Department of Economics

Department Website: http://economics.uchicago.edu

Chair
- Robert Shimer

Professors
- Fernando Alvarez
- Stéphane Bonhomme
- David W. Galenson
- Mikhail Golosov
- Michael Greenstone
- Lars Peter Hansen
- James J. Heckman
- Ali Hortaçsu
- Greg Kaplan
- Steven Levitt
- John List
- Casey Mulligan
- Kevin M. Murphy
- Roger B. Myerson
- Derek A. Neal
- Philip J. Reny
- Azeem Shaikh
- Robert Shimer
- Nancy L. Stokey
- Harald Uhlig

Associate Professor
- Ufuk Akcigit
- Alessandra Voena

Assistant Professor
- Benjamin Brooks
- Leo Bursztyn
- Manasi Deshpande
- Michael Dinerstein
- Peter Hull
- Thibaut Lamadon
- Simon Mongey
- Doron Ravid
- Lawrence Schmidt
- Pietro Tebaldi
- Felix Tintelnat
- Alex Torgovitsky

Senior Lecturers
- Victor O. Lima
- Allen R. Sanderson
- Kotaro Yoshida

Lecturers
- Ryan Fang
- Kanit Kuevibulvanich
- Min Sok Lee
Chicago is a particularly innovative department of economics. The proportion of new ideas in economics that have emanated from or become associated with Chicago over the last forty years is astonishing. Any definition of the Chicago School would have to find room for the following ideas (in chronological order from the 1940s to the present): the economic theory of socialism, general equilibrium theory, general equilibrium models of foreign trade, simultaneous equation methods in econometrics, consumption as a function of permanent income, the economics of education and other acquired skills (human capital), applied welfare economics, monetarism, sociological economics (entrepreneurship, racial discrimination, crime), the economics of invention and innovation, quantitative economic history, the economics of information, political economy (externalities, property rights, liability, contracts), the monetary approach to international finance, rational expectations in macroeconomics, and mechanism design. The unifying thread in all this is not political or ideological but methodological, the methodological conviction that economics is an incomparably powerful tool for understanding society.

The Department of Economics offers a program of study leading to the Ph.D. degree. A general description of the program is given below. For a more detailed explanation of the program requirements, as well as complete course descriptions and faculty bios, see the information for current students on our website at: http://economics.uchicago.edu/graduate/.

Admissions and Financial Aid

PREREQUISITES AND PREPARATION FOR GRADUATE STUDY

Each autumn, the Department of Economics enrolls an entering class of 20-25 graduate students who come from many countries around the world, and have been selected from a large and diverse group of applicants. Admission to graduate study requires a bachelor's degree (or equivalent). This degree need not be in economics, although some background in economics is certainly desirable. There are no formal course requirements for admission, but a strong background in mathematics is important. At the Ph.D. level, the study of economics requires an absolute minimum of one year of college calculus and a quarter (or semester) each of both matrix algebra and mathematical statistics (that is, statistics using calculus, as distinct from introductory statistics for social science). Prospective students who lack this preparation and have remaining free time in their undergraduate schedules are urged to take these courses before the beginning graduate study.

Beyond these basic prerequisites, many of our applicants have taken other advanced mathematics courses, such as real analysis, have completed some graduate-level classes in economics or related fields, or have had some other significant exposure to research in economics. Many strong applicants have ranked at or near the top of their graduating class.

ADMISSIONS PROCESS

Given the year-long sequence of courses, all new students must begin their study in the Autumn Quarter. The application process for admission and financial aid for Economics and all Social Sciences graduate programs is administered through the Divisional Office of the Dean of Students. The Application for Admission and Financial Aid, with instructions, deadlines, and department specific information is available online at https://apply-ssd.uchicago.edu/apply/. Most required supplemental material can be uploaded into the application.

Questions pertaining to admissions and aid should be directed to ssd-admissions@uchicago.edu or (773) 702-8415.

All applicants are required to submit scores from the Graduate Record Examination (GRE), General Test. Foreign applicants whose native language is not English must provide evidence of English proficiency by submitting scores from either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). The current University minimum score requirements are provided with the application.

CRITERIA FOR ADMISSIONS

The Committee on Admissions takes account of a wide range of factors to evaluate each applicant: the previous educational record, letters of recommendation, writing sample, previous research experience, the applicant's scores on the GRE (General Test) and the TOEFL or IELTS, the compatibility of the applicant's research interests with the program strengths in the department, and any special factors that the applicant may bring to the committee's attention. The committee evaluates each applicant on the basis of all material available;
no arbitrary cut-offs in terms of a student's grade point average or test scores are used. Applications must be complete for the January review, including scores from the GRE and TOEFL or IELTS if appropriate. These exams should be taken no later than November 1. In deciding when to register for the exams, applicants should particularly note our yearly cycle in order to assure that their applications receive full consideration.

**PROGRAM OF STUDY**

The program of study for the Ph.D. degree in Economics includes courses and comprehensive examinations in the three “Core” subjects of Price Theory; the Theory of Income, Employment, and the Price Level; and Quantitative Methods. In addition to the Core, Ph.D. requirements include the demonstration of competence in two Specialized Fields of concentration, courses in three elective Fields for the General Distribution requirement, a Research Paper, the approval of a Thesis Proposal, and the completion of the Doctoral Thesis.

The usual load is three courses per quarter for two years; this permits the completion of nine courses during the regular academic year of three quarters. The comprehensive examination for the Core subjects is given in the Summer Quarter. An examination in each Specialized Field of concentration is given once a year.

Ph.D. students may request permission to choose electives outside the Department of Economics for Field or General Distribution requirements. Satisfactory grades on course work done at the graduate level at another institution may also be used to satisfy part of the course requirements for General Distribution by petition to the Director of Graduate Studies.

With good preparation, students normally take five years to complete the Ph.D. Students who begin with the intention of obtaining the Ph.D. but who change their plans or fail to satisfy the Ph.D. requirements will in most cases be eligible for an M.A. degree.

The program of a typical Ph.D. student consists of the following sequence: in the first year, courses in price theory, the theory of income, and quantitative methods prepare the student for the Core examinations which are taken in the following summer; in the second year, courses and participation in workshops prepare the student for certification in two Specialized Fields (one by exam and one by GPA or exam) and help the student identify a Research Paper topic; in the third and fourth years, the student completes his/her Research Paper and General Distribution requirements, participates in workshops, formulates a thesis topic, and presents a Thesis Proposal Seminar at which the faculty formally approves the topic and admits the student to candidacy; in the fifth year, the student completes his/her Doctoral Thesis and gives a Public Lecture.

**COURSES**

The department website offers descriptions of graduate courses scheduled for the current academic year: [http://economics.uchicago.edu/graduate/](http://economics.uchicago.edu/graduate/)

**JOINT PH.D. PROGRAM IN FINANCIAL ECONOMICS**

The joint Ph.D. program in Financial Economics was established in the 2006-07 academic year and is run jointly by the Department of Economics in the Division of the Social Sciences and by the University of Chicago Booth School of Business (formerly the GSB). The aim of this program is to exploit the strengths of both sponsors in training Ph.D. students interested in financial economics. Core economics training is valuable for students seeking to do research in financial economics, and advances in financial economics have important spillovers to other areas of economics. It has long been a tradition in the Department of Economics to feature core economics training for their Ph.D. students, and the Booth School has well-recognized excellence in finance. Students in the joint program benefit from broad sets of instructors and classmates in both the Economics Department and the Booth School. They also hold an official status and are able to utilize resources in both Economics and the Booth School.

Upon completion of this program, students will be awarded a Doctor of Philosophy degree in Economics and Finance jointly from the Division of the Social Sciences and the Booth School.

**PROGRAM ELEMENTS**

Students must satisfy the requirements for the Ph.D. degree in both programs. This is viable because of the considerable overlap in what the two programs expect of their students.

**ADMISSIONS**

Admission to the joint program requires admission to both the doctoral program in the Department of Economics and to the doctoral program in the Booth School, but interested parties need only apply to one or the other program. Students may enter the joint program at the beginning of their doctoral studies. Those seeking admission to the joint program should apply online to either the Ph.D. program in the Department of Economics or the Booth School.

Students enrolled in doctoral studies in either the Economics Department or the Booth School may apply to the joint program at any time within their first two years in residence. Such students will still have to meet all of the requirements of both programs.
Enrollment and financial aid throughout a student’s matriculation in the joint program will be administered by either the Division of the Social Sciences or the Booth School, as arranged by the two units. This designation will be for administrative purposes only and will not have programmatic implications. If a student’s interests change, the Director of the Ph.D. program in the Booth School and the Dean of Students for the Social Sciences will facilitate transfers out of the joint program and into the doctoral program in Economics or Business.

**ECONOMICS COURSES**

**ECON 30100. Price Theory I. 100 Units.**
Theory of consumer choice, including household production, indirect utility, and hedonic indices. Models of the firm. Analysis of factor demand and product supply under competitive and monopolistic conditions. Static and dynamic cost curves, including learning by doing and temporary changes. Uncertainty applied to consumer and producer choices. Property rights and the effects of laws. Investment in human and physical capital.
Instructor(s): Kevin Murphy Terms Offered: Autumn

**ECON 30200. Price Theory II. 100 Units.**
The first five weeks of this course are a continuation of ECON 30100, Price Theory I. The second half of the course will be devoted to the Walrasian model of general competitive equilibrium as developed by Arrow and Debreu. This will begin with a brief development of the consumer and producer theories, followed by the welfare theorems connecting equilibria and optima and a treatment of the classical existence of equilibrium theorem. The core of an economy, a limit theorem relating the core to the set of competitive equilibria, and models in which agents are small relative to the market will also be considered. Finally we will study general equilibrium under some alternative assumptions; such as, informational asymmetries and rational expectations equilibrium, public goods and Lindahl equilibrium, financial general equilibrium and asset pricing.
Instructor(s): Roger Myerson, Phil Reny Terms Offered: Winter

**ECON 30300. Price Theory III. 100 Units.**
The course begins with expected utility theory, and then introduces the fundamental ideas of game theory: strategic-form games, Nash equilibrium, games with incomplete information, extensive-form games, and sequential equilibrium. Then the course will focus on the effects of informational asymmetries in markets and the problems of moral hazard and adverse selection. Topics include: optimal risk sharing, signaling and screening in competitive markets, principal-agent problems, strategic and informational incentive constraints, incentive efficiency, and mechanism design for auctions and bilateral trading.
Instructor(s): Roger Myerson, Phil Reny Terms Offered: Spring

**ECON 30400. Introduction to Mathematical Methods In Economics. 000 Units.**
This optional three-week course for incoming graduate students meets in early September and introduces some basic mathematical concepts used in economic theory: a “briefing” of the math students will encounter in the Core classes. Emphasis is placed on problem-solving, but also on some fairly abstract math you might not see otherwise. Cooperative work is strongly encouraged.
Instructor(s): Staff Terms Offered: Summer
Prerequisite(s): Econ PhD students only

**ECON 30502. Topics in Theoretical Economics II. 100 Units.**
Part of sequence of Mathematical Methods fields sequence.
Instructor(s): B. Brooks Terms Offered: Spring

**ECON 30550. Introduction to Mathematical Methods In Economics. 000 Units.**
Equivalent Course(s): BUSN 33911
ECON 30680. Topics in Information Economics. 100 Units.
Equivalent Course(s): BUSN 33914

ECON 30720. Dynamic Games. 100 Units.
This course will study both classic and recent work in repeated and dynamic games. Some topics will include: repeated games with imperfect monitoring, reputation building and reputation dynamics, relational contracts, and optimal contracting in continuous time.
Instructor(s): E. Lipnowski Terms Offered: Winter

ECON 31000. Empirical Analysis I. 100 Units.
This course introduces students to the key tools of econometric analysis. It covers basic OLS regression model, generalized least squares, asymptotic theory and hypothesis testing for maximum likelihood estimation, extremum estimators, instrumental variables, decision theory and Bayesian inference.
Instructor(s): Azeem Shaikh Terms Offered: Autumn

ECON 31100. Empirical Analysis II. 100 Units.
This course develops methods of analyzing Markov specifications of dynamic economic models. Models with stochastic growth are accommodated and their properties analyzed. Methods for identifying macroeconomic shocks and their transmission mechanisms are developed. Related filtering methods for models with hidden states are studied. The properties estimation and inference methods based on maximum likelihood and generalized method of moments are derived. These econometric methods are applied to models from macroeconomics and financial economics.
Terms Offered: Winter

ECON 31200. Empirical Analysis III. 100 Units.
The course will review some of the classical methods you were introduced to in previous quarters and give examples of their use in applied microeconomic research. Our focus will be on exploring and understanding data sets, evaluating predictions of economic models, and identifying and estimating the parameters of economic models. The methods we will build on include regression techniques, maximum likelihood, method of moments estimators, as well as some non-parametric methods. Lectures and homework assignments will seek to build proficiency in the correct application of these methods to economic research questions.
Instructor(s): Stephané Bonhomme Terms Offered: Spring

ECON 31703. Topics in Econometrics. 100 Units.
Graduate course covering recent research on the field of econometrics.
Instructor(s): Bonhomme, Stephane Terms Offered: Spring

ECON 31720. Applied Microeconometrics. 100 Units.
This course is about empirical strategies that are commonly used in applied microeconomics. The topics will include: control variables (matching), instrumental variables, regression discontinuity and kink designs, panel data, difference-in-differences, and quantile regression. The emphasis of the course is on identification and practical implementation. The course also covers the shortcomings of commonly used tools, and discusses recent theoretical research aimed at addressing these deficiencies.
Instructor(s): Torgovitsky, Alex Terms Offered: Autumn

ECON 31740. Optimization-Conscious Econometrics. 100 Units.
Modern research in econometrics often intersects with machine learning and big data questions. Likewise, while the overlap of econometrics with optimization and operations research has traditionally been limited, previously intractable large scale or combinatorially difficult econometrics problems are now being solved using modern optimization software and heuristics. This lays out a rich research agenda and opens up consequential new questions for econometricians. How can machine learning methods be used for econometric regression analysis and causal inference? How can modern optimization methods be applied to solve previously intractable econometric problems? What are the statistical consequences of changes made for numerical reasons? How does one do inference on the output of nonstandard optimization problems? At the heart of these new estimation and inference questions lies the need to design and understand estimators as the product of algorithms and optimization problem, not only the minimand and of objective functions.
Instructor(s): G. Pouliot Terms Offered: Winter
Equivalent Course(s): PPHA 48403

ECON 31800. Advanced Econometrics. 100 Units.
Equivalent Course(s): BUSN 41911
ECON 31830. The Econometrics Spillover Effects. 100 Units.

ECON 32000. Topics in American Economic History. 100 Units.
Economic analysis is applied to important issues in American economic history. Specific topics vary, but may include the following: the economics of colonization, the transatlantic slave trade, the role of indentured servitude and slavery in the colonial labor market, the record and sources of 19th-century economic growth, economic causes and effects of 19th-century immigration, the expansion of education, the economics of westward migration, determinants of long-run trends in the distribution of income and wealth, the quantitative analysis of economic and social mobility, and the economics of racial discrimination in the twentieth-century South.
Instructor(s): D. Galenson Terms Offered: Autumn
Prerequisite(s): ECON 20100
Equivalent Course(s): ECON 22200

ECON 33000. Theory of Income I. 100 Units.
This course will use dynamic general equilibrium models to study macroeconomic questions. The first half of the quarter will focus on applications of the neoclassical growth model, including variants useful for studying the effects of capital, labor, and consumption taxes; the effects of general and investment specific technical change; the role of human capital accumulation, and the q-model of investment. On the technical side, this part of the course will rely heavily on the tools of optimal control theory (Hamiltonians) and on the First and Second welfare theorems. The second part of the course will focus on applications of stochastic dynamic programming. On the substantive side, particular topics include models of job search and asset pricing; models with idiosyncratic (insurable) and aggregate ( uninsurable) risk; and dynamic tax smoothing. On the technical side, this part of the course will rely heavily on Bellman equations and other recursive modeling techniques.
Instructor(s): Fernando Alvarez Terms Offered: Autumn

ECON 33100. The Theory of Income II. 100 Units.
This course will explore a variety of macroeconomic models in which the welfare theorems do not necessarily hold, including overlapping generations models, equilibrium models with labor market search and matching frictions, economies with sticky prices and sticky wages, and environments in which money facilitates exchange. We will also explore the role of government policy within these models, including optimal taxation, optimal monetary policy, and the time consistency of these policies. If time permits, we will look at environments with non-convex adjustment costs, such as irreversible investment and fixed costs of changing prices.
Instructor(s): Nancy Stokey Terms Offered: Winter

ECON 33200. The Theory of Income III. 100 Units.
The course shares with the other two Theory of Income courses the objectives of (1) explaining human behavior as evidenced by aggregate variables and (2) predicting the aggregate effects of certain government policies. Economics 33200 considers some of the prevailing business cycle theories, and their application to the recession of 2008-9. Some hypotheses to be considered are the q-theory of housing investment, the neoclassical approach to fiscal policy, and whether government spending has a "multiplier." The course confronts several empirical issues that are also encountered outside the field of macroeconomics such as the construction of aggregate data, choice of data set, and the measurement of expectations.
Instructor(s): Robert Shimer Terms Offered: Spring

ECON 33502. Monetary Economics I. 100 Units.
Current research topics in monetary economics will be explored.
Instructor(s): F. Alvarez Terms Offered: Autumn

ECON 33530. Firm Dynamics and Economic Growth. 100 Units.
This class focuses on the theory and empirics of economic growth. The class will follow a micro-to-macro approach and hence special emphasis will be given to firms and inventors to uncover the determinants of aggregate productivity growth. In addition to some classic papers, the class will mainly focus on recent research. Students will be encouraged to discuss the frontier topics in class and produce new and exciting research ideas.
Instructor(s): U. Akcigit Terms Offered: Winter

ECON 33703. Financial Markets in the Macroeconomy. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 33948

ECON 33820. Advanced Macro Reading Group. 100 Units.
This is a weekly reading group discussing recent literature in macroeconomics.
ECON 34400. Job Mobility/Wage Determinants. 100 Units.
This course is divided into four parts: Part I reviews segments of the literature on wage growth and labor mobility. The course begins by reviewing a standard model of life-cycle human capital accumulation. We then introduce models of learning and sorting. The goal is to understand how investments in both information and human capital generate observed patterns of wage growth and mobility decisions over the life-cycle. Part II examines the literature on investment in schooling. We will review work on measuring the returns to schooling and assessing the evidence that credit constraints affect human capital investment decisions. We will discuss the role of human capital investment in determining earnings inequality. Part III examines the design of incentive systems within organizations. We will give particular attention to trade-offs between insurance and incentives, tournament theory, moral hazard in teams, and models of multi-tasking. These models also provide insight concerning sources of wage growth within firms and the distribution of wages within firms. Part IV examines the theoretical and empirical literature on income inequality by race and gender. We will also examine how the increase in female labor supply during the past four decades has influenced the wage structure. We devote considerable attention to the effects of public policy on observed racial income gaps.

ECON 34402. Determinants of the Distribution of Labor Earnings. 100 Units.

ECON 34430. Topics in Labor Markets: Earnings and Employment. 100 Units.
The class will cover recent developments in the understanding of the determinants of employment and earnings in the labor market. We will start by studying extensive and intensive labor supply decisions in the short and long run and their implications for macro and micro elasticities. We will then look at the effect of uncertainty in earnings by studying the joint dynamics of earnings and consumption. The next section is concerned with labor demand and in particular how skills demand has impacted inequality. Finally, the course will cover models with two-sided heterogeneity with complementarities, sorting and mobility frictions. The methods presented in the course will range from nonparametric econometrics methods to solving equilibrium and dynamic contracting problems. Students should expect to learn how to work with data and how to develop, solve and evaluate structural models of the labor market.
Instructor(s): T. Lamadon Terms Offered: Autumn

ECON 34602. Household Decisions and Labor Markets. 100 Units.
This course focuses on household decision making in labor economics. We will examine unitary, cooperative and non-cooperative models of the household, and especially the collective model and dynamic extensions of the collective model with frictions. We will then discuss empirical applications of these models to labor supply, retirement behavior, human capital accumulation, the division of labor within the family and migration decisions.
Instructor(s): Voena, Alessandra Terms Offered: Spring

ECON 34610. Household Decisions and Markets. 100 Units.
This labor course will focus on markets and household decision making.
Instructor(s): A. Voena Terms Offered: Spring

ECON 34701. Labor Market Dynamics. 100 Units.

ECON 34930. Inequality: Theory, Methods and Evidence. 100 Units.
This course will explore the theory, methodology and evidence of economic inequality.
Terms Offered: Spring
Equivalent Course(s): PPHA 33230

ECON 35003. Human Capital, Markets, and the Family. 100 Units.
Graduate course focusing on recent economic literature relating to human capital, markets and family economics.
Instructor(s): Heckman, James Terms Offered: Winter

ECON 35050. Asset Pricing I. 100 Units.
Equivalent Course(s): BUSN 34901

ECON 35060. Asset Pricing II. 100 Units.
Equivalent Course(s): BUSN 34902

ECON 35070. Corporate Finance I. 100 Units.
Equivalent Course(s): BUSN 34903

ECON 35080. Corporate Finance II. 100 Units.
Equivalent Course(s): BUSN 34904

ECON 35101. International Macroeconomics and Trade. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 33946

ECON 35310. Topics in International Trade and Growth. 100 Units.

ECON 35340. Macroeconomics and Financial Frictions. 100 Units.
This course looks into the relationship between prices and allocations of risks on financial markets versus macroeconomic choices and allocations.
ECON 35501. International Macroeconomics and Finance. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 35915

ECON 35520. Development Economics: Microeconomic Issues. 100 Units.
This course will study the recent work in microeconomics as it relates to Development Economics.

ECON 36000. Public Finance I. 100 Units.
This Ph.D.-level course provides the conceptual and theoretical foundations of public finance by dealing with a large number of concepts, models, and techniques that are used in the research on public finance. A command of the positive analysis of the incidence of government policies is fundamental to the study of most problems of public finance; positive analysis is emphasized throughout the course. Among the topics are: measurements of changes in welfare; economy-wide incidence of taxes; effects of taxation on risk-taking, investments, and financial markets; corporate taxation; taxation of goods and services; taxation of income; taxation and savings; positive problems of redistribution; and tax arbitrage, tax avoidance, tax evasion, and the underground economy. Prerequisite(s): Open to Ph.D. students; other students may enroll with consent of the instructor.
Equivalent Course(s): PPHA 42500

ECON 36010. Public Finance. 100 Units.
Review of recent research in Public Finance
Instructor(s): M. Golosov Terms Offered: Autumn

ECON 36201. Public Sector Economics. 100 Units.

ECON 36320. Advanced Price Theory. 100 Units.

ECON 36330. New Developments in Public Finance. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 35916

ECON 36730. Energy and Environmental Economics I. 100 Units.
This course will emphasize the economics of natural resource production and problems associated with externalities and common property, with a focus on the energy sector. Most lectures will be theoretical in nature, but we will spend considerable time studying applications that have an empirical component. The course has several complementary objectives: (1) provide a solid foundation in concepts like Hotelling’s Rule and Pigouvian taxation that are a prerequisite for understanding modern environmental and resource economics; (2) develop proficiency with theoretical, computational, and empirical tools that will be valuable for future self-directed research; and (3) gain experience in reading, presenting, and discussing modern research in energy and environmental economics.
Equivalent Course(s): PPHA 44320

ECON 36740. Environmental and Energy Economics II. 100 Units.
Graduate field sequence course focusing on energy and environmental economics.
Instructor(s): Kellogg, K Terms Offered: Winter
Equivalent Course(s): PPHA 44330

ECON 36750. Energy and Environmental Economics III. 100 Units.
Optimal environmental regulation requires an analysis of the trade-offs between market and regulatory imperfections. Market allocations are inefficient in the presence of imperfections such as externalities, market power, and informational asymmetries. On the other hand, government intervention to mitigate these imperfections is not costless, and can even make market performance worse. This course focuses on recent empirical analysis of the costs and benefits of environmental and energy policies, including an introduction to the relevant econometric methodologies such as randomized controlled trials, regression discontinuity designs, bunching analysis, and structural estimation. Topics will include: energy demand and the energy efficiency gap, fuel economy and appliance efficiency standards, non-linear and real-time electricity pricing, wholesale electricity markets, renewable electricity policies, natural gas markets, retail gasoline markets, and technology innovations.
Instructor(s): Ito, K Terms Offered: Spring
Equivalent Course(s): PPHA 44340

ECON 36770. Economics of Education. 100 Units.
Graduate level economics course relating to the economics of education markets.
Instructor(s): Dinerstein, Michael Terms Offered: Spring

ECON 36820. Empirical Topics in Social Insurance. 100 Units.
Graduate course focusing on recent empirical economic literature in social insurance.
Instructor(s): Deshpande, Manasi Terms Offered: Spring
ECON 37200: Analysis of Microeconomic Data - I. 100 Units.
This course provides a theoretical analysis of linear regression models for applied researchers. Econometric topics include partial regression, the Gauss-Markov Theorem, estimation, and hypothesis testing. Alternative estimators and testing procedures are developed to deal with departures from the Gauss-Markov assumptions such as heteroskedasticity, panel data, endogenous regressors, and binary dependent variables. The course assumes familiarity with matrix algebra and mathematical statistics.
Equivalent Course(s): PPHA 48200

ECON 37400: Analysis of Microeconomic Data 3. 100 Units.
Equivalent Course(s): PPHA 48400

ECON 37601: Topics in Economic Growth. 100 Units.
This course will examine models of economic growth, looking at both advanced and developing economies. For advanced economies the focus will be on models of human capital accumulation, diffusion of ideas, and innovation. For developing economies, we will look at explanations of cross-country differences in productivity levels and growth rates, the role of technology diffusion, and the role of structural transformation. Both theoretical and empirical papers will be included, although with emphasis on the former.
Instructor(s): Nancy Stokey Terms Offered: Autumn

ECON 38001: Applied Macroeconomics: Micro Data for Macro Models. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 33942

ECON 38102: Applied Macroeconomics: Heterogeneity and Macro. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 33949

ECON 38301: Applied Macroeconomics II. 100 Units.
This course consists of two components. There are five weeks of lectures on stochastic dynamic equilibrium models with financial market linkages. The impact of financing frictions on the macroeconomic transmission mechanism and on the asset markets will be considered. Also the impact of uncertainty is analyzed through the lens of recent literatures on ambiguity aversion and concerns for robustness. The class explores emerging literatures designed to confront empirical challenges and quantitative predictions. For the second part of the class students are required to attend lectures by outside scholars: Violante, Piazzessi, Primiceri and Bloom on a variety of important topics in macroeconomics. Each will give one lecture to a broad audience of graduate students and some faculty. Students are asked to write short essays (say referee reports) on two papers that are prominently referenced in these lectures.
Equivalent Course(s): BUSN 33947

ECON 39001: Theory of Financial Decisions II. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 35902

ECON 39100: Asset Pricing. 100 Units.
View complete Booth Course Descriptions here View standard Booth Exam Schedule here (refer to individual syllabi for complete details) Booth Book Fee may be assessed.
Equivalent Course(s): BUSN 35904

ECON 39101: Asset Pricing. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 35912

ECON 39200: Topics in Empirical Finance. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 35905

ECON 39400: Theory of Financial Decisions III. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 35903

ECON 39600: Topics in Asset Pricing. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 35907

ECON 39650: Asset Pricing: Topical Review. 100 Units.
A review of recent research in Asset Pricing
Instructor(s): C. Mulligan Terms Offered: Autumn

ECON 39701: Advanced Theory of Corporate Finance and Capital Markets. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 35913
ECON 39820. Corporate Governance. 75-100 Units.
Through the production of goods and services, innovation, employment and occasional misbehavior, publicly-held corporations in the U.S. exert an enormous impact on the lives of individuals and the economy in general. How (and how well) corporations are governed greatly influences what that impact will be. Since the early 1990s, there has been a significant increase in the attention given to corporate governance by investors, lawyers, academicians, politicians and the press. This seminar will provide students with a deep understanding of applicable legal, regulatory and market influences on corporate governance, an appreciation for the historical development of the current system of governance and insights into current "hot" issues and the continuing evolution of governance. We will discuss critical issues such as for whose benefit is a corporation to be governed and what is the proper balance of decision-making authority between owners and managers. There will be a heavy emphasis on the role of counsel to the enterprise as a whole and on the practical aspects of advising officers and directors, including the coordination of multi-disciplinary teams.
Equivalent Course(s): PPHA 33650

ECON 40101. Advanced Industrial Organization I. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 33921

ECON 40104. Advanced Industrial Organization IV. 100 Units.

ECON 40201. Advanced Industrial Organization II. 100 Units.
Course Search
Equivalent Course(s): BUSN 33922

ECON 40301. Advanced Industrial Organization III. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 33923

ECON 40603. Market Design. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 33915

ECON 40603. Market Design. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 33915

ECON 40902. Advanced Quantitative Marketing. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 37904

ECON 41001. Behavioral Economics. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 38912

ECON 41100. Experimental Economics. 100 Units.
This course provides the necessary tools to be an avid consumer of the experimental literature and instructs students on how to become a producer of that literature. Topics include a summary of recent experimental findings and details on how to gather and analyze data using experimental methods.
Instructor(s): L. Bursztyn
Terms Offered: Spring
Prerequisite(s): ECON 20100 and ECON 21020 (or ECON 21030); OR ECON 10000 for declared business economics specialization. No first-year students.
Equivalent Course(s): ECON 21800

ECON 41120. Topics in Behavioral Economics. 100 Units.
This class covers recent work in behavioral economics. Topics include social influence and social pressure, the role of identity in economics, the psychology of poverty, and social preferences. Applications will cover a wide range of fields, including labor economics, finance, political economy, and development economics.
Equivalent Course(s): BUSN 38915

ECON 41150. Behavioral Finance. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 35906

ECON 41200. Topics in Behavioral Economics. 100 Units.
This course looks into recent work done in the field of behavioral economics.

ECON 41220. Behavioral Economics: Theory and Applications. 100 Units.
Contemporary theoretical and applied topics in behavioral economics will be explored.
Instructor(s): L. Bursztyn; N. Thakral
Terms Offered: Spring
ECON 41800. Numerical Methods in Economics. 100 Units.
This course introduces a broad range of numerical methods, and shows how to use them to compute equilibrium in competitive and game theoretic models and compute econometric estimators. Applications will include solution of dynamic stochastic general equilibrium models, life-cycle dynamic programming problems, optimal taxation, nonlinear pricing, Nash equilibrium of dynamic games, and estimation of structural models. We will also introduce students to advanced computational tools, such as cluster computing and supercomputing; in particular, students will get accounts on supercomputers.
Equivalent Course(s): BUSN 33902

ECON 41901. Longitudinal Data Analysis I. 100 Units.
This course acquaints students with the basic tools for analyzing panel and longitudinal data on individual event histories and life cycle trajectories. Students will become acquainted with the wealth of panel and longitudinal data, the basic methods for analyzing these data, and relevant analysis program and software tools. The topics covered include: basic demographic analysis; single state and multi-state duration analysis for discrete time and continuous time models; issues of sampling frames; panel data econometric methods (random effects and fixed effects and their generalizations for general forms of heterogeneity); the A,Â analysis of treatment effects and A,Â econometric policy evaluation including propensity score matching and new extensions; and dynamic discrete choice. Methods for computation and hands-on experience will be stressed. Credit for the course will be based on empirical projects. The pace of coverage will be dictated by student interest and research questions. The course will operate as a weekly seminar with lectures and interaction.
Equivalent Course(s): PPHA 45400

ECON 42800. Creativity. 100 Units.
This seminar examines recent research on how creative people innovate in a wide range of intellectual activities. The main project for the course is a term paper that analyzes the creative life cycle of one or more innovators of the student's choice, using both quantitative and qualitative evidence. Students present their research in progress for discussion. The seminar is designed to give students all the tools needed to do this research, including choosing a subject, finding and using an appropriate data set, and negotiating the relevant scholarship.
Instructor(s): D. Galenson Terms Offered: Winter
Prerequisite(s): ECON 20100
Equivalent Course(s): ECON 22650

ECON 42900. Innovators. 100 Units.
Economists believe that innovation is a primary source of economic growth. Yet although most innovations are made by individuals or small groups, until recently economists have not studied how those exceptional people produce their discoveries. Recent research has shown that there are two very different types of innovators, who have different goals and follow different processes. This course surveys this research, examining the careers and innovations of important practitioners in a range of modern arts, including painters, novelists, sculptors, poets, movie directors, photographers, songwriters, and architects, as well as entrepreneurs and scientists. The material covered in this course adds a new dimension to our understanding of creativity and of how innovators in many different activities produce new forms of art and science.
Instructor(s): D. Galenson Terms Offered: Autumn
Prerequisite(s): ECON 20100
Equivalent Course(s): ECON 22600

ECON 49700. Research Seminar. 100 Units.
The Required Research Seminar/Paper is designed to introduce the Ph.D. student to the demands and excitement of research, promote early contact with the faculty, and introduce the process of selecting a research topic and writing about it. (The thesis itself comes later and may be on a different topic.) Every student is required to write a research paper under faculty supervision by taking the Required Research Seminar.
Equivalent Course(s): BUSN 35930

ECON 49800. Research Seminar. 100 Units.
Course Search
Equivalent Course(s): BUSN 35931

ECON 49900. Required Research Paper. 100 Units.
The Required Research Seminar/Paper is designed to introduce the Ph.D. student to the demands and excitement of research, promote early contact with the faculty, and introduce the process of selecting a research topic and writing about it. (The thesis itself comes later and may be on a different topic.) Every student is required to write a research paper under faculty supervision by taking the Required Research Seminar.
Equivalent Course(s): BUSN 35932

ECON 50000. Workshop in Economic Theory. 100 Units.
Faculty led workshop presenting current research in economic theory.
Instructor(s): Reny, Philip Myerson, Roger Sonnenschein, Hugo Terms Offered: Autumn, Spring, Winter

ECON 50300. Becker Applied Economics Workshop. 100 Units.
Faculty led workshop presenting current research in applied economics.
Instructor(s): List, John Greenstone, Michael Mogtsad, Magne Terms Offered: Autumn, Spring, Winter
ECON 51200. Workshop: Econometrics. 100 Units.
Faculty led workshop presenting current research in econometrics.
Instructor(s): Heckman, James Hansen, Lars Peter Hickman, Brent Shaikh, Azeem Terms Offered: Autumn,Spring,Winter

ECON 51400. Econometrics and Statistics Colloquium. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 41600

ECON 53000. Workshop: Money and Banking. 100 Units.
Faculty led workshop presenting current research in Money and Banking.
Instructor(s): Alvarez, Fernando Shimer, Robert Hansen, Lars Peter Lucas, Robert E. Stokey, Nancy Terms Offered: Autumn,Spring,Winter

ECON 54300. Applied Economics Workshop. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 33610

ECON 55600. Seminar: Finance. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 35600

ECON 56300. Public Policy and Economics Workshop. 100 Units.
This is a workshop; Only open to PhD students and is an audit only course
Equivalent Course(s): PPHA 51500

ECON 57000. Workshop in Macro and International Economics. 100 Units.
Course Search (https://intranet.chicagobooth.edu/pub/coursesearch/coursesearch/)
Equivalent Course(s): BUSN 33650

ECON 58700. Workshop in Family Economics. 100 Units.
Faculty led workshop presenting current research in family economics.
Instructor(s): Voena, Alessandra Heckman, James Mogstad, Magne Lamadon, Thibaut Terms Offered: Autumn,Spring,Winter

ECON 58900. Workshop: Demography. 100 Units.
This workshop is sponsored by the Committee on Demographic Training in collaboration with the Population Research Center of NORC and the University. Visitors from other campuses as well as Chicago faculty discuss current research activities in population studies. PQ: Must Register for an R
Equivalent Course(s): SOCI 60001

ECON 59000. Workshop: Applications of Economics. 100 Units.
Faculty led workshop presenting current research in economics applications.
Instructor(s): Hortacsu, Ali Voena, Allesandra Hickman, Brent Philipson, Tomas Akcigit, Ufuk Terms Offered: Autumn,Spring,Winter

ECON 59200. Workshop: Economic Policy/Public Finance. 100 Units.

ECON 59900. Thesis Preparation: Economics. 100 Units.
This course is designed for advanced thesis preparation work sponsored by a faculty member.

ECON 60200. Working Group: Applied Micro. 100 Units.
Faculty and graduate student led working group presenting graduate student research in applied microeconomics.
Instructor(s): Mogstad, Magne Dinerstein, Michael Voena, Alessandra Levitt, Steve Greenstone, Michael Terms Offered: Autumn,Spring,Winter

ECON 60250. Student Applied Micro Working Group. 100 Units.
Graduate student led working group presenting graduate student research in applied microeconomics.
Instructor(s): Steve Levitt Terms Offered: Autumn, Spring, Winter

ECON 60300. Working Group: Economic Dynamics. 100 Units.

ECON 60310. Economics Dynamics. 100 Units.
Faculty and graduate student led working group presenting current research in economic dynamics.
Instructor(s): Hansen, Lars Peter Alvarez, Fernando Terms Offered: Autumn, Spring, Winter
ECON 60400. Working Group: Economic Theory. 100 Units.
Faculty and graduate student led working group presenting graduate student research in economic theory.
Instructor(s): Sonnenschein, Hugo Myerson, Roger Reny, Phil Van Weelden, Richard Terms Offered: Autumn, Spring, Winter

ECON 60600. Working Group: Capital Theory. 100 Units.
Faculty and graduate student led working group presenting graduate student research in capital theory economics.
Instructor(s): Stokey, Nancy Alvarez, Fernando Shimer, Robert Terms Offered: Autumn, Spring, Winter

ECON 60700. Working Group: International Development. 100 Units.

ECON 60900. Working Group: Applied Macroeconomic Theory. 100 Units.
Faculty and graduate student led working group presenting graduate student research in macroeconomic theory.
Instructor(s): Alvarez, Fernando Terms Offered: Autumn, Spring, Winter

ECON 61000. Working Group: Demography Workshop Post-Mortem. 100 Units.
The Post-Mortem Seminar meets immediately following the Demography Workshop each week. The 30 minute discussion occurs immediately after the workshop, offering attendees opportunities to explore the theoretical claims, methods, and findings presented at the Demography Workshop, as well as to consider ethical issues embodied in the presented research and how we can engage in the responsible conduct of research. The PM seminar is led by faculty members and postdoctoral fellows with expertise in the demography and economics of aging, providing attendees with opportunities for intellectual engagement with area experts in a casual discussion-based setting.
Equivalent Course(s): SOCI 60015

ECON 61100. Industrial Organization Working Group. 100 Units.
Faculty and graduate student led working group presenting graduate student research in industrial organization.
Terms Offered: Autumn, Spring, Winter

ECON 61300. EPIC Working Group. 100 Units.
Faculty and graduate student led working group presenting current research in energy and environmental economics.
Instructor(s): Greenstone, Michael Terms Offered: Autumn, Spring, Winter

ECON 61400. Working Group in Econometrics. 100 Units.
Faculty and graduate student led working group presenting graduate student research in econometrics.
Instructor(s): Shaikh, Azeem Terms Offered: Autumn, Spring, Winter

ECON 61500. Trade Working Group. 100 Units.
Faculty and graduate student led working group presenting graduate student research in trade economics.
Instructor(s): Tintelnot, Felix Dingel, Jonathan Terms Offered: Autumn, Spring, Winter

ECON 61810. Macrofinance, Financial Intermediation and Banking Working Group. 100 Units.
Faculty and graduate student led working group presenting graduate student research in economic theory.
Instructor(s): H. Uhlig Terms Offered: Autumn, Spring Winter
Prerequisite(s): Consent of instructor

ECON 63100. Macro Reading Group. 100 Units.
This is a "Sargent-style" reading group for PhD students in their third year or above with an interest in macroeconomics, very broadly defined. Students are required to read a paper of their choice every week, attend a 1.5 hr meeting each week and give regular presentations of various forms and lengths. Active and regular participation is compulsory.
Instructor(s): Greg Kaplan Terms Offered: Autumn, Spring, Winter

ECON 63500. Job Placement Working Group. 000 Units.

ECON 70000. Advanced Study: Economics. 300.00 Units.
Advanced Study: Economics