan School of Public Health; Associate Professor of Medicine, Harvard Medical School
- **Mark Shepard** – Assistant Professor of Public Policy, Harvard Kennedy School
- **Zirui Song** – Assistant Professor of Health Care Policy, Harvard Medical School
- **Ariel Stern** – Assistant Professor of Business Administration, Harvard Business School
- **Katherine Swartz** – Professor of Health Policy and Economics, Harvard T.H. Chan School of Public Health
- **Richard Zeckhauser** – Frank Plumpton Ramsey Professor of Political Economy, Harvard Kennedy School

COURSE DESCRIPTIONS

REQUIRED COURSES

ECONOMICS AND ECONOMETRICS

Economics 2020A. Microeconomic Theory I

Kotowski

Fall, M/W, 8:45-10:00

A comprehensive course in economic theory designed for doctoral students in all parts of the university. Topics include consumption, production, behavior toward risk, markets, and general equilibrium theory. Also looks at applications to policy analysis, business decisions, industrial organization, finance, and the legal system. Undergraduates with appropriate background are welcome, subject to the instructor's approval.

Note: Offered jointly with the Kennedy School as API-111 and with the Business School as HBS 4010.

Prerequisite: Multivariate calculus and one course in probability theory. Thorough background in microeconomic theory at the intermediate level.

Economics 2020B. Microeconomic Theory II

Avery, Kohlberg

Spring, M/W, 8:30-9:45

A continuation of Economics 2020a. Topics include game theory, economics of information, incentive theory, and welfare economics.

Note: Offered jointly with the Kennedy School as API-112 and with the Business School as 4011.

Prerequisite: Economics 2010a or 2020a.

Economics 2110. Econometrics I

Avery

Fall, M/W, 11:45-1:00

Economics 2110 and 2115 comprise a two-course sequence for first-year graduate students seeking training in econometric methods at a level that prepares them to conduct professional empirical research. Economics 2110 (fall) reviews probability and statistics, then covers the fundamentals of modern econometrics, with a focus on regression methods for causal inference in observational and experimental data.

Note: This course is designed for PhD candidates in health policy, public policy, education policy, the Business School DBA program. Qualified undergraduates are also permitted to take the course with permission of the instructor. Offered jointly with the Kennedy School as API-114 and with the Business School as HBS 4170.

Prerequisites: Undergraduate courses in probability and statistics, regression analysis, linear algebra, and multivariate calculus.

Economics 2115. Econometric Methods II

Goodman

Spring, M/W, 1:15-2:30

Economics 2110 and 2115 comprise a two-course sequence for first-year graduate students seeking training in econometric methods at a level that prepares them to conduct professional empirical research. Economics 2115 (spring) covers topics (different methods) in current empirical research. Faculty members from across the university will teach modules each covering a different method of causal inference, including but not limited to instrumental variables, panel data methods, and regression discontinuity and kink designs. The course will emphasize a mixture of theory and application, with problem sets focused on the replication or extension of recent papers utilizing these methods.

Note: This course is designed for PhD candidates in health policy, public policy, education policy, the Business School DBA program. Qualified undergraduates are also permitted to take the course with permission of the instructor. Offered jointly with the Kennedy School as API-115 and with the Business School as HBS 4175.

Prerequisite: Economics 2110 or the equivalent.

Economics 2465. Health Economics

Cutler

Spring, T/Th/F, 10:30-11:45

This course surveys topics in health economics. It touches on public sector issues, the industrial organization of health care markets, interactions between health and labor markets, and health in developing countries. Theory and empirical work are presented.

Note: A graduate level microeconomics class at the level of Economics 2010 or 2020 is required for enrollment. Students unsure about the adequacy of their background should contact the instructor.

Economics 3117. Seminar in Health Economics (formerly Economics 2460)

Cutler et al.

Spring, W, 4–5:30

Focuses on theory, econometric models, and public policy of health care. Frontier work in health economics presented and discussed by instructors and outside speakers.

Note: May be taken for credit only by dissertation students writing a research paper. Offered jointly with the Kennedy School as SUP–951.

Economics 3460c. Research in Health Economics

Newhouse et al.

Fall, T, 8–9:30

Participants discuss recent research in health economics. Course may also include presentation of original research by participants. Open to doctoral students only.

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| FIELD COURSES |
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Four one–semester courses from the following options are required. Additional courses may be taken as electives.

Economics 2030. Psychology and Economics

Laibson, Shleifer

Spring, W, 3–4:45

Explores economic and psychological models of human behavior. Topics include bounded rationality, intertemporal choice, decision making under uncertainty, inference, choice heuristics, and social preferences. Economic applications include asset pricing, corporate finance, macroeconomics, labor, development, and industrial organization.

Note: Primarily for graduate students but open to undergraduates.

Prerequisite: Knowledge of multivariable calculus and econometrics.

Economics 2140. Econometric Methods (may replace Economics 2115, see Summary of Required Courses)

Tamer, Kasy

Spring, T/Th, 1:30–2:45

The class continues the first year sequence in econometrics and covers various topics of relevance in particular in applied microeconomics. The first half of the class will be taught by Maximilian Kasy, the second half by Elie Tamer. We start by discussing Identification. The focus will be on settings and assumptions that allow to recover causal relationships, including randomized experiments, conditional exogeneity, IV methods, difference in differences, and regression discontinuity. We then proceed to a discussion of Estimation. Statistical decision theory will be introduced as a general framework to think about estimation problems and the trade-off between bias and variance. Various examples of practical relevance will be covered, including experimental design, machine learning methods such as Lasso, and “value added” estimation as popular in education, labor and related fields.

Continuing in the same spirit, the second half of class will start by an overview of methods for nonparametric estimation of regression functions and probability densities. The class continues with a discussion of approaches to Inference, including standard errors for m-estimators, clustering, two step estimators, the bootstrap, and randomization inference. The class concludes with some topics in structural estimation, in particular moment inequalities, demand analysis, and other models.

Prerequisite: Economics 2120 or equivalent.

Economics 2325. Comparative Historical Economic Development

Nunn

Fall, W/F, 9–10:15

The course examines the historical origins of differences in the economic and social development of societies.

Participants discuss recent research in the field and present their own work in progress.

Note: This course is targeted to second-year Ph.D. students in economics. It is not open to undergraduate or Masters students. The course fulfills the distribution requirement.

Economics 2326. Economic Development: Theory and Evidence

Rodrik, Pande

Fall, T/Th, 10:15–11:30

This course aims to study theories of economic (under)development and scrutinize empirical evidence in order to glean insights to design development policy. The course will identify key features of the development process across countries, and develop an analytical framework, grounded in economic theory, to better understand these patterns. We will then apply our frameworks combined with rigorous empirical evidence to identify when and how public policies can enable economic growth and development. Macro topics include economic growth and its proximate determinants; resource misallocation, learning and coordination and their impacts on productivity; the impact of historical forces on the evolution of (political) institutions and the development process; and the effect of external influences on development. Micro topics include the determinants of and returns to investments in (health and education) human capital; credit markets, savings behavior, and the returns to financial capital; gender; behavioral economics in development; and governance and corruption.

Note: Jointly offered with the Kennedy School as DEV–101.

Prerequisite: This course requires multivariate calculus and a basic understanding of statistical methods, micro and macroeconomics. Students taking these courses concurrently should seek the instructors' permission.

Economics 2330. History and Human Capital

Katz, Goldin

Spring, M/W, 10:30–11:45

Explores a range of subjects concerning human capital, historically and comparatively. Topics include fertility, mortality, health, immigration, women's work, child labor, retirement, education, inequality, slavery, unionization, and governmental regulation of labor, all within the broader context of economic history.

Note: Satisfies the graduate distribution requirement. Open to undergraduates on a limited basis with permission of instructor.

Economics 2390. Development Economics

[Not Offered in 2018-2019]

This course will cover macro-economic topics including aggregate and non-aggregate growth models, models of technology diffusion and choice; topics in finance including financial development and economic growth, consumer finance; small and medium enterprise finance; debt and equity markets; the role of management and corporate governance; the political economy of finance, and corruption; and a range of topics on the role of population, culture, ethnicity, leaders, corruption in economic development, and the efficacy of industrial policy and foreign aid.

Economics 2392. The Political Economy of Economic Development

Dell

Spring, F, 9–11:45

Course description not available.

Economics 2450A. Public Economics and Fiscal Policy I

Hendren

Fall, M 6–8:45 pm

The course will focus on a range of topics in public economics including welfare estimation of tax and expenditure policies, including income and commodity taxation, public goods, education, and place-based policies. We will also discuss foundations for government intervention, including market failures such as externalities and asymmetric information. Throughout, the focus will be on using theoretical models to motivate empirical analyses to uncover the desirability of government intervention in the economy and to quantify the welfare impacts of such policies.

Note: The course material and teacher for 2450A and 2450B have flipped relative to previous years. This fall 2450A course will be very similar to the 2450B course taught in Spring 2018. The Spring 2019 2450B course will be taught by Professor Stancheva and will be similar to the material covered in 2450A in Fall 2017.

Prerequisite: Economics 2010a and 2010b or Economics 2020a and 2020b.

Economics 2450B. Public Economics and Fiscal Policy II

Stantcheva

Spring, TBA

Note: Please note the first four classes, January 22, 24, 29, 31, will take place on M/W 6-7:30pm in Littauer M-16.

Prerequisite: Economics 2010a and 2010b or Economics 2020a and 2020b. Students are strongly encouraged to take Economics 2450a before taking 2450b.

MIT 14.472. Public Economics II (may replace Econ 2450B)

Finkelstein

Spring, TBA

Theory and evidence on government expenditure policy and on regulatory and tax responses to problems of market failure. Focuses on social insurance programs such as social security and unemployment insurance, and on the causes and consequences of rising health expenditures.

Economics 2610. Industrial Organization I

Pakes

Fall, M, 12–2:45

Applied work in industrial organization. Static analysis (theory, estimation): demand systems, cost functions (adverse selection, moral hazard, productivity), and game theoretic concepts of equilibrium in different types of markets. Dynamic analysis (theory, computation, estimation): single agent problems, dynamic games and their application.

Economics 2611. Industrial Organization II

Lee

Spring, W, 12–2:45

Application of industrial organization to problems of public policy. Applied analysis of antitrust policy, network industries, vertical relationships, auctions, and other topics depending on interest.

Note: Students are urged to take Economics 2610 before Economics 2611.

Economics 2810A. Labor Market Analysis

Katz

Fall, M/W, 10:30–11:45

Theoretical and empirical research on labor markets. Wage determination covers equalizing differences, human capital, job mobility, and incentive models. Labor supply covers life-cycle models. Labor demand includes minimum wage and union models.

Economics 2810B. Labor Economics and Labor Market Institutions

Pallais

Spring, T/Th, 12–1:15

Examines the operation of the labor market and evaluation of labor market policies. Topics: labor econometrics, theories of wage determination, changes in the wage structure, unemployment, labor market institutions, and globalization and the labor market.

Economics 2811. Social Economics

[Not Offered in 2018-2019]

Applies the tools of economics to explore social issues including crime, discrimination, racial and gender differences, poverty, family structure, urban problems, social interactions and peer effects, and intergenerational mobility.

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| ELECTIVE COURSES |
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ECONOMETRICS AND STATISTICS

Economics 2142. Time Series Analysis

Stock

Fall, M/W, 10:30–11:45

A survey of modern time series econometrics. Topics include univariate models, vector autoregressions, linear and nonlinear filtering, frequency domain methods, unit roots, structural breaks, empirical process theory asymptotics, forecasting, and applications to macroeconomics and finance.

Economics 2150. The Econometrics of Machine Learning (and other 'Big Data' Techniques)

[Not Offered in 2018-2019]

Innovations in machine learning ('big data') have created many engineering breakthroughs from real time voice recognition to automatic categorization (and in some cases production) of news stories. Since these techniques are at their essence novel ways to work with data, they should also have implications for social science. This course explores the intersection of machine learning and social science and aims to answer a few questions about these new techniques: (i) How do they work and what kinds of statistical guarantees can be made about their performance? (ii) How can they be used to answer questions that interest social science researchers, such as testing theories or improving social policy; and (iii) How might they open up new research questions? We will cover standard machine learning techniques such as supervised and unsupervised learning, statistical learning theory and nonparametric and Bayesian approaches. The goal is to create a working understanding of when and how they can be profitably applied. Students will be required to apply some of these techniques themselves, but we will not cover the computational aspects of the underlying methods.

Note: The course is aimed at PhD students with a solid background in statistical techniques, such as comes from the equivalent of a first year economics PhD econometrics sequence.

Government 2001. Advanced Quantitative Research Methodology

King

Spring, M, 3–5:45

Graduate-level version of Gov. 1002. Meets with Gov. 1002, introduces theories of inference underlying most statistical methods and how new approaches are developed. Examples include discrete choice, event counts, durations, missing data, ecological inference, time-series cross sectional analysis, compositional data, causal inference, and others. Will require extra homework and examination problems in addition to those for Gov. 1002.

Prerequisite: Government 2000 or for Doctoral students Only.

HKS API-222. Machine Learning and Big Data Analytics

Saghafian

Fall, Tu/Th, 1:15–2:30

In the last couple of decades, the amount of data available to organizations has significantly increased. Individuals who can use this data together with appropriate analytical techniques can discover new facts and provide new solutions to various existing problems. This course provides an introduction to the theory and applications of some of the most popular machine learning techniques. It is designed for students interested in using machine learning and related analytical techniques to make better decisions in order to solve policy and societal level problems.

We will cover various recent techniques and their applications from both supervised and unsupervised learning. In addition, students will get the chance to work with some data sets using software and apply their knowledge to a variety of examples from a broad array of industries and policy domains. Some of the intended course topics (time permitting) include: *K-Nearest Neighbors, Naive Bayes, Logistic Regression, Linear and Quadratic Discriminant Analysis, Model Selection (Cross Validation, Bootstrapping), Support Vector Machines, Smoothing Splines, Generalized Additive Models, Shrinkage Methods (Lasso, Ridge), Dimension Reduction Methods (Principle Component Regression, Partial Least Squares), Decision Trees, Bagging, Boosting, Random Forest, K-Means Clustering, Hierarchical Clustering, Neural Networks, Deep Learning, and Reinforcement Learning.*

Prerequisite: An understanding of intermediate-level statistics and probability theory (e.g., API–201, API–202, or equivalent courses).

(SPH) BST 210. Applied Regression Analysis

Lutz: *Fall, M/W, 8–9:30*

Glynn: *Spring, T/Th, 8–9:30*

Topics include model interpretation, model building, and model assessment for linear regression with continuous outcomes, logistic regression with binary outcomes, and proportional hazards regression with survival time outcomes. Specific topics include regression diagnostics, confounding and effect modification, goodness of fit, data transformations, splines and additive models, ordinal, multinomial, and conditional logistic regression, generalized linear models, overdispersion, Poisson regression for rate outcomes, hazard functions, and missing data. The course will provide students with the skills necessary to perform regression analyses and to critically interpret statistical issues related to regression applications in the public health literature

Note: Lab or section times to be announced at first meeting.

Prerequisite: ID201 or BST201 or (BST202 and BST203) or (BST206 and (BST207 or 208)).

(SPH) BST 223. Applied Survival Analysis

Bellavia

Spring, T/Th, 9:45–11:15

Topics will include types of censoring, hazard, survivor, and cumulative hazard functions, Kaplan-Meier and actuarial estimation of the survival distribution, comparison of survival using log rank and other tests, regression models including the Cox proportional hazards model and the accelerated failure time model, adjustment for time-varying covariates, and the use of parametric distributions (exponential, Weibull) in survival analysis. Methods for recurrent survival outcomes and competing risks will also be discussed, as well as design of studies with survival outcomes. Class material will include presentation of statistical methods for estimation and testing along with current software (SAS, Stata) for implementing analyses of survival data. Applications to real data will be emphasized.

Prerequisite: BST210 or BST213 or BST 232 or BST 260 or PHS2000A.

ECONOMICS

Economics 1415. Analytic Frameworks for Policy

Zeckhauser

Fall, M/W 10:15-11:30

This course develops abilities in using analytic frameworks in the formulation and assessment of public policies. It considers a variety of analytic techniques, particularly those directed toward uncertainty and interactive decision problems. It emphasizes the application of techniques to policy analysis, not formal derivations. Students encounter case studies, methodological readings, modeling of current events, the computer, a final exam, and challenging problem sets.

Note: Jointly offered with the Kennedy School as API-302.

Prerequisite: Economics 1011a or permission of instructor.

Economics 2035. Psychology and Economic Theory

Rabin

Fall, M, 12–2:45

This course explores ways that psychological research indicating systematic departures from classical economic assumptions can be translated into formal models that can be incorporated into economics. Topics include ways utility theory can be improved--such as incorporating reference dependence, news utility, social preferences, self image, and other belief-based tastes--and ways we can relax assumptions of perfect rationality--such as incorporating focusing effects, limited attention, biased prediction of future tastes, present-biased preferences, biases in probabilistic judgment, and errors in social inference. The course will emphasize (a) careful interpretation and production of new evidence on relevant departures,(b) formalizing this evidence into models that can, with discipline and rigor, generate sharp predictions using traditional economic approaches, and (c) exploring economic implications of those models presented. Although we will primarily emphasize (b), the course is meant to be useful to students whose interests lie anywhere in this spectrum, under the premise that all such research will be improved by a greater appreciation of the full spectrum.

Note: The course is intended for PhD students in the Business Economics and Economics programs and others who have a solid background in microeconomic theory at the level of introductory PhD courses in these programs. While obviously appropriate to those wishing to specialize in "behavioral economics", the course is also designed for those interested in doing research in particular fields of economics. And while the course centers on theoretical models (learning and evaluation will center around solving formal problem sets), the theory is focused towards its empirical implementability and economic relevance, so that the course is also designed for those interested in theory-influenced empirical research.

Economics 2050. Behavioral Economics, Law, and Public Policy

Sunstein

Spring, W, 3-5

This seminar will explore a series of issues at the intersection of behavioral economics and public policy. Potential questions will involve climate change; energy efficiency; health care; and basic rights. There will be some discussion of paternalism and the implications of neuroscience as well.

Note: Jointly offered with the Kennedy School as API-305 and the Law School as 2589.

Economics 2052. Game Theory I: Equilibrium Theory

Li

Spring, W, 12–2:45

Equilibrium analysis and its applications. Topics vary, but typically include equilibrium refinements (sequential equilibrium), the equilibria of various classes of games (repeated games, auctions, signaling games) and the definition and application of common knowledge.

Prerequisite: Economics 2010a or permission of the instructor.

Economics 2059. Decision Theory

Strzalecki

Fall, F, 9–11: 45

This course prepares students for pure and applied research in axiomatic decision theory. We start with a rigorous treatment of the classical topics that are at the heart of all of economics (utility maximization, expected utility, discounted utility, Bayesian updating, dynamic consistency, option value). We then delve into a number of modern topics inspired by the observed violations of the classical models ("exotic preferences" used in macro-finance, ambiguity aversion, temptation and self-control). The last part of the course explores the recently flourishing literature on stochastic choice (which is related to, but distinct from, discrete choice econometrics).

Prerequisite: Basic microeconomic theory at the level of Mas Colell, Whinston, Green; being comfortable with abstract models.

Economics 2060. Contract Theory

Newman

Fall, M/W, 10:30–11:45

Recent developments in contract theory. Includes hidden action and hidden information models, dynamic agency issues, incomplete contracts, and applications of contract theory to theories of the firm and corporate financial structure.

Economics 2080. Economics and Politics: The Foundations of Economics in Political Theory

[Not Offered in 2018-2019]

Offers graduate students in relevant disciplines the chance to study the historical origins of central ideas in modern economics and to discuss their philosophical character.

Economics 2082. Social Choice Theory

[Not Offered in 2018-2019]

A basic course in social choice theory and its analytical foundations. The subject matter will include possibility theorems in voting and in welfare economics. Attention will be paid to implementation theory, the theory of justice, and the analysis of liberties and rights.

Economics 2099. Market Design

Kominers

Fall, T, 3–5:45

This course explores the theory and practice of market design. Key topics include auctions, labor market matching, school choice programs, online markets, organ exchange systems, financial market design, and matching with contracts. The first half of the course will introduce market design and its technology; subsequent weeks will discuss recent papers alongside their classical antecedents.

Prerequisites: Prior graduate or advanced undergraduate course work in at least one of microeconomics, game theory, or algorithms will be useful, but is not strictly necessary.

Economics 2395. Health, Inequality and Development

[Not Offered in 2018-2019]

The course will be focused on an examination of the constitutive role of health in human development, and its instrumental role in economic development. It will include discussion of the conceptual issues and measurement problems in health studies, and also in assessing inequalities in health and healthcare. The correspondence and dissonance in the links between income inequality and health inequality will be investigated, and the challenge of instituting universal health care in poor countries will be examined.

Economics 2412A. Political Economics*Alesina**Fall, T, 9–11:45*

Discusses several research areas in political economy, including the origins of the state, comparative political systems, theories of economic reform, fiscal problems in democracies, rule of law, privatization, regulation, and elections and the economy.

Economics 2510. Inside Government: Making Public Policy*[Not Offered in 2018-2019]*

This seminar will explore an assortment of issues, ranging from environmental regulation (including climate change) to financial regulation to public health, at the intersection of theory and practice. Among other things, the seminar will discuss the role of cost-benefit analysis, legal limits on regulation, and both standard and behavioral economics.

Economics 2880. Economics of Science*[Not Offered in 2018-2019]*

Analyzes economic issues regarding the role of science and RD in the economy and in the deployment and productivity of scientists, engineers, and highly skilled technical workers. Topics include: wage levels/employment prospects; stipend policy, education/recruitment, student unionization/post-doc organization, career choices/trajectories, with reference to women; scientific competition/collaboration.

Psychology 2650. Behavioral Approaches to Decision Making and Negotiation*[Not Offered in 2018-2019]*

Overview of behavioral decision making and decision analytic perspectives to negotiation. Explores bounded rationality, decision biases, human decision making. Develops a behavioral decision perspective to negotiation, and examines how the field is currently evolving. Offered jointly with the Business School as 4420.

MIT 14.473. Public Policy in Health Economics*Williams**Spring, TBA*

Theory and evidence on the economics of the health care sector, with a particular emphasis on the economics of technological change and innovation.

GRADUATE STUDENTS WORKSHOPS AND SEMINARS

These workshops and seminars have been found to be useful by students enrolled in related field work. Attendance is recommended but courses do not count for credit towards program or concentration requirements.

Economics 3001. Graduate Student Workshop in Behavior in Games and Markets*Fall & Spring, W, 12–1:15*

Participants discuss recent research in Theory, Behavioral Economics, and Experimental Economics and present their own work in progress. Open to doctoral students in economics who have passed their oral examinations.

Economics 3005. Graduate Student Workshop in Economic Development*Fall & Spring, T, 12–1:15*

Participants discuss recent research in economic development and present their own work in progress. Popularly known as the Development Tea.

Economics 3007. Graduate Student Workshop in Public Economics and Fiscal Policy*Fall & Spring, T, 1:30–2:45*

Participants discuss recent research in public economics and fiscal policy and present their own work in progress. Open to doctoral students in economics who have passed their oral examinations.

Economics 3009. Graduate Student Workshop in Industrial Organization*Fall & Spring, W, 3–4:15*

Participants present their own research in progress in an informal setting. Open to doctoral students in economics who have passed their general examinations and are in the early stages of their dissertations.

Economics 3012. Graduate Student Workshop in Labor Economics

Fall & Spring, T, 1:30–2:45

Participants discuss recent research in labor economics and present their own work in progress.

Economics 3101. Seminar in Behavioral and Experimental Economics

Fall & Spring, W, 3–4:15

For students with an interest in behavioral and experimental economics. Faculty presentations by Harvard economists and invited guests.

Economics 3105. Seminar in Economic Development

Fall, M, 3–4:15 & Spring, Th, 2:30–4

Fall speakers cover issues in growth and development. Spring speakers alternate between "growth and institutions," focusing on the macro aspects of growth and development, and "labor and development," focusing on the micro aspects.

Economics 3107. Seminar in Public Economics and Fiscal Policy

Fall & Spring, M, 4:30–5:45

Invited speakers present theoretical and empirical research on a broad range of topics related to the design of government policy.

Economics 3109. Seminar in Industrial Organization

Fall & Spring, M, 4:30–5:45

Invited scholars from other institutions present current research in the field in a seminar setting.

Economics 3112. Seminar in Labor Economics

Fall & Spring, W, 4:30–5:45

Outside speakers present research concerning the operation of labor markets.