**COURSE 14 ECONOMICS**

**GENERAL ECONOMICS AND THEORY**

**14.03 Microeconomic Theory and Public Policy**  
(Subject meets with 14.003)  
Prereq: 14.01  
4-0-8  
Applies microeconomic theory to analysis of public policy. Builds from microeconomic model of consumer behavior; extends to operation of single and multiple markets and analysis of why markets sometimes fail. Empirical examples to evaluate theory, focusing on the casual effects of policy interventions on economic outcomes. Topics include minimum wages and employment, food stamps and consumer welfare, economics of risk and safety regulation, the value of education, and gains from international trade. Graduate students are expected to complete additional assignments.  
**Fall: P. Willen**  
**Spring: J. Poterba**

**14.04 Intermediate Microeconomic Theory**  
Prereq: 14.01, Calculus II (GIR)  
U (Fall)  
4-0-8 HASS-S  
Analysis of consumer and producer decisions including analysis of competitive and monopolistic markets. Price-based partial and general equilibrium analysis. Introduction to game theory as a foundation for the strategic analysis of economic situations. Imperfect competition, dynamic games among firms. Failures of general equilibrium theory and their resolutions: externalities, public goods, incomplete information settings, signaling, screening, insurance, alternative market mechanisms, auctions, design of markets.  
**J. Toikka**

**14.05 Intermediate Macroeconomics**  
Prereq: 14.01, 14.02  
U (Fall)  
4-0-8 HASS-S  
Uses the tools of macroeconomics to study various macroeconomic policy problems in depth. The problems range from economic growth in the long run to government finances in the intermediate run and economic stability in the short run. Many economic models used today are surveyed. Requires a substantial research paper on the economics of long-run economic growth.  
**A. Simsek**

**14.08 Technical Topics in Economics**  
Prereq: 14.01  
4-0-8  
Can be repeated for credit  
Considers technical issues of current research interest in economics.  
**Consult Department Headquarters**

**14.09 Reading Seminar in Economics**  
Prereq: 14.04, 14.06  
U (Fall, IAP, Spring, Summer)  
Units arranged [P/D/F]  
Can be repeated for credit  
Considers issues of current research interest in economics.  
Open to undergraduate students by arrangement with individual faculty members.  
**Consult Department Headquarters.**  
**A. Mikushera**

**14.10 Reading Seminar in Economics**  
Prereq: 14.04, 14.06  
U (Fall, IAP, Spring, Summer)  
Units arranged  
Can be repeated for credit  
Reading and discussion of particular topics in economics. Open to undergraduate students by arrangement with individual faculty members.  
**Consult Department Headquarters.**  
**M. Hoffman, E. Yoelli**

**14.11 Topics in Economics**  
Prereq: 14.01  
4-0-8 HASS-S  
Can be repeated for credit  
Considers issues of current research interest in economics.  
**M. Hoffman, E. Yoelli**

**14.12 Economic Applications of Game Theory**  
Prereq: 14.01; 14.03, 6.041 or permission of instructor  
U (Fall)  
4-0-8 HASS-S  
Analysis of strategic behavior in multi-person economic settings. Introduction to solution concepts, such as rationalizability, backwards induction, Nash equilibrium, subgame-perfect
equilibrium, and sequential equilibrium, with a strong emphasis on the assumptions behind these solution concepts. Issues of incomplete information, such as signaling and reputation formation. Applications drawn from microeconomics and political economy. 
M. Yildiz

14.121 Microeconomic Theory I
Prereq: 14.04, permission of instructor
G (Fall; first half of term)
3-0-3 H-LEVEL Grad Credit
Covers consumer and producer theory, markets and competition, and general equilibrium. Covers the tools of identification in price and general equilibrium theory, the fundamental welfare theorems, aggregation, and applications. Enrollment limited; preference to PhD students.
P. Pathak

14.122 Microeconomic Theory II
Prereq: 14.121, permission of instructor
G (Fall; second half of term)
3-0-3 H-LEVEL Grad Credit
Introduction to game theory. Topics include normal form and extensive form games, and games with incomplete information. Enrollment limited.
G. Ellison

14.123 Microeconomic Theory III
Prereq: 14.121, 14.122, permission of instructor
G (Spring)
3-0-3 H-LEVEL Grad Credit
Models of individual decision-making under certainty and uncertainty. Additional topics in game theory. Enrollment limited.
M. Yildiz

14.124 Microeconomic Theory IV
Prereq: 14.123, permission of instructor
G (Spring)
3-0-3 H-LEVEL Grad Credit
Decision-making under uncertainty, information economics, incentive and contract theory. Enrollment limited.
B. Holmstrom

14.125 Market Design
Prereq: 14.124
G (Spring)
4-0-8 H-LEVEL Grad Credit
Theory and practice of market design, building on ideas from microeconomics, game theory and mechanism design. Prominent case studies include auctions, labor markets, school choice, prediction markets, financial markets, and organ exchange clearinghouses.
P. Pathak

14.126 Game Theory
Prereq: 14.122
G (Spring)
3-0-9 H-LEVEL Grad Credit
Rigorous investigation of the evolutionary and epistemic foundations of solution concepts, such as rationalizability and Nash equilibrium. Covers classical topics, such as repeated games, bargaining, and supermodular games as well as new topics such as global games, heterogeneous priors, psychological games, and games without expected utility maximization. Applications provided when available.
M. Yildiz

14.129 Advanced Contract Theory
Prereq: 14.121, 14.281, or permission of instructor
Acad Year 2014–2015: Not offered
Acad Year 2015–2016: G (Spring; second half of term)
3-0-3 H-LEVEL Grad Credit
Recent developments in contract theory. Includes advanced models of moral hazard, adverse selection, mechanism design and incomplete contracts with applications to theory of the firm, organizational design, and financial structure.
Consult R. Townsend

14.137J Psychology and Economics
(Same subject as 9.822J)
Prereq: None
G (Spring)
4-0-8
Examines "psychology appreciation" for economics students. Aims to enhance knowledge and intuition about psychological processes in areas relevant to economics. Increases understanding of psychology as an experimental discipline, with its own distinct rules and style of argument. Topics include self-knowledge, cognitive dissonance, self-deception, emotions, social norms, self-control, learning, mental accounting, memory, individual and group behavior, and some personality and psycho-analytic models. Within each of these topics, we showcase effective and central experiments and discuss their role in the development of psychological theory. Term paper required.
D. Prelec

14.147 Topics in Game Theory
Prereq: 14.126
G (Spring)
4-0-8 H-LEVEL Grad Credit
Advanced subject on topics of current research interest.
M. Manea, A. Wolitzky

14.15J Networks
(Same subject as 6.207J)
Prereq: 6.041 or 14.30
U (Spring)
4-0-8 HASS-S
Highlights common principles that permeate the functioning of diverse technological, economic and social networks. Utilizes three sets of tools for analyzing networks—random graph models, optimization, and game theory—to study informational and learning cascades; economic and financial networks; social influence networks; formation of social groups; communication networks and the Internet; consensus and gossiping; spread and control of epidemics; control and use of energy networks; and biological networks.
Consult D. Acemoglu, M. Dahleh

14.16 Strategy and Information
Prereq: 14.12 or permission of instructor
U (Spring)
4-0-8 HASS-S
Begins with a rigorous overview of the main equilibrium concepts for non-cooperative games in normal and extensive form, with complete or incomplete information. Defines and explores properties of iterated dominance, rationalizability, Nash equilibrium, subgame perfection, perfect Bayesian equilibrium, and sequential, perfect and proper equilibria. Introduces solution concepts for cooperative games and studies non-cooperative implementations. Other topics include matching and allocation problems, auctions and mechanism design, and reputation. Bargaining and networks are recurring themes.
M. Manea

14.19 Market Design
Prereq: 14.04
Acad Year 2014–2015: Not offered
Acad Year 2015–2016: U (Fall)
4-0-8 HASS-S
Covers the design and operation of organized markets, building on ideas from microeconomic and game theory. Topics may include mechanism design, auctions, matching markets, and other resource allocation problems.
Consult P. Pathak
14.191 Independent Research Paper
Prereq: Permission of instructor
G (Fall, IAP, Spring, Summer)
0-12-0 H-LEVEL Grad Credit
Can be repeated for credit
Under supervision of a faculty member approved by Graduate Registration Officer, student writes a substantial, probably publishable research paper. Must be completed by the end of a student’s second year to satisfy the departmental minor requirement.
N. Rose

14.193 Advanced Seminar in Economics
Prereq: 14.121, 14.451
G (Fall, Spring, Summer)
Units arranged H-LEVEL Grad Credit
Can be repeated for credit
Reading and discussion of current topics in economics. Open to advanced graduate students by arrangement with individual members of the staff.
M. Piore

14.195 Reading Seminar in Economics
Prereq: 14.121
G (Fall, Spring, Summer)
Units arranged [P/D/F] H-LEVEL Grad Credit
Can be repeated for credit
Reading and discussion of current topics in economics. Open to advanced graduate students by arrangement with individual members of the staff.

14.197 Independent Research
Prereq: None
G (Fall, IAP, Spring, Summer)
Units arranged [P/D/F]
Can be repeated for credit
Under supervision of a faculty member approved by Graduate Registration Officer, student conducts independent research.
N. Rose

14.198, 14.199 Teaching Introductory Economics
Prereq: None
G (Fall, Spring)
2-0-2 [P/D/F]
Can be repeated for credit
Required of teaching assistants in introductory economics (14.01 and 14.02), under supervision of the faculty member in charge of the subject.
14.198: J. Gruber, J. Harris
14.199: P. Willen, J. Poterba

INDUSTRIAL ORGANIZATION

14.20 Industrial Organization and Competitive Strategy
Prereq: 14.01
U (Spring)
4-0-8 HASS-S
Analyzes the behavior and performance of firms in markets, with a particular focus on strategic interactions. Topics include monopoly, behavior of firms in oligopoly markets, static and dynamic measurement of market performance, pricing and product choice decisions, advertising, research and development, and theory of the firm. Requires attendance and team participation in a Competitive Strategy Game.
N. Rose

14.21 Health Economics
Prereq: 14.01
U (Spring)
3-0-9 HASS-S
Applies theoretical and empirical tools of economics to problems of health and medical care delivery. Concentrates on selected topics such as decision-making under uncertainty, cost-benefit analysis, health insurance, physician remuneration, government regulation, health care systems of developing countries, and the economics of AIDS.
J. E. Harris

14.26 Economics of Incentives: Theory and Applications
Prereq: 14.01
U (Fall)
4-0-8 HASS-S
Rigorous introduction to the economic theory of incentives in conjunction with a wide range of applications. These include, among others, the optimal design of sales and CEO compensation schemes; the impact of incentives on risk-taking and innovation; the analysis of venture capital and other forms of financing; and the implications of informational asymmetries among participants for the functioning of markets.
B. Holmstrom, H. Rantakari

14.27 Economics and E-Commerce
Prereq: 14.01; 6.041 or 14.30
U (Fall)
4-0-8 HASS-S
Uses theoretical economic models and empirical evidence to help understand the growth and future of e-commerce. Economic models help frame class discussions of, among other topics, content provision, privacy, piracy, sales taxation, group purchasing, price search, and advertising on the internet. Empirical project and paper required.
J. Toikka

14.271 Industrial Organization I
Prereq: 14.04
G (Fall)
5-0-7 H-LEVEL Grad Credit
Covers theoretical and empirical work dealing with the structure, behavior, and performance of firms and markets and core issues in antitrust. Topics include: the organization of the firm, monopoly, price discrimination, oligopoly, and auctions. Theoretical and empirical work are integrated in each area.
G. Ellison

14.272 Industrial Organization II
Prereq: 14.271
G (Spring)
5-0-7 H-LEVEL Grad Credit
A continuation of 14.271. Topics covered include horizontal mergers and demand estimation, vertical integration and vertical restraints, natural monopoly and its regulation, public enterprise, political economy of regulation, network access pricing, deregulation of telecommunications, electric power, cable television, transportation sectors, and risk and environmental regulation.
N. Rose, M. Whinston

14.273 Advanced Topics in Industrial Organization
Prereq: 14.271
G (Spring)
5-0-7 H-LEVEL Grad Credit
Studies current research in industrial organization, focusing on specific topics that vary from year to year.
N. Agarwal

14.281 Contract Economics
Prereq: 14.124
G (Fall)
4-0-8 H-LEVEL Grad Credit
Covers theoretical research on contracts in static as well as dynamic settings. Emphasis is on canonical models in contracting (agency theory, mechanism design, incomplete contracting) illustrated by major areas of application (e.g., compensation, labor and capital markets, property rights, organizational design, corporate finance).
J. Toikka
14.282 Introduction to Organizational Economics  
Prereq: 14.124  
G (Fall)  
5-0-7 H-LEVEL Grad Credit  

Begins with survey of contract theory for organizational economists, then introduces the main areas of the field, including the boundary of the firm; decision-making, employment, structures and processes in organizations; and organizations other than firms.  
M. Whinston

14.283 Advanced Topics in Organizational Economics I  
Prereq: 14.282  
G (Spring; first half of term)  
2-0-4 H-LEVEL Grad Credit  

Builds on the work done in 14.282 to develop more in-depth analysis of topics in the field.  
B. Holmstrom

14.284 Advanced Topics in Organizational Economics II  
Prereq: 14.282  
G (Spring; second half of term)  
2-0-4 H-LEVEL Grad Credit  

Builds on the work done in 14.282 to develop more in-depth analysis of topics in the field.  
Consult Department Headquarters

STATISTICS AND ECONOMETRICS

14.30 Introduction to Statistical Methods in Economics  
(Subject meets with 14.300)  
Prereq: Calculus II (GIR)  
U (Fall)  
4-0-8 REST  

Self-contained introduction to probability and statistics with some economic applications. Elements of probability theory, sampling theory, statistical estimation, and hypothesis testing. Students taking graduate version complete additional assignments. May not count toward HASS requirement.  
Consult Department Headquarters

14.300 Introduction to Statistical Methods in Economics (New)  
(Subject meets with 14.30)  
Prereq: Calculus II (GIR)  
G (Fall)  
4-0-8  

Self-contained introduction to probability and statistics with some economic applications. Elements of probability theory, sampling theory, statistical estimation, and hypothesis testing. Graduate students are expected to complete additional assignments.  
Consult Department Headquarters

14.32 Econometrics  
Prereq: 14.30  
U (Fall, Spring)  
4-0-8  

Introduction to econometric models and techniques, emphasizing regression. Advanced topics include instrumental variables, measurement error, and limited dependent variable models. Includes problem sets. May not count toward HASS requirement.  
Fall: A. Mikusheva  
Spring: J. Angrist

14.33 Research and Communication in Economics: Topics, Methods, and Implementation  
Prereq: 14.04, 14.05, 14.32  
U (Fall, Spring)  
3-4-5 Institute LAB  

Exposes students to the process of conducting independent research in empirical economics and effectively communicating the results of the research. Emphasizes econometric analysis of an assigned economic question and culminates in each student choosing an original topic, performing appropriate analysis, and delivering oral and written project reports.  
Fall: H. Williams  
Spring: S. Ellison

14.36 Advanced Econometrics  
Prereq: 14.30, 14.32  
U (Spring)  
4-0-8  

Covers a range of topics including duration models, discrete choice models, differentiated product models, count models and other advanced models that are used in a wide variety of applications in applied microeconomics, financial economics, and business economics. Mastery of one or more techniques taught in class demonstrated through the completion of an econometrics paper.  
A. Galichon

14.381 Statistical Method in Economics  
Prereq: Calculus II (GIR), permission of instructor  
G (Fall)  
5-0-7 H-LEVEL Grad Credit  

Introduction to probability and statistics as background for advanced econometrics and introduction to the linear regression model. Covers elements of probability theory; sampling theory; asymptotic approximations; decision-theory approach to statistical estimation focusing on regression, hypothesis testing; and maximum-likelihood methods. Includes simple and multiple regression, estimation and hypothesis testing. Illustrations from economics and application of these concepts to economic problems. Enrollment limited.  
A. Galichon, A. Mikusheva

14.382 Econometrics  
Prereq: 14.381 or permission of instructor  
G (Spring)  
5-0-7 H-LEVEL Grad Credit  

Regression analysis, focusing on departures from the standard Gauss-Markov assumptions, and simultaneous equations. Regression topics include heteroskedasticity, serial correlation, and errors in variables, generalized least squares, nonlinear regression, and limited dependent variable models. Covers identification and estimation of linear and nonlinear simultaneous equations models. Economic applications are discussed. Enrollment limited.  
V. Chernozhukov

14.384 Time Series Analysis  
Prereq: 14.382 or permission of instructor  
G (Fall)  
5-0-7 H-LEVEL Grad Credit  

Studies theory and application of time series methods in econometrics, including spectral analysis, estimation with stationary and non-stationary processes, VARs, factor models, unit roots, cointegration, estimation of DSGE models, and Bayesian methods. Enrollment limited.  
A. Mikusheva

14.385 Nonlinear Econometric Analysis  
Prereq: 14.382 or permission of instructor  
G (Fall)  
5-0-7 H-LEVEL Grad Credit  

Studies micro-econometric models, including large sample theory for estimation and hypothesis testing, generalized method of moments, estimation of censored and truncated specifications, quantile regression, structural estimation, nonparametric and semiparametric estimation, panel data, bootstrapping, and simulation.
methods. Methods illustrated with economic applications. Enrollment limited.
V. Chernozhukov, W. Newey

14.386 New Econometric Methods
Prereq: 14.382
G (Spring)
4-0-8 H-LEVEL Grad Credit
Focuses on recent developments in econometrics, especially structural estimation. Topics include nonseparable models, models of imperfect competition, auction models, duration models, and nonlinear panel data. Results illustrated with economic applications.
V. Chernozhukov, A. Galichon

14.387 Applied Econometrics
Prereq: 14.382
G (Fall)
2-0-4 [P/D/F] H-LEVEL Grad Credit
Covers core econometric ideas and widely used empirical modeling strategies. Course typically begins with regression and instrumental variables, then moves on to discussion of differences-in-differences and regression discontinuity methods. Concludes with discussions of standard errors, focusing on issues such as clustering and serial correlation.
J. Angrist

14.389 Econometrics Paper
Prereq: 14.382 or 14.32
G (IAP)
0-0-3 H-LEVEL Grad Credit
Paper in econometrics required of all PhD candidates. Paper due at the end of IAP.
J. Hausman

14.391 Workshop in Economic Research
Prereq: 14.124, 14.454
G (Fall)
2-0-10 [P/D/F] H-LEVEL Grad Credit
Can be repeated for credit
14.392 Workshop in Economic Research
Prereq: 14.124, 14.454
G (Spring)
2-0-10 [P/D/F] H-LEVEL Grad Credit
Can be repeated for credit
Develops research ability of students through intensive discussion of dissertation research as it proceeds, individual or group research projects, and critical appraisal of current reported research. Workshops divided into various fields, depending on interest and size.
Consult N. Rose

For additional related subjects in statistics, see:
Civil and Environmental Engineering: 1.151, 1.155, 1.202J, 1.203J, 1.205J
Electrical Engineering and Computer Science: 6.041, 6.231, 6.245, 6.262, 6.431, 6.432, and 6.435
Management: 15.034, 15.061, 15.065, 15.070, 15.075, 15.076, 15.098, and 15.306
Mathematics: 18.05, 18.175, 18.177, 18.440, 18.441, 18.443, 18.445, 18.458, and 18.465
See also: 2.061, 2.830, 5.70, 5.72, 7.02, 8.044, 8.08, 10.816, 11.220, 11.221, 16.322, 17.872, 17.874, 22.38, HST.191, and MAS.622J.

NATIONAL INCOME AND FINANCE

14.41 Public Finance and Public Policy
Prereq: 14.01
Acad Year 2014–2015: Not offered
Acad Year 2015–2016: U (Fall)
4-0-8 HASS-S
Explores the role of government in the economy, applying tools of basic microeconomics to answer important policy questions such as government response to global warming, school choice by K-12 students, Social Security versus private retirement savings accounts, government versus private health insurance, setting income tax rates for individuals and corporations.
Consult J. Gruber

14.416J Introduction to Financial Economics
(Same subject as 15.416J)
Prereq: 14.121, 14.122
G (Fall)
4-0-8 H-LEVEL Grad Credit
Can be repeated for credit
14.42 Environmental Policy and Economics
(Same subject as 15.161J, 15.031J, 17.397J, 21A.415J)
Prereq: 14.01, 15.016, or permission of instructor
Acad Year 2014–2015: Not offered
Acad Year 2015–2016: U (Fall)
4-0-8 HASS-S
Explores business and public policy issues in energy markets and in the environmental markets to which they are closely tied. Examines the economic determinants of industry structure and evolution of competition among firms in these industries. Investigates successful and unsuccessful strategies for entering new markets and competing in existing markets. Industries studied include oil, natural gas, coal, electricity, and transportation. Topics include climate change and environmental policy, the role of speculation in energy markets, the political economy of energy policies, and market power and antitrust. Two team-based simulation games, representing the world oil market and a deregulated electricity market, act to cement the concepts covered in lecture. Students taking graduate version complete additional assignments. Limited to 60.
C. Knittel

(Same subject as 15.440J)
Prereq: 15.416
G (Fall)
5-0-7 H-LEVEL Grad Credit
See description under subject 15.440J.
H. Chen, L. Kogan
**14.441J Advanced Financial Economics II**
(Same subject as 15.441J)
Prereq: 14.121, 14.122, or 15.416J
G (Spring)
3-0-9 H-LEVEL Grad Credit
See description under subject 15.441J.
Staff

**14.442J Advanced Financial Economics III**
(Same subject as 15.442J)
Prereq: 14.382, 15.416J, or permission of instructor
G (Spring)
3-0-9 H-LEVEL Grad Credit
See description under subject 15.442J.
Staff

(Same subject as 15.038J)
Prereq: 14.01
G (Spring)
4-0-8
Credit cannot also be received for 14.44, 15.037
Theoretical and empirical perspectives on individual and industrial demand for energy, energy supply, energy markets, and public policies affecting energy markets. Discusses aspects of the oil, natural gas, electricity, and nuclear power sectors. Examines energy tax, price regulation, deregulation, energy efficiency and policies for controlling pollution and CO2 emissions. Students taking the graduate version complete additional assignments. Limited to 60.
C. Knittel

**14.45 Financial Economics**
Prereq: 14.03 or 14.04; 14.32
Acad Year 2014–2015: Not offered
Acad Year 2015–2016: U (Fall)
4-0-8 HASS-S
Self-contained introduction to the theory of investment decisions under uncertainty. Topics include interest rates, net present value, fixed income securities, the term structure of interest rates, portfolio separation theorems, capital asset pricing models, factor models, risk neutral pricing, valuation of options, and intertemporal consumption and investment models. Emphasis on empirical implementation of theoretical concepts.
Consult V. Chernozhukov

**14.451 Dynamic Optimization Methods with Applications**
Prereq: 14.06, permission of instructor
G (Fall; first half of term)
3-0-3 H-LEVEL Grad Credit
Provides an introduction to dynamic optimization methods, including discrete-time dynamic programming in non-stochastic and stochastic environments, and continuous time methods including the Pontryagin maximum principle. Applications may include the Ramsey model, irreversible investment models, and consumption choices under uncertainty. Enrollment limited.
A. Simsek

**14.452 Economic Growth**
Prereq: 14.451, permission of instructor
G (Fall; second half of term)
3-0-3 H-LEVEL Grad Credit
Introduces the sources and modeling of economic growth and income differences across nations. Topics include an introduction to dynamic general equilibrium theory, the neoclassical growth model, overlapping generations, determinants of technological progress, endogenous growth models, measurement of technological progress, the role of human capital in economic growth, and growth in a global economy. Enrollment limited.
D. Acemoglu

**14.453 Economic Fluctuations**
Prereq: 14.452, permission of instructor
G (Spring; first half of term)
3-0-3 H-LEVEL Grad Credit
Investigation of why aggregate economic activity fluctuates, and the role of policy in affecting fluctuations. Topics include the link between monetary policy and output, the economic cost of aggregate fluctuations, the costs and benefits of price stability, and the role of central banks. Introduction to real business cycle and new Keynesian models. Enrollment limited.
L. Werning

**14.454 Economic Crises**
Prereq: 14.453, permission of instructor
G (Spring; second half of term)
3-0-3 H-LEVEL Grad Credit
Introduction to current macroeconomic concerns with particular emphasis on medium-run economic fluctuations, economic crises, and the role of asset markets. Topics include the explanation of high chronic unemployment in some nations, the source of modern liquidity crises, the origin and end of speculative bubbles, and the factors that lead to substantial periods of economic stagnation. Enrollment limited.
R. Caballero

**14.461 Advanced Macroeconomics I**
Prereq: 14.122, 14.452
G (Fall)
5-0-7 H-LEVEL Grad Credit
Advanced subject in macroeconomics that seeks to bring students to the research frontier. Topics vary from year to year, covering a wide spectrum of classical and recent research. Topics may include business cycles, optimal monetary and tax policy, monetary economics, banking, and financial constraints on investment and incomplete markets.
D. Acemoglu, A. Burstein

**14.462 Advanced Macroeconomics II**
Prereq: 14.461
G (Spring)
5-0-7 H-LEVEL Grad Credit
Advanced topics on business cycles and crises, informational frictions, coordination problems, global games; DSGE models; financial frictions.
I. Werning

**14.471 Public Economics I**
Prereq: 14.04
G (Fall)
4-0-8 H-LEVEL Grad Credit
Theory and evidence on government taxation policy. Topics include tax incidence; optimal tax theory; the effect of taxation on labor supply and savings; taxation and corporate behavior; and tax expenditure policy.
J. Poterba, I. Werning

**14.472 Public Economics II**
Prereq: 14.471
G (Spring)
3-0-9 H-LEVEL Grad Credit
Theory and evidence on government expenditure policy and on regulatory and tax responses to problems of market failure. Topics include social insurance programs such as social security and unemployment insurance; health care policy; cost-benefit analysis in the context of climate change; externalities, public goods, measurement of willingness to pay for non-market goods; environmental policy, including climate policies; redistribution and the welfare state.
A. Finkelstein
14.473 Public Policy in Health Economics
Prereq: 14.122
G (Spring)
4-0-8 H-LEVEL Grad Credit
Theory and evidence on the economics of the health care sector. Particular focus on the causes and consequences of rising health expenditures; technological change and productivity in the health care sector; and the impact of health insurance.
H. Williams

14.51 Urban and Regional Economics
(Subject meets with 1.283J, 11.410J, 14.573J, ESD.191J)
Prereq: 14.04, 14.32
Acad Year 2014–2015: Not offered
Acad Year 2015–2016: U (Spring)
3-0-9 HASS-S
Focuses on the theory of urban land and housing markets, and the spatial development of cities. Examines the roles played by transportation systems and local governments in shaping urban location patterns. Discusses interregional competition, economic development, and the migration of labor and capital. Students taking the graduate version complete additional assignments.
Consult W. Wheaton

14.54 International Trade
Prereq: 14.01, 14.02
U (Fall)
4-0-8 HASS-S
Introduction to the theory of international trade and finance with applications to current policy issues.
P. Antrás

14.573J Urban and Regional Economics
(Same subject as 1.283J, 11.410J, ESD.191J)
Prereq: 14.04, 14.32
Acad Year 2014–2015: Not offered
Acad Year 2015–2016: G (Spring)
3-0-9-LEVEL Grad Credit
Focuses on the theory of urban land and housing markets, and the spatial development of cities. Examines the roles played by transportation systems and local governments in shaping urban location patterns. Discusses interregional competition, economic development, and the migration of labor and capital. Students taking the graduate version complete additional assignments.
Consult W. Wheaton

14.581 International Economics I
Prereq: 14.04
G (Spring)
5-0-7 H-LEVEL Grad Credit
Theory of international trade and foreign investment with applications in commercial policy.
A. Costinot

14.582 International Economics II
Prereq: 14.06
G (Fall)
5-0-7 H-LEVEL Grad Credit
Covers international capital flows, exchange rate fluctuations, global capital markets, emerging markets, crises, sovereign debt, international financial architecture, and bubbles.
A. Burstein, I. Werning

14.64 Labor Economics and Public Policy
Prereq: 14.30 or permission of instructor
Acad Year 2014–2015: Not offered
Acad Year 2015–2016: U (Spring)
4-0-8 HASS-S
Provides an introduction to the labor market, how it functions, and the important role it plays in people’s lives world-wide. Topics include supply and demand, minimum wages, labor market effects of social insurance and welfare programs, the collective bargaining relationship, discrimination, human capital, and unemployment. Completion of or concurrent enrollment in 14.03 or 14.04 recommended.
Consult J. Angrist

14.661 Labor Economics I
Prereq: 14.04, 14.32
G (Fall)
5-0-7 H-LEVEL Grad Credit
A systematic development of the theory of labor supply, labor demand, and human capital. Topics include wage and employment determination, turnover, search, immigration, unemployment, equalizing differences, and institutions in the labor market. Particular emphasis on the interaction between theoretical and empirical modeling.
D. Acemoglu, P. Pathak

14.662 Labor Economics II
Prereq: 14.64 or 15.660
G (Spring)
5-0-7 H-LEVEL Grad Credit
Theory and evidence on the determinants of earnings levels, inequality, intergenerational mobility, skill demands, and employment structure. Particular focus on the determinants of worker- and firm-level productivity; and the roles played by supply, demand, institutions, technology and trade in the evolving distribution of income.
D. Autor, H. Williams

14.70j Medieval Economic History in Comparative Perspective
(See description under subject 21H.134J).
Prereq: None
U (Spring)
3-0-9 HASS-S; CI-H
See description under subject 21H.134J.
A. McCants, S. Ostrow

14.73 The Challenge of World Poverty
Prereq: None
Acad Year 2014–2015: Not offered
Acad Year 2015–2016: U (Spring)
4-0-8 HASS-S
Designed for students who are interested in the challenge posed by massive and persistent world poverty. Examines extreme poverty over time to see if it is no longer a threat, why some countries grow fast and others fall further behind, if growth or foreign aid help the poor, what we can do about corruption, if markets or NGOs should be left to deal with poverty, where to intervene, and how to deal with the disease burden and improve schools.
Consult E. Duflo

ECONOMIC HISTORY

ECONOMIC DEVELOPMENT

14.74 Foundations of Development Policy
(Subject meets with 14.740)
Prereq: 14.01, 14.30
U (Spring)
4-0-8 HASS-S
14.740 Foundations of Development Policy
(Subject meets with 14.74)
Prereq: 14.01, 14.30
G (Spring)
4-0-8
Explores the foundations of policy making in developing countries. Goal is to spell out various
policy options and to quantify the trade-offs between them. Special emphasis on education, health, gender, fertility, adoption of technological innovation, and the markets for land, credit, and labor. Students taking the graduate version complete additional assignments.

E. Duflo, B. Olken

14.75 Political Economy and Economic Development
Prereq: 14.01, 14.30
Acad Year 2014–2015: Not offered
Acad Year 2015–2016: U (Fall)
4-0-8 HASS-S

Explores the relationship between political institutions and economic development, covering key theoretical issues as well as recent empirical evidence. Topics include corruption, democracy, dictatorship, and war. Discusses not just what we know on these topics, but how we know it, covering how to craft a good empirical study or field experiment and how to discriminate between reliable and unreliable evidence.

Consult B. Olken

14.770 Introduction to Collective Choice and Political Economy
Prereq: None
G (Fall)
4-0-8

Broad introduction to political economy. Covers topics from social choice theory to political agency models, including theories of voter turnout and comparison of political institutions.

B. Olken

14.771 Development Economics: Microeconomic Issues
Prereq: 14.121, 14.122
G (Fall)
5-0-7 H-LEVEL Grad Credit

Addresses agricultural issues, such as peasant behavior, land tenancy, and interlinked markets; credit and insurance market problems and institutions; and health, nutrition, and productivity. Also covers gender bias, education, technological change, and government failures.

S. Jayachandran, B. Olken

14.772 Development Economics: Macroeconomics
Prereq: 14.121, 14.451
G (Spring)
5-0-7 H-LEVEL Grad Credit

Dynamic models of growth and development emphasizing migration, modernization, and technological change; static and dynamic models of political economy; the dynamics of income distribution and institutional change; firm structure in developing countries; development, transparency, and functioning of financial markets; privatization; and banks and credit market institutions in emerging markets.

A. Banerjee, E. Duflo

14.773 Political Economy: Institutions and Development
Prereq: 14.121,14.451
G (Spring)
5-0-7 H-LEVEL Grad Credit

Economists and policymakers increasingly realize the importance of political institutions in shaping economic performance, especially in the context of understanding economic development. Work on the determinants of economic policies and institutions is in its infancy, but is growing rapidly. Subject provides an introduction to this area. Topics covered: the economic role of institutions; the effects of social conflict and class conflict on economic development; political economic determinants of macro policies; political development; theories of income distribution and distributional conflict; the efficiency effects of distributional conflict; the causes and consequences of corruption; the role of colonial history; and others. Both theoretical and empirical approaches discussed. Subject can be taken either as part of the Development Economics or the Positive Political Economy fields.

D. Acemoglu, A. Banerjee

14.781J Political Economy I: Theories of the State and the Economy
(Same subject as 15.678J, 17.100J)
Prereq: Permission of instructor
G (Fall)
3-0-9 H-LEVEL Grad Credit

See description under subject 17.100J.

M. Piore, S. Berger

14.THG Graduate Thesis
Prereq: Permission of instructor
G (Fall, IAP, Spring, Summer)
Units arranged
Can be repeated for credit

Program of research and writing of thesis.

Staff

14.UR Undergraduate Research
Prereq: 14.02
U (Fall, IAP, Spring, Summer)
Units arranged [P/D/F]
Can be repeated for credit

Participation in research with an individual faculty member or research group, independent research or study under the guidance of a faculty member. Admission by arrangement with individual faculty member.

Consult A. Mikusheva

14.URG Undergraduate Research
Prereq: 14.02
U (Fall, IAP, Spring, Summer)
Units arranged
Can be repeated for credit

Participation in research with an individual faculty member or research group, independent research or study under the guidance of a faculty member. Admission by arrangement with individual faculty member.

Consult A. Mikusheva
## Bachelor of Science in Economics/Course 14

### General Institute Requirements (GIRs)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Humanities, Arts, and Social Sciences Requirement <a href="1">three subjects can be satisfied by subjects in the Departmental Program</a></td>
<td>8</td>
</tr>
<tr>
<td>Restricted Electives in Science and Technology (REST) Requirement [one subject can be satisfied by 14.30 in the Departmental Program]</td>
<td>2</td>
</tr>
<tr>
<td>Laboratory Requirement [can be satisfied by 14.33 in the Departmental Program]</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total GIR Subjects Required for SB Degree**

17

### Communication Requirement

The program includes a Communication Requirement of 4 subjects: 2 subjects designated as Communication Intensive in Humanities, Arts, and Social Sciences (CI-H); and 2 subjects designated as Communication Intensive in the Major (CI-M).

### PLUS Departmental Program

Subject names below are followed by credit units, and by prerequisites if any (corequisites in italics).

#### Required Subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.01 Principles of Microeconomics, 12, HASS-S</td>
<td>96–99</td>
</tr>
<tr>
<td>14.02 Principles of Macroeconomics, 12, HASS-S</td>
<td></td>
</tr>
<tr>
<td>14.04 Intermediate Microeconomic Theory, 12, HASS-S; 14.01, Calculus II (GIR)</td>
<td></td>
</tr>
<tr>
<td>14.05 Intermediate Macroeconomics, 12, HASS-S, CI-M; 14.02, 14.02</td>
<td></td>
</tr>
<tr>
<td>14.30 Introduction to Statistical Method in Economics,(2) 12, REST; Calculus II (GIR)</td>
<td></td>
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<tr>
<td>14.32 Econometrics, 12, 14.30</td>
<td></td>
</tr>
<tr>
<td>14.33 Research and Communication in Economics, 12, LAB, CI-M; 14.04, 14.05, 14.32</td>
<td></td>
</tr>
<tr>
<td>14.ThU Thesis (15 units), 14.33(3)</td>
<td></td>
</tr>
</tbody>
</table>

#### Restricted Electives

Elective subjects in economics

60

#### Departmental Program Units That Also Satisfy the GIRs

(60)

#### Unrestricted Electives

81–84

**Total Units Beyond the GIRs Required for SB Degree**

180

No subject can be counted both as part of the 17-subject GIRs and as part of the 180 units required beyond the GIRs. Every subject in the student’s departmental program will count toward one or the other, but not both.

### Notes

* Alternate prerequisites and corequisites are listed in the subject description.

(1) No more than three subjects in economics may be used for the Humanities, Arts, and Social Sciences Requirement.

(2) Or an approved alternative in statistics.

(3) May be replaced by an additional elective subject in economics.

For an explanation of credit units, or hours, please refer to the online help of the MIT Subject Listing & Schedule, [http://student.mit.edu/catalog/index.cgi](http://student.mit.edu/catalog/index.cgi).