

COURSES OF INSTRUCTION AND RESEARCH

Not all courses are given every year. To ascertain which of the following courses is given in each of the next two years and their times, consult the separate Registrar's Schedule of Classes.

First-Year Program

ECON G6211-G6212. Microeconomic Analysis, I and II. 4 pts. *Prerequisite:* permission of Director of Graduate Studies. *Corequisite:* ECON G6410. Consumer and producer behavior; general competitive equilibrium, welfare and efficiency, behavior under uncertainty, intertemporal allocation and capital theory, imperfect competition, elements of game theory, problems of information, economies with price rigidities.

ECON G6215-G6216. Macroeconomic Analysis. 4 pts. *Prerequisite:* permission of Director of Graduate Studies. *Corequisite:* ECON G6410. Concept of full employment. Models of underemployment and theory applicability, determinants of consumption and of investment, multiplier and accelerator analysis, an introduction to monetary macroeconomics, the supply side and inflation.. Integration of macroeconomics with microeconomic and monetary analysis.

ECON G6410. Mathematical Methods for Economists 4 pts. Primarily for graduate students in the Department of Economics and Business Finance; open to others after successful performance on a Math Placement Exam. *Prerequisite:* multi-variable differential calculus, linear algebra and basic real analysis. Introduction to the mathematical techniques needed for the study of economics and econometric methods. Topics include the vector spaces, Hilbert spaces, Banach spaces, linear transformations; optimization theory, and linear differential and difference equations.

ECON G6411-G6412. Introduction to Econometrics, I and II. 4 pts. *Prerequisite:* permission of Director of Graduate Studies. *Corequisite:* ECON G6410. or the equivalent background in the calculus of several variables and linear algebra. Designed to provide students with the statistical and econometric methods necessary for quantitative research in economics. *G6411:* introduction to probability theory and statistical inference. *G6412:* introduction to the general linear model and its use in econometrics, including the consequences of departures from the standard assumptions.

Development

ECON G6301. Economic Growth and Development, I. 3 pts. *Prerequisite:* ECON G6211. Empirical findings on economic development, theoretical development models; problems of efficient resource allocation in a growing economy; balanced and unbalanced growth in closed and open economic systems; the role of capital accumulation and innovation in economic growth.

ECON G6303. Economic Growth and Development, II. 3 pts. This course examines the micro-economic development literature, with an emphasis on empirical applications. Topics include: nutrition, fertility, gender bias, health, credit and insurance, and institutions.

ECON G6305. Science, Technology and Economic Growth. 3 pts. *Prerequisites:* intermediate micro-and macroeconomics. Survey of research by economists and other social scientists on technological advances. The role of technological advances in economic analysis of economic growth, industrial organization, and science and technology policy are examined in detail.

ECON G6306. Industrial Development 3 pts. *Prerequisites:* ECON G6211, ECON G6212, ECON G6411, ECON G6412. Survey of recent work on the microeconomics of the industrial sector in developing countries, with a primarily empirical focus. Topics include: credit constraints, industrial organization and market structure, learning and technology adoption, dualism in labor markets, varieties of labor contracts, returns to skill, the informal sector, trade and foreign direct investment, and the political economy of industrial policy.

ECON G6806. Public Finance II. 3 pts. *Prerequisites:* Provides an overview of issues surrounding public service provision and local public finance in the U.S. and developing countries (G6806 is also part of the Public Finance field). The emphasis is on topics related to empirics (e.g. research designs) and education; applied theoretical work appears as well.

Econometrics

ECON G6417. Microeconometrics. 3 pts. *Prerequisites:* ECON G6411 and ECON G6412 and permission of Director of Graduate Studies. Introduction to applied econometrics, the fundamentals of identifying the testable implications of an economic model and subjecting those implications to econometric tests through the use of the appropriate data and methodology.

ECON G6429, Empirical Methods in Macroeconomics 3 pts. *Prerequisites:* ECON G6411 and ECON G6412. Methods of modern econometrics designed specifically for macroeconomic analysis. Topics include basic ARMA models, spectral analysis, structural breaks and parameter instability, estimation and inference using vector autoregressions, unit root and cointegration, Kalman filter, weak instruments, MCMC, factor models, and estimation of DSGE models.

ECON G6423. Applied Econometrics. 3 pts. *Prerequisites:* ECON G6411-G6412 or instructor's permission. Emphasis on the practical applications of econometric theory as developed in other courses. Specific problems in the specification, estimation, and testing of various microeconomic theories of demand, production, and labor as well as the macroeconomic relations of monetary, inflation, and unemployment theory. The formulation and use of econometric models. Emphasis on preliminary data analysis, reliability of data, and discrimination between competing models on the basis of empirical tests.

ECON G6425-G6426. Econometric Theory, I and II 3 pts. *Prerequisites:* ECON G6411-G6412 or instructor's permission. *G6425:* the theory of estimation for simultaneous equations systems; two-stage least squares, three-stage least squares, indirect least squares, instrumental variable techniques, and other distribution free methods. *G6426:* the identification problem; the Cowles Commission construction - structure and model; identifiability in the context of linear simultaneous equations models;

extensions to nonlinear models; nonparametric identification; identifiability in semiparametric models – GMM identification; nonstandard models - set identification.

ECON G6427. Topics in Econometrics I 3 pts. *Prerequisites: ECON G6411 or G6412 and instructor's permission.* Topics vary from year to year and include advanced aspects of distributed lag estimation and dynamic simultaneous equations models with autoregressive errors, the use of prior information in econometric models, application of spectral analytic methods in econometrics, limited dependent variables, small sample properties for estimators in simultaneous equations models, prediction and stochastic control of time series.

ECON G6428. Topics in Econometrics, II. 3 pts. The fundamental methods of modern econometrics designed specifically for microeconomic problems. Linear and nonlinear models for panel (or longitudinal) data sets, and parametric and semiparametric analysis of limited dependent variable models.

ECON G8310. Colloquium in Econometrics. 3 pts. Open only to Economics Ph.D. students. Students present their research on topics in Econometrics..

History of Economic Thought

ECON G6235. History of Economic Thought. 3 pts. An examination of the foundations of economic analysis, with particular attention to the neoclassical tradition. Perspectives on the history of economic thought.

Industrial Organization and Regulation

ECON G6251. Topics in Industrial Organization. 3 pts. *Prerequisite: Instructor's permission.* Recent developments in the theory of organization and structure of markets. Recent contributions to oligopoly theory of homogeneous and differentiated products. The theory of contestable markets.

ECON G6253. Industrial Organization I. 3 pts. *Prerequisites: ECON G6211 and G6212.* This course provides an overview of topics in industrial organization (IO) economics. Its goals are to survey the main outlines of modern IO, to develop key theoretical ideas, to demonstrate important techniques, to link theory to empirical work, and to relate theoretical and empirical results to policy issues.

ECON G6254. Industrial Organization II. 3 pts. *Prerequisites: ECON G6211 and G6212.* Detailed coverage of particular empirical methods and experience of reading and evaluating empirical papers. Estimating equilibria in homogeneous and heterogeneous product markets. Details and applications of demand estimation. Production and cost functions. Empirical models of price discrimination and of vertical contracting and integration. Empirical two-period models. Empirical single-agent and multiple-agent dynamic models.

ECON G6255. Industrial Organization III 3 pts. *Prerequisites: ECON G6253 or instructor's permission.* Overview of basic research and advanced topics in the theory of Industrial Organization such as the theory of collusion. Current activity in the field.

ECON G8440 Industrial Organization Colloquium 3 pts. Open only to Economics Ph.D. students. Students present their research on topics in Industrial Organization.

International Economics

ECON G6809 International Finance. 3 pts. *Prerequisites: ECON G6211, ECON G6212, ECON G6215, ECON G6216.* This course examines international real and monetary business cycle models to explain economic fluctuations of main macroeconomic variables within and across countries.

ECON G6901. Strategic Issues in Trade and Financial Policy. 3 pts. The objective of this course is to build a game-theoretic framework for thinking about trade and financial policies. Composed of three parts. In the first, a basic introduction to game theory is given; in the second, strategic trade policy is analyzed; and in the last, some issues in financial policies, such as debt and capital controls are considered.

ECON G6902 Theory of Trade Agreements. 3 pts. *Prerequisites: G6211 AND G6212* or instructor's permission. The theory of trade agreements: terms of trade and political economy theories. The interpretation and design of trade agreements: reciprocal liberalization; non-discriminatory (MFN) tariffs; enforcement; preferential trading agreements; labor and the environment; competition policy; export subsidies and anti-dumping policies.

ECON G6903. Theory of International Trade. 3 pts. *Prerequisites: ECON G6211 and G4213* or instructor's permission. The theory of comparative advantage, the gains from trade, trade and income distribution, international factor mobility, growth and trade.

ECON G6904. International Money and Finance. 3 pts. *Prerequisite: instructor's permission.* This is a course that covers the most important empirical and theoretical new research as well as the essential papers in the field of international finance and macroeconomics. Topics include but are not limited to: optimal monetary policy in the open economy, theory and empirics of exchange rate determination with inflation targeting central banks, intertemporal approach to current account/financial adjustment, No - Arbitrage models of risk premia in the foreign exchange market, and models of international financial crises/lending booms.

ECON G6905. Topics in Trade and Development. 3 pts. *Prerequisite: ECON G6301 or G6903* or instructor's permission. Selected advanced topics in trade and development.

ECON G6906. Topics in International Monetary Economics. 3 pts. *Prerequisites: ECON G4213, G6211, and G6904.* Selected advanced topics in the macroeconomics of open economics.

ECON G6907. Theory of Commercial Policy. 3 pts. *Prerequisite: ECON G6211* or instructor's permission. The welfare economics of international trade and investment; analysis and evaluation of the effects of tariffs and quotas on production, consumption, and trade under competitive and monopolistic conditions; retaliation and trade warfare; the theory of optimal intervention in the presence of distortions of the price system; the brain drain and taxation; optimal trade and tax policy in the context of international factor mobility.

ECON G6908. Global Economic Policy. 3 pts. Concepts of gross world product and gross trade product. Global monetary aggregates—the international capital markets: past, present, and future trends. Theory of dominant currencies and currency areas. The international general equilibrium system. Impediments to global efficiency. International macroeconomic and development policies. Economic and political control of resources and transport. International pollution. World inflation and depression. Control of international business cycle. Global banking complexes. Stability of the Eurodollar market. Evaluation of 20th-century economic experience in the historical perspective of the world economic system. Challenges of the 1970s and prospects for the 1980s

ECON G6910. Topics in Economic Geography. 3 pts. Recent trends in economic geography. The major ideas of economic geography and how they can be empirically implemented and tested. Emphasis on locational theories arising from models based on comparative advantage and increasing returns.

ECON G8708. Colloquium in International Trade. 3 pts. Open only to Economics Ph.D. students. Students present original research in the field of International Trade.

Labor Economics

ECON G6451-G6452. Economics of Labor, I and II. 3 pts. Prerequisite: completion of 1st year graduate program in Economics, or permission of the instructor plus passage of the math qualifying exam. *G6451*: Introduction to labor economics, theory and practice. *G6452*: Further work on human capital, economics of education and other topics in labor economics emphasizing empirical tools.

ECON G6456. Topics in Labor Economics. 3 pts. Prerequisite: *ECON G6451-G6452*. Focus on selected subjects of analytical or policy interest in the field of labor. Examples: newly evolving theoretical models of labor market and demographic behavior; effects of specific labor market policies; use of econometric techniques which frequently arise in labor economics.

Macroeconomics and Monetary Theory

ECON G6217. Topics in Macroeconomic Dynamics. 3 pts. *G6217*: Topics in Macroeconomic Dynamics [Aggregation of Heterogeneous Goods and Agents]: *Leahy* This course will survey several topics in macroeconomics with heterogeneous goods and agents. Questions include: the characterization of equilibrium dynamics in the presence of frictions and the allocation of resources in the presence of heterogeneity. The presentation will mix classical problems with modern applications with the goal of preparing students for their own research. Topics include: models of search and matching (with applications to labor markets); macroeconomic dynamics in the presence of frictions (with applications to pricing and investment); the allocation problem (with applications to consumer durables, location theory, and international trade).

ECON G6220. Advanced Macroeconomic Analysis, I. 3 pts. Prerequisites: *ECON*

G6216 and *G6412* or instructor's permission. Starting from the benchmark of rational expectations, where agents at all dates know the full state of the economy and know the structure that generated this state, the course presents several alternative models of imperfect information and expectations, and explores their implications for macroeconomic dynamics. These include: (i) models where agents know the structure but only exogenously observe part of the state (signal extraction and global games), (ii) models where agents do not know the structure but can learn about it (Bayesian learning), (iii) models where agents do not know the structure and use boundedly-rational mechanisms to form expectations (least-squares learning), (iv) models where agents only observe part of the state each date but choose which part (rational inattention), (v) models where agents choose when to observe the state (inattentiveness and sticky information), (vi) models where agents receive incomplete news today about the future state (news shocks). Applications will include consumption, business cycles, inflation, and monetary policy.

ECON G6221. Macroeconomics and General Equilibrium Theory. *3 pts.* For second year graduate students. Prerequisite: *ECON G6212* or the equivalent, and a basic knowledge of calculus and box diagram techniques. This course deals with macroeconomic theory from a general equilibrium perspective, with particular emphasis on general equilibrium models with monopolistically competitive markets.

ECON G6222. Advanced Macroeconomic Analysis, II. *3 pts.* Prerequisites: *ECON G6216* and *G6412*, or instructor's permission. This course deals with business cycle theories and methods for evaluating such theories. The course extends the canonical real business cycle model to analyze models with cyclical variation in markups, models of endogenous fluctuations, and models of news-driven short-run fluctuations. Attention is given to numerical methods to approximate the dynamics implied by stochastic general equilibrium models, with particular emphasis given to perturbation methods. The course will also include an operational introduction to full and limited-information approaches to the estimation of DSGE models.

ECON G6225 Topics in Economic Analysis, I *3 pts.* Prerequisites: *ECON G6216* and *G6412*, or instructor's permission. This course covers several topics in macroeconomics and international macroeconomics, focusing on how heterogeneous individuals (or countries) respond to income fluctuations. International topics include the standard international business cycle setup, its calibration and main results; international risk-sharing; trade puzzles; and measurement issues. We will also cover individual decision making models in which individuals respond to income fluctuations under complete and incomplete markets, under full and asymmetric information. We will consider how policy can affect risk-sharing and welfare in these setups. Computational topics that are treated include local versus global solution methods, interpolation methods, continuous time methods, and high performance computing.

ECON G6226. Applied Macroeconomics and Finance *3 pts.*

This course will cover a variety of topics in macroeconomics with a heavy emphasis on facts and applied work, and some applications to asset pricing. All are areas of ongoing current research. If time permits, we will cover five topics: 1) Evidence and selected theory on the equity premium puzzle, with an emphasis on fat-tails and disasters, 2) Credit and the Great Depression, 3) Macroeconomic trends with applications to asset pricing, 4) Theory and evidence on reallocation of capital, jobs and workers and 5) Lumpy adjustment of

prices, investment and inventories.

ECON G6419. Complexity and Indeterminacy In Economic Models. 3 pts.

Introduction to recent developments in mathematical economic modeling that involve dynamic instability, indeterminacy and complexity.

ECON G6712. Monetary Theory and Policy. 3 pts. Prerequisite: *ECON G6211, G6212, or G6215-G6216*. The course emphasizes the use of dynamic equilibrium models in monetary policy analysis, with particular emphasis on analyses of optimal policy from the point of view of individual welfare. Topics treated in detail include the role of policy commitment, welfare evaluation of policy rules, inflation targeting, and integrated analysis of monetary and fiscal policy. The second half of the course will be largely devoted to monetary policy issues for open and developing economies. It begins with basic models of business cycles and current account determination in open economies. These building blocks are then used to analyze theories of high-inflation stabilization, balance-of-payments crises, and sovereign debt default.

ECON G6909. Empirical Topics in International Economics. 3 pts. On the real side of international economics, topics include the testing of various trade theories, estimation of import demands, measurement of the gains from trade, effective rates of protection and development planning, and the determinants of tariffs. The monetary side is an empirical study of the determinants of capital flows and exchange rates: relative prices and trade flows, exchange rates and macroeconomic stability, and efficiency in the foreign exchange market

ECON G8718. Monetary Economics Colloquium. 3 pts. Prerequisites: *G6215 and G6216* Open only to Economics Ph.D. students. The topic of the colloquium is to be understood broadly, including in particular international monetary economics, stabilization policies, and the role of expectations in economic dynamics

ECON G8315. Economic Fluctuations Colloquium. 3 pts. Prerequisites: *G6215 and G6216* Open only to Economics Ph.D. students. Open-economy macroeconomics, computational methods for dynamic equilibrium analysis, and sources of business cycles.

Microeconomic Theory and Mathematical Economics

ECON G6218. Advanced Microeconomic Analysis, I. 3 pts. Prerequisites: *G6211 and G6212* or permission of the instructor. Main areas covered include pure and applied game theory, asymmetric information, communication, and learning.

ECON G6219. Advanced Microeconomic Analysis, II. 3 pts. Prerequisite: instructor's permission. Dynamic economics with an application to global warming. The first half of the class will study the theory of dynamic games while the second half will apply that theory to the burgeoning field of climate change analyses. Topics in the second half will include the tragedy of the common, effects of asymmetric costs, treaty formation, and role of foreign aid.

ECON G6232. Analyzing and Modeling Group Decisions. 3 pts. Prerequisites: *ECON G6211, G6212, ECON G6411, ECON G6412*. The course will be devoted to

formal models of group formation (matching, ...) and decision making. A particular emphasis will be put on the testable implications of the various models.

ECON G6413. Advanced Mathematical Methods for Economists. *3 pts. Prerequisites: ECON G4213 and G6212 and differential calculus, or instructor's permission.* A thorough treatment of some mathematical techniques that are widely used in modern economic theory. Point-set topology, elementary real analysis, fixed-point theory, maximum theorems, linear spaces.

ECON G6414. Topics in Mathematical Economics. *3 pts.* Economic theory and mathematical economics. Topics rotate: dynamic growth models including increasing returns to scale technologies, expectations and learning dynamics. General equilibrium theory of markets applied to: international economics, financial markets, incomplete market analysis, monetary economies, arbitrage in markets with unbounded short sales, transfers and welfare in market economies, exhaustible resources, the global environment. Social choice and voting games: majority rules, choices under uncertainty, Von Neumann Morgenstern utilities, aggregation in market economies, necessary and sufficient conditions for resolving the social choice paradox. Game theory: solution concepts, bargaining and stability.

ECON G6415. General Equilibrium Foundations of Finance and Money. *3 pts. Prerequisites: G6211 and G6212.* Examines the foundations of money and finance from the perspective of general equilibrium with incomplete markets. The relevant mathematical tools from elementary stochastic processes to differential topology are developed.

ECON G6416. Game Theory with Economic Applications. *3 pts. Prerequisites: G6211 and G6212.* This is a graduate level game theory course designed for Ph.D. students in economics, finance and related fields. The goal of the course is two-fold: to endow the students with the vocabulary, concepts and tools necessary to conduct research in wide range of applications, and to provide the students with a foundation for further research on game theory.

ECON G6418. Economic Applications of Control Theory. *3 pts.* Methods of calculus of variations and optimal control theory; applications of these methods to such economic problems as international decision making, growth, stabilization, and distribution. Some coverage of differential games.

ECON G6440. Mechanism Design, Contracts, and Organization. Principles of implementation and mechanism design; emphasis on the theory of incentives, contracts and organization.

ECON G6492. Topics in Political Economics. *3 pts. Prerequisites: Strongly recommended: ECON G6218, ECON G6219, ECON G6416.* Introduction to recent research in the field of Political Economy. The course will cover formal modeling of political institutions such as elections, legislatures, political parties, political debate and lobbying. Special emphasis will be given to strategic information transmission and its applications in politics.

ECON G6600. Market Design. 3 pts. Prerequisites: ECON G6211, ECON G6212. Market Design is an emerging field in economics that attempts to devise a practical scheme for allocating scarce resources to individuals who value them. Its applications involve many important real life problems ranging from allocation of government resources such as public land, fishing/mineral rights, radio spectrum licenses, allocation of school choice and transplantable human organs, assignment of workers to jobs, to placement of advertising in Internet search engines. Mechanism design underpins the field as a general methodological framework, which is in turn operationalized by two branches of theories: 1) Auction Theory and 2) Matching Theory. The course will provide a guide through these theories and discusses a few applications along the way.

ECON G8240. Economics and Politics of Industrial Competition. 3 pts.

ECON G8712. Colloquium in Microeconomics. 3 pts. Prerequisites: G6211, G6212, Open only to Economics Ph.D. students. Students present their research on topics in microeconomics.

ECON G8713. Applied Microeconomic Theory Colloquium. 3 pts. Prerequisites: G6211, G6212. Open only to Economics Ph.D. students. Students present their research on topics in applied microeconomic theory.

ECON G8714. Colloquium in Applied Microeconomic Research Methods. 3 pts. Prerequisites: G6211, G6212. Open only to Economics Ph.D. students. Students present their research on topics in applied microeconomic research methods.

Public Finance

ECON G6805-G6806. Public Finance, I and II. 3 pts. Prerequisites: ECON G6211 and G6215. G6805 covers analysis of taxation, welfare and social insurance programs – their efficiency and redistributive consequences, optimal design, policy issues and empirical evidence. G6806 provides an overview of issues surrounding local public finance and public service provision in the U.S. and developing countries (G6806 is cross listed with Economic Development). The emphasis is on topics related to empirics (e.g. research designs) and education; applied theoretical work appears as well.

ECON G6807 Public Finance III, 3 pts. Prerequisites: G6211, G6212, G6411, and G6412. This course examines economic theory on the optimal provision of public goods, and the role of sub-national jurisdictions in their provision. It includes several empirical applications that concern both the U. S. and developing countries.

ECON G6850. Foundations of Public Economics. 3 pts. The economics of the public sector from a broader and more fundamental viewpoint than the public finance courses. Designed for economics graduate students, especially those taking public finance as a field, but may be taken by other graduate students with the appropriate background in economics.

Other Courses

ECON G4311. Economic History of the United States. 3 pts. Economic development of the U.S., with special attention to the forces and factors responsible for economic

growth: innovation, capital formation, transportation, banking, international trade and capital movements, immigration, and the labor supply. The interactions of public policy and private decision making.

ECON G4313. Economic History of Europe. 3 pts. Prerequisite: *ECON W3211* or the equivalent. The economic development of Europe from 1700 to the present, with emphasis on those factors responsible for modern economic growth and its pace; technical change, capital formation, labor supply, national and international finance, distribution, international trade, social structure, and the role of public policy.

ECON W4325. Economic Organization and Development of Japan. 3 pts. Prerequisites: *ECON W3211* and *W3213*. The growth and structural changes of the post—World War II economy; its historical roots; interactions with cultural, social, and political institutions; economic relations with the rest of the world.

ECON G4421. Seminar: Topics on Problems of Emerging Market Economies. 4 pts. Prerequisites: *ECON W3211*, *W3213*, *G4523*, or *G4526* and the permission of the instructor. Selected topics of centrally planned economies of the Soviet Union, Eastern Europe, and China in transition. Note: May fulfill either the seminar requirement or an upper elective requirement.

ECON G4523. Soviet and Post-Soviet Economies. 3 pts. Prerequisites: *ECON W3211* and *W3213*. The pre-1917 heritage. The first decade: “war communism” and the mixed economy of NEP. Patterns of growth and changing structures of the Soviet economy during the five-year plans; conditioning factors; general organizational framework; problems of economic planning.

ECON G4526. Transition Issues in East-Central Europe, Post-Soviet States, and Reforming Asian Economies. 3 pts. Prerequisites: *ECON W3211* and *W3213*. The lectures deal with current economic events in the Soviet economy in a nontechnical fashion. Topics include economic performance, industrial reforms, technology issues, agricultural problems, and foreign-trade planning and prospects.

ECON G6229. The Urban Economy. 3 pts. Prerequisite: *ECON G6211* or instructor's permission. Location theory, land use, housing discrimination, and transportation, including the effects of government policy.

ECON G6304. The Political Economy of Collective Action. 3 pts. Prerequisite: *ECON G6211-G6212*. Exploration of the possibility of explaining national economic policies in terms of interaction of economic interest groups, thus endogenizing the political element of economic systems. Topics include problems of group and coalition formations, the logic of collective action, and the economic input into the political process. Special attention is paid to recent literature on endogenous tariff formation and other restrictive measures

ECON G6308. The Theory of Political Economy. 3 pts. Primarily intended for graduate level students in economics but is open for enrollment by graduate students in political science. Prerequisite: instructor's permission. Explores several current topics in the theory of political economy as well as its historical evolution, drawing on both

economic and political science literature. It will focus primarily on economic decision making, taking into consideration political processes.

ECON G6450. Natural Resource and Environmental Economics. *3 pts.* Intended for graduate students in economics and covers more advanced material than *Economics W4450*. Prerequisite: *ECON G6211* or instructor's permission. The economic theory of nonrenewable natural resources (minerals and energy), renewable natural resources (forestry and fisheries), and pollution management. Tools of dynamic optimization; optimal resource extraction in deterministic and stochastic settings; dynamic welfare analysis, optimality, sustainability and green national income accounting; instrument choice for pollution management (taxes, quotas, tradable permits); institutional design (given imperfect information and agency problems); and techniques for environmental valuation.

ECON G6490. Economics of Transition. *3 pts.* Topics in the new economics field of transition economics and the problems raised by the transformation of Soviet-type socialist economies into modern market economies.

ECON G6521. The Economics of European Integration. *3 pts.* Theory and institutions of European economic integration stressing contemporary economic policies and problems of the European Communities. Customs union theory; empirical research on the trade and welfare effects of economic integration; theory of optimum currency areas and the mechanisms of the European Monetary System; member-state macroeconomic policy; the Common Agricultural Policy of the EEC; regional, industrial and social policy; external economic relations of the EEC; U.S.-EC trade and monetary tensions.

ECON G6530. Problems of Japanese Economy. *3 pts.* Prerequisite: *ECON G4325*. Maximum student enrollment: 15. Primarily intended for Ph.D. students who want to specialize in Japan. Salient issues of the Japanese economy that have attracted considerable academic attention.

ECON G6465. Topics in Health Economics. *3 pts.* This course will use quantitative approaches from both economics and public health to explore the medical and non-medical determinants of health. Traditional concepts of health economics, such as the medical care market place will be covered along with the growing empirical literature that utilizes "natural experiments" to identify health outcomes.

Workshops

ECON G9001. Economic Theory. *3 pts.*

ECON G9002. Money and Macroeconomics. *3 pts.*

ECON G9005. Labor and Human Resources. *3 pts.*

ECON G9007. International Economics. *3 pts.*

ECON G9008, Development/Environmental Economics

ECON G9009, Econometrics

ECON G9012, Industrial Organization & Strategy

ECON G9016. Applied Micro & Labor. *3 pts.*