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001. Introduction to Micro Economics. (C) Society Sector. All classes.

Introduction to economic analysis and its application. Theory of supply and demand, costs and revenues of the firm under perfect competition, monopoly and oligopoly, pricing of factors of production, income distribution, and theory of international trade. Econ 1 deals primarily with microeconomics.

002. Introductory Economics: Macro. (C) Society Sector. All classes.Prerequisite(s): ECON 001.

Introduction to economic analysis and its application. An examination of a market economy to provide an understanding of how the size and composition of national output are determined. Elements of monetary and fiscal policy, international trade, economic development, and comparative economic systems.

010. Introduction to Economics for Business. (A) Staff. For Wharton students only

The first part of the course covers basic microeconomic concepts such as opportunity cost, comparative advantage, supply and demand, importance of costs and revenues under perfect competition vs. monopoly, externalities and public goods.

The second part of the course introduces macroeconomic data, two models of the labor market, a model of the aggregate household, and the standard AD-AS model. The course concludes with an introduction to fiscal policy, banking, and the role of the Central Bank.

013. (PPE 201) Strategic Reasoning. (C) Prerequisite(s): ECON 001, some high school algebra. This course may NOT be taken concurrently or after Econ 212.

This course is about strategically interdependent decisions. In such situations, the outcome of your actions depends also on the actions of others. When making your choice, you have to think what the others will choose, who in turn are thinking what you will be choosing, and so on. Game Theory offers several concepts and insights for understanding such situations, and for making better strategic choices. This course will introduce and develop some basic ideas from game theory, using illustrations, applications, and cases drawn from business, economics, politics, sports, and even fiction and movies. Some interactive games will be played in class. There will be little formal theory, and the only pre-requisite is some high-school algebra. This course will also be accepted by the Economics department as an econ course, to be counted toward the minor in Economics (or as an Econ elective).

014. (HIST161) American Capitalism. (C) Prerequisite(s): ECON 001, ECON 002, or ECON 010.

A broad overview of American economic history will be provided by focusing on the following topics: colonial trade patterns, the growth of the market economy, the political economy of slavery, industrial expansion, segmentation in the labor force and changes in work, technological and organizational innovations, business cycles, the rise of the corporate welfare state, the growth of monopoly capitalism, and current economic problems in historical perspective.

024. Development Economics. (C) Prerequisite(s): ECON 001 or ECON 010. Students may NOT take Econ 24 and Econ 261

This course presents an overview of the field of development economics. The general aim is to show how economic analysis has been applied to issues related to developing countries. Among the topics covered are: income distribution, poverty, health, population growth, migration, growth, and the rural economy.

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030. (PPE 030) Public Policy Analysis. (C) Staff.Prerequisite(s): ECON 001 and 002 or ECON 010. Credit cannot be received for both ECON 030 and 231.

This course provides an introduction to the economic method for analyzing public policy questions. It develops the implications of this method for the role of government in a market economy and for the analysis of specific public projects.

033. (PPE 033) Labor Economics. (B) Prerequisite(s): ECON 001 or ECON 010. Credit cannot be received for both ECON 033 and 233.

The course begins with an extensive discussion of models of labor market demand and supply. The rest of the course addresses a variety of related topics including the school -to-work transition, job training, employee benefits, the role of labor unions, discrimination, workforce diversity, poverty, and public policy.

035. (PPE 035) Industrial Organization. (C) Prerequisite(s): ECON 001 or ECON 010. Credit cannot be received for both ECON 035 and 235.

Theories of various industrial organizational structures and problems are developed, including monopoly, oligopoly, moral hazard and adverse selection. These theories are then applied to the study of various industries, antitrust cases, and regulatory issues.

036. (PPE 036) Law and Economics. (C) Prerequisite(s): ECON 001 or ECON 010. Credit cannot be received for both ECON 036 and 234.

The relationship of economic principles to law and the use of economic analysis to study legal problems. Topics will include: property rights and intellectual property; analysis of antitrust and economic analysis of legal decision making.

039. (HCMG202) Economics and Financing of Health Care Delivery. (A) Prerequisite(s): ECON 001 or ECON 010 or permission of instructor.

Systematic and critical review of the present economic literature on the health care "industry". Topics include the demography and determinants of illness, the demand for curative and preventive care and determinants of recent health cost inflation, the efficacy of markets, and the role of government.

050. International Economics. (C) Prerequisite(s): ECON 001 and 002 or ECON 010. ECON 050 is a one-semester course in international economics. Students wishing to study the subject in greater depth should take instead the two-semester sequence ECON 251 and 252.

Introduction to the theory of international trade and international monetary economics. The theoretical background is used as a basis for discussion of policy issues. Patterns of international trade and production; gains from trade; tariffs, and impediments to trade; foreign exchange markets, balance of payments, capital flows, financial crises, coordination of monetary and fiscal policy in a global economy.

L/R 101. Intermediate Microeconomics. (C) Prerequisite(s): ECON 001 and 002; MATH 104 and either MATH 114 or MATH 115. Note: Incoming freshmen with AP or transfer credit for Econ 1 and Econ 2, MUST complete Math 104 and Math 114 or Math 115 before enrolling in Econ 101. Upper classmen must have at least a B+ in Math 104 to take Econ 101 and Math 114 or Math 115 concurrently.

Theories of consumer behavior, demand, production, costs, the firm in various market contexts, factor employment, factor incomes, elementary general equilibrium, and welfare.

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L/R 102. Intermediate Macroeconomics. (C) Prerequisite(s): ECON 001, ECON 002, ECON 101, MATH 104 and MATH 114 or MATH 115. Finance 101 does not satisfy any of the Economics department requirements. Therefore, students are required to take Econ 102.

Facts and theories about the determination of per capita income and its differences across countries and across time. The study of economic fluctuations in output and employment. The role of government in influencing these aggregate variables: monetary and fiscal policy.

L/R 103. Statistics for Economists. (C) Prerequisite(s): MATH 104 and MATH 114 or MATH 115 and ECON 001 and ECON 002 or ECON 010. Intended primarily for economics majors. ECON 103 cannot be taken by any student who has already completed Statistics at least at the level of STAT 430 (including the sequence STAT 430/431). Such students must take an additional 200-level course to satisfy course requirements of the major.

The course focuses on elementary probability and inferential statistical techniques. The course begins with a survey of basic descriptive statistics and data sources and then covers elementary probability theory, sampling, estimation, hypothesis testing, correlation, and regression. The course focuses on practical issues involved in the substantive interpretation of economic data using the techniques of statistical inference. For this reason empirical case studies that apply the techniques to real-life data are stressed and discussed throughout the course, and students are required to perform several statistical analyses of their own.

L/R 104. Econometrics. (B) Prerequisite(s): ECON 101, ECON 103; MATH 104, MATH 114 or MATH 115 or permission from instructor.

This course is designed to introduce students to econometric techniques and their applications in economic analysis and decision-making. The main objective of the course is to train the student in (i) handling economic data; (ii) quantitative analyses of economic models with probabilistic tools; (iii) econometric techniques, their application as well as their statistical and practical interpretation; (iv) implementing these techniques on a computer. Estimation and inference procedures are formally analyzed for simple econometric models and illustrated by empirical case studies using real-life data. The course covers linear regression models, simultaneous-equations models, discrete choice models and univariate time series models. Estimation and Inference is conducted using least squares and likelihood based techniques. Students are required to perform several econometric analyses of their own.

199. Independent Study. (C) Staff.Prerequisite(s): ECON 101, ECON 102, ECON 103 and written permission from the Director of Independent Research. Please see the Undergraduate Coordinator in Economics (160 McNeil) for the permission form. Please see the Undergraduate Coordinator in Economics (160 McNeil) for the appropriate sequence number.

Individual study and research under the direction of a member of the Economics Department faculty. At a minimum, the student must write a major paper summarizing, unifying, and interpreting the results of the study. This is a one semester, one c.u. course.

212. Game Theory. (C) Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. Any 200-level LPS course when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

An introduction to game theory and its applications to economic analysis. The course will provide a theoretical overview of modern game theory, emphasizing common themes in the analysis of strategic behavior in different social science contexts. The economic applications will be drawn from different areas including trade, corporate strategy and public policy.

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210. Economics of Family. (M) Prerequisite(s): ECON 101, MATH 104 and MATH 114 or MATH 115. In addition, any 200-level evening course (Section 601), when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

This course will use economic tools to explore decision making and allocation of resources within the family. The course will use both economic theory and econometric evidence to investigate these issues. The impact of gender roles and differences will be examined and the effect of these differences on economic decisions and outcomes both within and outside the family will be discussed.

Student participation will be an integral part of the course. During class, students will be required to evaluate data and relate it to the theoretic model covered. Student participation will also include two in-class oral presentations. Students will be working with CWiC (Communication Within the Curriculum) as they work on these presentations.

211. Social Choice Theory. (M) Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. In addition, any 200-level LPS course (Section 601), when offered, MAY NOT count for Economics Majors, unless you are officially registered as an LPS student.

This course investigates a topic which lies at the heart of economic, social and political sciences, namely the aggregation of individual preferences. Can a society as a whole exhibit preferences as individuals do? Can these preferences be based on individual ones, and show the same level of coherence? Which process can lead from individual preferences to the preferences of the society? At the end of the 18th century, the pioneers in the field already realized that mathematics is the only language powerful enough to make deep progress in the understanding of these questions. The formalization involves pure logic as well as geometry and combinatorics.

221. Econometric Forecasting. (C) Prerequisite(s): ECON 101, ECON 102, ECON 103, ECON 104; MATH 104 and MATH 114 or MATH 115. In addition, any 200-level CGS course (Section 601), when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

This course provides a comprehensive introduction to forecasting in economics and business. Topics covered include statistical graphics, trends, seasonality, cycles, forecast construction, forecast evaluation and forecast combination.

222. Advanced Econometric Techniques and Applications. (B) Prerequisite(s): ECON 101, ECON 104; MATH 104 and MATH 114 or MATH 115. In addition, any 200-level LPS course, when offered WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

This course introduces students to advanced study in econometrics, with an emphasis on methods used in microeconomic applications and in evaluating the effects of social interventions. The methods covered include methods for handling limited dependent variables (useful, for example, in forecasting the demand for a new good), maximum likelihood estimators, and flexible semiparametric and non parametric estimation methods, and randomized and nonexperimental methods of estimating treatment effects. Applications of econometrics to the field of program evaluation will also be studied.

231. Public Finance. (C) Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended. Credit cannot be received for both ECON 030 and 231

This course has two parts. The first looks at market and government failures and discusses the need for public policies as well as limits to their effectiveness including the evaluation of public projects using cost benefit analysis. The second part focuses on the economic analysis of taxation, including the economic incidence and efficiency of taxes.

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232. (PPE 232) Political Economy. (B) Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended.

This course examines the political and economic determinants of government policies. The course presents economic arguments for government action in the private economy. How government decides policies via simple majority voting, representative legislatures, and executive veto and agenda-setting politics will be studied. Applications include government spending and redistributive policies.

233. Labor Economics. (C) Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended. Credit cannot be received for both ECON 033 and 233.

Labor supply and labor demand, income distribution, labor market contracts and work incentives, human capital, labor market discrimination, job training and unemployment.

234. Law and Economics. (B) Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. Credit cannot be received for both ECON 036 and 234.

This course will use basic microeconomic tools to understand how the law often, but not always, promotes economic efficiency. Among the areas to be discussed will be tort law, property law, intellectual property, antitrust regulation. The distinction between common law and legislative law will be drawn.

235. Industrial Organization. (C) Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended. Credit cannot be received for both ECON 035 and 235

Theories of various industrial organizational structures and problems are developed, including monopoly, oligopoly, nonlinear pricing and price discrimination. These theories are used to model various industries, antitrust cases, and regulatory issues.

241. Economic Growth. (C) Prerequisite(s): ECON 101, ECON 102, ECON 103; MATH 104 AND MATH 114 or MATH 115.

The process of economic growth and the sources of differences in economic performance across nations are some of the most interesting, important and challenging areas in modern social science. You cannot travel or read the news without wondering why differences in standards of living among countries are so large. The primary purpose of this course is to introduce undergraduate students to these major issues nd to the theoretical tools necessary for studying them. The course therefore strives to provide students with a solid background in dynamic economic analysis, as well as empirical examples and data analysis.

236. Health Economics. (C) Juan Pablo Atal.Prerequisite(s): ECON101, MATH 104 and either MATH 114 or MATH 115. For ECON majors only. Intermediate Micro is a prerequisite and this course will use advanced quantitative methods. Students may not take Econ 039, HCMG 202.

In this course we will use the tools of microeconomics to analyze the functioning of the health care system. We will draw from the sub-disciplines of information economics, industrial organization, labor economics, public economics, and behavioral economics. The primary goal is to use these tools to develop a critical analysis of the functioning of the health care system as well as of the policies aimed at improving it. We will learn about US specific institutional details and policies (most notably the Affordable Care Act), and we will compare them to other important international experiences.

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237. Urban Fiscal Policy. (M) Prerequisite(s): ECON 101, ECON 102, MATH 104 and MATH 114 or 115.

The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.

242. Topics in Macroeconomics. (C) Prerequisite(s): ECON 101 and ECON 102; MATH 104 and MATH 114 or MATH 115. L y

This course covers topics of interest in macroeconomics. Two sections are offered: Markets with Frictions. This course studies allocations in markets with frictions, as described by the difficulty in finding a trading partner, private information problems, commitment issues, and so on. Applications to labor markets, monetary economics, the marriage market will be discused. The main technical tool will be search theory, but a liberal amount of calculus and other mathematics will be used.

Numerical Methods for Macroeconmists. This course will study some of the numerical methods that are used in modern macroeconomics. This class will learn how to solve nonlinear equations, difference equations, interpolate functions, smooth data, and conduct Monte Carlo simulations on the computer. This will be done while studying economic problems, such as the determination of labor supply, economic growth and business cycle analysis. Calculus is an integral part of the course and some elementary probability theory will be drawn upon. The MATLAB programming language will be used.

243. Monetary and Fiscal Policies. (C) Prerequisite(s): ECON 101 and ECON 102; MATH 104 AND MATH 114 OR MATH 115. ECON 103 recommended.

This is an advanced course in macroeconomics. A relatively simple, but well defined and internally consistent model of the U.S. economy is set up and used to study how output is generated given the initial resources, how output is divided between consumption and addition to capital stock, and how this process accumulates over time. The role of prices including the rate of interest in this process is also reviewed, and monetary and fiscal policies needed to improve the performance of the economy under such circumstances are discussed.

244. Macro-Modeling. (M) Prerequisite(s): ECON 101 and ECON 102; MATH 104, and MATH 114 or MATH 115. ECON 103 recommended.

This is an advanced undergraduate course in models of economic growth. Students will be introduced to the workhorse theoretical models that are used to understand growth by modern macroeconomic researchers and policy makers. The types of questions that we will address include: Why are some countries richer than others? Why do some countries grow quickly while others stagnate? Why did modern economic growth start in Western Europe? What can governments do to accelerate economic growth? How does economic growth interact with demographic and geographic factors? We will build theoretical models that can be used to answer these questions. There will be a strong focus on emphasizing the microeconomic foundations of models, and using the language of mathematics to express the underlying assumptions and assess their implications for policy. Hence, there are strict mathematical prerequisites. We will also compare the predictions of our models with the data. Thus, a fair amount of econometrics will be required. A class in statistics and econometrics is highly recommended.

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245. Math for Economists. (C) Prerequisite(s): ECON 101, ECON 102, MATH 104 and MATH 114 or 115.

This course will introduce students to mathematical tools that are commonly used in modern economics and give students experience using these tools to answer economic questions. Topics covered may include constrained optimization, duality, dynamic fixed point theorems and optimal control theory.

260. Decision Making Under Uncertainty. (C) staff.Prerequisite(s): ECON 101, ECON 103, MATH 104 and MATH 114 or 115. All prerequisites MUST be taken prior to enrolling in this course.

This course will show how individuals make decisions in a world full of uncertainties, both normatively and descriptively. This theory will help us build skills in understanding and analyzing a choice problem with uncertainty in a systematic fashion, as well as deepening our understanding of the fundamental concept of a utility function, which plays a critical role in economic modeling. The course requires a substantial ability of abstract thinking. Homework is intended to be thought-provoking rather than skill-sharpening.

246. Money and Banking. Prerequisite(s): ECON 101, ECON 102. MATH 104 and MATH 114 or 115.

Money and Banking. This course studies the role that financial markets, institutions, and money play in resource allocation. Financial intermediation and the role of banks in the economic system are analyzed and the economic rationale behind banking regulation is studies. The course examines how monetary policy influences interest rates and asset markets, such as the bond market and the stock market. Finally, the instruments and goals of monetary policy are discussed, focusing in particular on credibility and commitment for central banks. All of the questions are explored analytically, using the tools of economic theory.

251. International Trade. (A) Prerequisite(s): ECON 101 and ECON 102; MATH 104 and MATH 114 or MATH 115. In addition, the LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

Structure of the world economy; theory of international trade; economic growth and international trade; international trade policy: developed countries; developing countries. Direct investment, technology transfers, and the multinational firm.

252. International Finance. (B) Prerequisite(s): ECON 101, ECON 102; MATH 104 and MATH 114 or MATH 115. In addition, the LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

International monetary economics with emphasis on economic policy in an open economy. Topics covered in the course include: balance-of-payments adjustment, theories of exchange rate determinaton, the effects of exchange rate devaluation, macroeconomic policy under fixed and floating exchange rates, the Euro-dollar market, currency and balance of payments crises.

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261. Topics in Development. (M) Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended. Student may not receive credit for Econ 024 and Econ 261. In addition, the LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

This course studies institutions in developing economies. The first section of the course will cover the organization of production in traditional agrarian societies. Topics will include land, labor and credit markets. The second section of the course will focus on the role of the community in facilitating the transition to the modern market economy. Here we will study how the community spreads information, permits the formation of informal networks and organizes collective institutions, allowing individuals to take advantage of new economic opportunities.

262. Market Design. (A) Prerequisite(s): ECON 101, ECON 103; MATH 104 and MATH 114 or MATH 115. (ECON 262 was formerly ECON 160). In addition, the LPS 200-level evening course (Section 601), when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

Traditionally, economics focuses on the study of existing markets. Recently, regulators, entrepreneurs and economists have been involved in the design of markets. They have created institutionalized markets for new products, and have redesigned existing markets that were dysfunctional. This course utilizes ideas from game theory and microeconomics to provide the theoretical underpinnings for design and analysis of such markets. Further, via real world examples, we study the practical aspects of such market design and the institutional details which can determine the success or failure of a design.

SM 300. Honors Seminar. (E) Staff.Prerequisite(s): ECON 101, ECON 102, ECON 103, ECON 104 and two 200 level courses; MATH 104 and MATH 114. GPA of at least 3.5 in Economics and permission of the instructor. Course meets weekly. Required of all honors majors.

Students prepare an honors thesis in economics over the academic year, supervised by a faculty member of their choice. In both semesters students present their work in progress to the class. Any student intending to do empirical work in the thesis should have COMPLETED ECON 103 and 104.

700. Intro to Micro Theory. (A)

Utility theory and basic choice under uncertainty, consumer and producer theory

Regularly Offered Ph.D. Courses

680. Microeconomics. (A) Prerequisite(s): Equivalent of ECON 003 or permission of instructor.

Basic tools of microeconomic analysis: consumer choice, firm behavior; partial and general equilibrium theory. Econ 681 is a more theoretical course covering the same material.

681. Microeconomic Theory. (A) Prerequisite(s): Equivalent of ECON 101; meeting the department's minimal mathematical requirements; or permission of instructor.

Basic tools of microeconomic theory: consumer choice, firm behavior, partial and general equilibrium theory. This is a more theoretical treatment of the basic tools of microeconomic analysis than Econ 680.

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682. Game Theory and Applications. (B) Prerequisite(s): ECON 680 or 681.

A graduate level introduction to decision making under uncertainty, applied game theory, and information economics.

701. Microeconomic Theory I. (A) Prerequisite(s): Meeting the Department's minimal mathematical requirements, Econ 897 Summer Math Program.

Nonlinear programming, theory of the consumer and producer, general equilibrium.

705. Econometrics I: Fundamentals. (A) Prerequisite(s): Meeting the Department's minimal mathematical requirements, Econ 897 Summer Math Program.

Violations of classical linear regresson assumptions, nonlinear regression models (including logit, probit, etc.), diagnostic testing, distributed lag models, panel data models, identification, linear simultaneous-equations model.

702. Macroeconomic Theory I. (B) Prerequisite(s): Meeting the Department's minimal mathematical requirements; ECON 700, 701 and 703, 897 Summer Math Program.

Dynamic programming, search theory, neoclassical growth theory, asset pricing, business cycles.

703. Microeconomic Theory II. (A) Prerequisite(s): Meeting the department's minimal mathematical requirements, Econ 897 Summer Math Program.

Game theory, decision making under uncertainty, information economics.

704. Macroeconomic Theory II. (B) Prerequisite(s): Meeting the Department's minimal mathematical requirements; ECON 700, 701 and 703, 897 Summer Math Program.

Equilibrium notions in the growth model. Economies with distortions. Incomplete markets. Overlapping generations.

706. Econometrics II: Methods & Models. (B) Prerequisite(s): Meeting the department's minimal mathematical requirements; ECON 705 and 897 Summer Math Program.

Analysis in time and frequency domains, state space representations, Kalman filtering, conditional heteroskedasticity, nonlinear and nonparametric methods for time series, integration, co-integration, numerical and simulation techniques.

708. The Economics of Agency, Information, and Incentives. (C) Prerequisite(s): Meeting the Department's minimal mathematical requirements; ECON 898 or equivalents.

This course studies the economics of adverse selection and moral hazard in strategic settings. The primary focus is on the agency relationship and the structure of agency contracts. Other settings include auctions, bilateral trading, and the internal organization of the firm.

712. Topics in Advanced Economic Theory and Mathematical Economics. (C)

Topics and prerequisites announced each year.

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713. Game Theory. (C) Prerequisite(s): ECON 701 and 703.

A rigorous introduction to the concepts, tools, and techniques of the theory of games, with emphasis on those parts of the theory that are of particular importance in economics. Topics include games in normal and extensive form, Nash equilibrium, games of incomplete information and Bayesian equilibrium, signaling games, and repeated games.

714. Quantitative MacroEconomic Theory. (C) Prerequisite(s): ECON 702 and 704.

Computation of Equilibria. Calibration of models. Heterogenous agents, macroeconomic models.

716. Equilibrium Theory. (C) The course relies heavily on material covered in Microeconomic Theory I (ECON 701).

This course covers various topics in equilibrium theory (broadly conceived as the analysis of any model in which the collective outcome of individual actions in an economic -- or, even more generally, social setting is described by a system of equations). In recent years the focus has been on the theory of equilibrium in a competitive setting when financial markets are "imperfect," for example, when there are an incomplete set of financial markets, or when households' transactions on financial markets are restricted by various conventions or institutions.

721. Econometrics III: Advanced Techniques of Cross-Section Econometrics. (C) Prerequisite(s): ECON 705 and 706.

Qualitative response models, panel data, censoring, truncation, selection bias, errors in variables, latent variable models, survey design, advanced techniques of semiparametric estimation and inference in cross-sectional environments. Disequilibrium models. Methods of simulated moments.

722. Econometrics IV: Advanced Techniques of Time-Series Econometrics. (C) Prerequisite(s): ECON 705 and 706.

Consistency and asymptotic normality for m-estimator and for generalized moment estimators. Asymptotics for integrated and cointegrated time-series. Inference in presence of nuisance parameters identified only under the alternative: consistent moment tests, testing for threshold effects, testing for structural breaks. Estimation of stochastic differential equations from discrete observations: simulated method of moments, indirect inference. Discrete time GARCH models and their continuous limits.

730. International Trade Theory and Policy. (C) Prerequisite(s): ECON 701 and 702.

Pure theory of international trade, commercial policy, and trade.

731. International Monetary Theory and Policy. (C) Prerequisite(s): ECON 701 and 702.

Balance of payments, international capital movements, and foreign exchange examined against a background of current theories and policies.

740. Monetary Economics. (C) Prerequisite(s): ECON 703, 704, 705, and 706.

The role of money as a medium of exchange and as an asset. Models of the demand for money.

741. Economic Growth. (C) Prerequisite(s): ECON 701 and 702.

Theories of economic growth and their quantitative implications.

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750. Public Economics. (C) Prerequisite(s): ECON 701 and 703.

Public goods, externalities, uncertainty, and income redistribution as sources of market failures; private market and collective choice models as possible correcting mechanisms. Microeconomic theories of taxation and political models affecting economic variables.

780. Industrial Organization. (C) Prerequisite(s): ECON 701.

Development of microeconomic models to explain the structure and performance of markets. Among other topics: the conditions under which monopoly power can be exercised, the relationship between profit rates and concentration or size, the persistence of profits over time, industry turnover and interindustry comparisons.

751. Public Economics II. (C) Prerequisite(s): ECON 701 and 703.

Expenditures: Alternative theories of public choice; transfers to the poor; transfers to special interests and rent seeking; social insurance; publicly provided private goods; public production and bureaucracy. Taxation: Tax incidence in partial and general equilibrium; excess burden analysis. Topics on tax incidence and efficiency: lifetime incidence and excess burden, dynamic incidence, the open economy. Normative theories of taxation: Optimal commodity and income taxation. The political economy of income taxation.

753. Macroeconomic Policy. (C) Prerequisite(s): ECON 702.

A review of alternative theories of growth and business cycles, and their relevance for recent history of selected industrialized countries. Fiscal and monetary policy in a dynamic setting and their application to current policy issues.

760. Development Economics: Basic Micro Topics. (C) Prerequisite(s): ECON 701 and 705, or permission of instructor.

Analysis of selected topics in economic development related to household/firm (farm) behavior, including determinants of and the impact of human resources, contractual arrangements in land, labor and credit markets, investment and savings. Emphasis on tractable modeling that leads to integrated analysis given available data.

781. Empirical Methods for Industrial Organization. (C) Prerequisite(s): ECON 780.

The goal of the course is to explore links between theory and data in order to identify and test implications of economic models. Reduced form and structural approaches will be used to study a variety of topics that include: Estimation of multiproduct cost functions; detection of collusion, multimarket contact, and network externalities; asymmetric information: auctions and nonlinear pricing; price competition and product differentiation; and complementarities: innovation and organizational design.

785. Selected Topics in Industrial Organization. (C) Prerequisite(s): ECON 701.

The course will cover topics in oligopolistic competition, product selection, the operation of markets under imperfect information and related subjects.

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791. (DEMG796, SOCI796) Economic and Demographic Interrelations. (M) Prerequisite(s): Microeconomic theory and econometrics at the graduate or advanced undergraduate level, or permission of instructor.

Application of economics to the analysis of demographic behaviors and processes including fertility, mortality, health, marriage and migration. Focus is on the development and testing of models of household behavior using econometric tools. Consideration is also given to the economic consequences of population growth.

792. Economics of Labor I. (C) Prerequisite(s): ECON 701, 703, 705, 706 and 721.

Topics include: Theories of the supply and demand for labor, wage determination, wage differentials, labor market discrimination, unemployment, occupational choice and dynamics of specific labor markets, theory of matching, trade unions. The theory and empirics of human capital accumulation, intertemporal labor supply, search, intergenerational mobility of income and wealth, contracts and bargaining, efficiency wage models, principal/agent models, and signaling models.

793. Economics of Labor II. (C) Prerequisite(s): ECON 721 and 792.

A continuation of ECON 792.

980. Topics in Economics. (M)

Topics and prerequisites announced when course is offered.

982. Topics in Econometrics. (C)

Topics and prerequisites announced when course is offered.

983. Topics in Microeconomics. (C)

Topics and prerequisites announced when course is offered.

984. Topics in Macroeconomics. (C)

Topics and prerequisites announced when course is offered.

998. Individual Readings and Research. (C)

999. Independent Study. (C)

Workshops and Research Seminars

Forum at which visiting speakers, Penn faculty, and graduate students present research ideas

SM 719. Economic Theory. (C) Related Courses: ECON 712

SM 729. Econometrics. (C) Related Courses: ECON 721 and 722

SM 739. International Economics. (C) Related Courses: ECON 730 and 731

SM 749. Monetary Economics. (C) Related Courses: ECON 740 and 741

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SM 759. Political Economy. (C) Related Courses: ECON 750 and 751

SM 769. Economic Development Workshop. (C) Related Courses: ECON 760, 761, 791

Forum at which visiting speakers, Penn faculty, and graduate students present research ideas.

SM 779. Comparative Economic Systems. (C) Related Courses: ECON 770 and 771

SM 789. Applied Microeconomics Workshop. (C) Related Courses: ECON 780 and 781

SM 799. Empirical Microeconomics. (C) Related Courses: ECON 791, 792, 793