

*Department of Economic Sciences***COURSES DESCRIPTIONS**

The following list is indicative of our course offerings. Not all courses are offered every year. Unless otherwise indicated, all of these are four-unit courses.

ECON 300

Math for Economists. This course is an intensive review of mathematics that is relevant for a PhD in Economics. It is intended to help students get prepared to the rigor of our core courses in Microeconomics, Macroeconomics, and Econometrics. Topics covered include Methods of Proof, Optimization Methods and Linear Algebra. A firm understanding of mathematical techniques and its applications covered in this class is essential for successful graduate studies in economics. **Prerequisites: Multivariate Calculus and Linear Algebra.**

ECON 301

Applications of Behavioral Economics and Finance. This course considers how recent developments at the intersections of economics, finance and psychology help us understand consumer and investor decisions, financial markets, contractual choices, and the internal organizations of firms. Recent work in behavioral economics uses experimental studies of how real people learn and behave to develop economic models of decision-making and performance. Behavioral finance applies these techniques to decisions and performance in financial markets. The approach differs from the standard neoclassical approach by employing more realistic assumptions about human nature and how individuals acquire and use information about other individuals and their environment. The models have the potential to explain phenomena that traditional approaches have difficulty explaining, and provide more accurate predictions that can inform decision-makers and public policy. The course is aimed primarily at Ph.D. and M.A. students in Economics, but should also appeal to those from Politics and Policy or Management, who have had some previous exposure to economics. **Prerequisites: ECON 313 or equivalent course**

ECON 302

Macroeconomic Analysis. The course discusses the potential causes of short-run fluctuations in output and employment. It examines both market-clearing and non-market-clearing explanations and investigates the role of assumptions concerning expectations formation, imperfect competition, imperfect information, menu costs, contracts, credibility, and the nature of shocks to the economy. Empirical research relating to these theories will be introduced.

ECON 303

Dynamic General Equilibrium Models. This course is designed to provide an introduction to modern macroeconomic analysis. Macroeconomic analysis is primarily concerned with developing positive models in order to understand the dynamics of key macroeconomic variables such as output, unemployment, inflation, and interest rates, and deriving normative prescriptions for fiscal and monetary policies. Topics covered include simple representative agent models, the neoclassical growth models with infinitely lived consumers, the Overlapping Generations models, and dynamic optimization. **Prerequisites: ECON 300 or equivalent courses.**

ECON 304

Growth and Development Policy. A country's economic development is influenced by deep forces, such as geography and history, and by current crises from global financial meltdowns to local conflicts. Given these realities, what differences can policy choices make—choices by a given country about itself and choices by other countries, such as through foreign aid? Students address this question using recent theoretical insights and data sets.

ECON 312

Behavioral Neuroscience of Decision Making. This course introduces students to behavioral neuroscience in order to inform their research in the social sciences and humanities. There is no prerequisite. It begins with lectures on how the brain works and then reviews current research on how decisions are made in the brain, including neuroeconomics, neuropolitics, neuroethics and more. There are also several field trips where students participate in live experiments measuring brain activity

ECON 313

Microeconomic Analysis. This course presents the neoclassical theory of welfare economics, demand, cost, the firm, and competitive and monopoly price in product and factor markets under conditions of certainty in a rigorous way. Introduction to positive transaction costs economics. Emphasis is placed on the student's ability not only to understand the materials presented and to apply them to concrete problems.

ECON 316

Consumer Theory and General Equilibrium. In this course, students will learn the modern mathematical treatment of consumer demand, theory of the firm, markets, welfare optimization, and general equilibrium. **Prerequisites: ECON 300 and ECON 313 or equivalent courses.**

ECON 317

Game Theory and Asymmetric Information. In this course, students are introduced to Static and Dynamic Games with Complete and Incomplete Information and Contract Theory.
Prerequisites: ECON 316.

ECON 318

Foundation of Psychology and Economics. This course presents psychological and experimental economics research demonstrating departures from perfect rationality, self-interest, and other classical assumptions of economics and explores ways that these departures can be mathematically modeled and incorporated into mainstream positive and normative economics. The course will focus on the behavioral evidence itself, especially on specific formal assumptions that capture the findings in a way that can be used by economists.
Prerequisites: ECON 317.

ECON 319

Topics in Psychology and Economics. This course will build off of the material presented in ECON318. It will expand on the psychological and experimental economic research presented there, but will emphasize a range of economic applications and especially empirical and experimental research. **Prerequisites:** ECON 318.

ECON 320

Experimental Economics. This course introduces the subject matter, methods, and results of experimental economics. The course will stress the interaction of theory and experiment, seeking to relate questions in the theory of markets, games, and decisions to issues in experimental design and the analysis and interpretation of results. **Prerequisites:** ECON 317.

ECON 321

Advanced Topics in Experimental Economics. This is a course intended to provide students with the tools necessary to implement a laboratory or field experiment. Students should have a good idea of their research interests before taking this course. The course will cover best practices for experimentation, steps to get IRB approval, and external funding. **Prerequisites:** ECON 319 or ECON 320.

ECON 323

Methods in Behavioral Neuroscience (2-units). The goal of this course is to prepare students to apply various research methods from the behavioral neuroscience. Students should be able to: 1) describe the basic strengths and weaknesses of each technique, and what the tools have been used for in applied contexts, 2) interpret research using the methodologies covered, and 3) provide examples of how each technique can be used in an applied fashion. Methodologies include eye-tracking, autonomic measures, brain activity, genotyping, and endocrine sampling techniques. **Prerequisites:** ECON 316 or ECON 317.

ECON 327

Applications of Behavioral Economics. This course is intended to cover application of psychological insights into economic behavior. By incorporating topics from psychology and sociology such as risk perception, self-control, fairness, altruism, envy and reciprocity, we will enrich the standard economic model of behavior. To further understand human nature, we will also study the behavior of non-human primates and introduce ideas from the new field of neuroeconomics.
Prerequisites: ECON 313 or equivalent.

ECON 329

Economic Policy Evaluation. In this course we will focus on the most up to date econometric and other statistical methods used to evaluate outcome impacts of programs resulting from the implementation of government and private sector initiatives, including incentives that may change the behavior of people and organizations. The course will illustrate empirical methods using experimental versus non-experimental data, to identify the likely range of economics outcomes including the uncertainty of costs and benefits. A special feature will be for students to gain hands-on experience in the use of real data in real evaluation settings in the areas of work and employment, the imposition of taxes, regulation of safety. **Prerequisites:** ECON 381, ECON 382, and ECON 383.

ECON 331

Evaluation of Health Policy Interventions. In this course we will review the most important health policy interventions--such as the provision of insurance through employer sponsored insurance, The Affordable Care Act, and new ways of reimbursing health providers (doctors, and hospitals) and discuss ways of evaluating their impact and effectiveness using the most important and utilized national surveys and claims data. Students will published articles from important journals that use the databases they are studying. As a result, students will gain an important understanding of the most important databases that they can use for dissertations on health related topics.

We will discuss who sponsors the surveys, how surveys are designed and conducted and also the range, and reach of each (i.e. those issues that can be evaluated using them). Claims data from government insurers such as Medicare and Medicaid, and also from Private Insurers such as Anthem, Aetna, Cigna and United--the largest in the country--are often used in evaluating healthcare costs. However, students rarely are taught how to use them. Students will then be asked to design a study of interest to them using survey or claims data. And, they will learn how to respond to a request for proposal (RFP) something that is never taught. Thus students will gain a real world understanding of how evaluation is done in the United States.

ECON 336

Financial Economics. This is a graduate level introduction to financial economics through a strong grounding in microeconomic theory. It is designed to provide you with a deep and intuitive understanding of fundamental principles of finance from an economics point of view. Specifically, we will explore the framework for analyzing the decisions by individuals and managers of firms. We will also define and understand financial systems as well as go over fundamental theories in risk management and pricing risky assets.

ECON 337

Behavioral & Empirical Finance. In this course we will review the history and development of modern portfolio theory, evaluate the empirical evidence on its applicability to real world markets, critically review recent attempts to develop new approaches to financial economics, including behavioral finance and complex systems, and attempt to integrate them into a consistent view of the capital markets.

ECON 339

Complexity Economics. Our plan for the course is to trace the history of the two principal different strands of evolutionary economics that developed by Nelson and Winter in the tradition of Darwin, vs. that developed by Prigogine, Haken, Simons, Dopfer, Foster, Witt, and Metcalfe in the tradition of far from equilibrium physics, complex adaptive systems, and network theory. We will apply these ideas to macroeconomics and finance theory and contrast it with Modern Portfolio Theory, CAPM, Arbitrage pricing theory, and the Multi-factor approach that comprise the core of finance as taught in MBA programs and practiced on Wall Street. And we will apply the ideas to analyze the recent financial crisis, contagion, and market failure.

ECON 342

Asian Economic Development. The fastest and largest part of world economic growth now occurs in Asia - Japan and South Korea are developed economies, and China and India are very large economies growing at rapid rates. The course analyzes this amazing transition, discusses the problems along the way, and looks to the future to see if this growth is likely to continue.

ECON 350

Global Commerce and Finance. Courses with the title Global Money and Finance can legitimately be designed in various ways. In some cases they focus quite narrowly on open economy macroeconomics and exchange rates and explore these issues in a reasonably technical way seeking to construct and use appropriate macroeconomic models. In other cases, the title is interpreted more broadly. A relatively large number of topics may then be included, with the emphasis being placed on applying relevant intermediate macroeconomic theory.

Such courses may also incorporate an historical and institutional component. While our course will include all the above elements, our underlying aim will be to acquire a sound understanding of contemporary global financial issues. The course will spend only a little time examining the microeconomics of international financial management and risk. The course will be analytically rigorous but it will not be highly technical. It will have a strong policy orientation. Theory will be used as a means to an end rather than an end in itself.

ECON 350EE

Designing High Performance Organizations Using

Neuroscience. This course examines the science and practice of consumer neuroscience/ neuromarketing. It presents key topics in neuroscience that are applicable to consumer behavior, including attention, reward and attachment, emotion, implicit preferences, decision-making, and learning and memory. The course also reviews the state of neuromarketing (both hype and hope), exploring existing neuromarketing companies and the tools they apply to marketing, with industry guest speakers. By the end of the course, students should be able to apply concepts in neuroscience to understand and influence consumer decision-making.

Prerequisites: ECON 313 or equivalent.

ECON 355

International Trade Theory and Policy. Economists traditionally divide the general field of International Economics into two broad subfields: International Finance and International Trade. International Finance applies macroeconomic models to understand the international economy. It focuses primarily on the financial transactions between countries and deals with things like trade imbalances, the determinants of exchange rates, and the aggregate effects of government monetary and fiscal policies. International Trade is a field of economics that applies microeconomics to help understand the international economy. Its content includes the same tools that are introduced in microeconomic courses, including supply and demand analysis, firm and consumer behavior, market structures (perfect competition, monopolistic competition, oligopoly, and monopoly), and the effect of market distortions.

The objective of this course is to provide students with a thorough understanding of classic trade theories (the Ricardian trade model, the Heckscher-Ohlin model, the Specific Factors model) and variants of the New Trade Theory model of increasing returns and monopolistic competition and their empirical validity to make students familiar with recent developments in international trade.

ECON 358

Advanced Topics in International Money and Financial

Economics. This course explores research topics in a number of areas in international money and financial economics including issues concerning exchange rate regimes, international capital flows and financial markets, and the causes of various types of financial crises. Emphasis is placed on the interactions among macroeconomic, financial, and political economy considerations.

ECON 359

International Finance & Economic Development. The aim of this course is to provide a thorough understanding of international financial issues as they relate to developing and emerging economies. Recognition will be made of the fact that developing countries need to be disaggregated when analyzing their international financial problems and the course will distinguish between poor (low income) countries and emerging (middle income) economies. While the approach adopted will be analytically rigorous, the course will focus more on contemporary policy issues rather than on technical precision. It will adopt a macro rather than micro perspective and will not deal with the microeconomics of financial management. The course can count towards PhD fields in international money and finance, international economics and development, international political economy and the political economy of development.

ECON 370

The World Economy: Trade and Finance. The course shows how economic analysis can be applied to gain an understanding of key contemporary global issues. It begins by tracing the evolution of the world economy, covering macroeconomic theory, performance and policy. It briefly examines the operation of the international monetary system and the world's trading system and discusses the phenomenon of globalization. As further background to contemporary issues, the course investigates balance of payments theory and theories international trade. Amongst the issues that confront the world economy the course examines: the global financial and economic crisis of 2008/09 and the recovery from it; the reform of the international monetary system; European economic and monetary integration; the development gap and policies of international development; trade reform, incorporating multilateralism, regionalism and preferential trading agreements; the economics of global climate change. There will also be a discussion of the future prospects for the world economy and various regions and sub groups of economies within it. An important part of the course will be to develop an awareness of the data available on aspects of world economic performance.

ECON 373

Labor & Health Economics. ECON 373 is a doctoral level course intended to familiarize the student with the theoretical and empirical research tools of modern labor and health economics. It will complement your graduate level training in microeconomics and econometrics by exposing you to the body of theoretical and empirical knowledge that is the core of modern labor and health economics. The objectives of ECON 373 include helping you to find a future research topic and to develop the theoretical and communication skills needed for the student to compete successfully for a job in the academic, government, and private sectors of the economy. Many of the examples we discuss come from the instructor's personal experiences working at Eli Lilly and the President's Council of Economic Advisers and as co-editor of several economics journals, including the Journal of Human Resources.

ECON 374

Trade & Development Policy. We will explore the intersection of trade policy and economic development and in the process will review aspects of trade theory, development theory, and their evolution over the past half century in light of the experience of developing economies. Among the issues we will examine are inward- vs. outward-oriented development, openness and growth, aspects of the East Asian "miracle," trade, development and the environment, rent-seeking behavior, and strategic trade policy.

ECON 375

Behavioral Public Economics. The course is a graduate level course covering the neoclassical and behavioral economic tools and findings concerning the effects of taxes and public programs. In studying the efficiency and equity effects of taxes and government expenditure programs the focus is on developing the research skills that prepare the student for a jobs in academia as well as the government and private sectors of the economy.

ECON 381

Probability and Statistics for Economists. This course covers probability and statistics. Topics include the fundamental concepts of probability theory, Bayes' rule, notions of discrete and continuous distributions, hypothesis testing, and other necessary statistical instruments, which are widely used in almost every phase of your academic career. A firm understanding of mathematical techniques and its applications covered in this class is essential for successful graduate studies in economics. Students will be introduced to STATA applications. **Prerequisites: Linear Algebra, Multivariate Calculus, and ECON 300 or Equivalent Courses.**

ECON 382

Econometrics I. This is the first graduate course in econometrics and covers the theory and application of simple and multiple regression analysis. Statistical software is used for data handling and estimation. The course also provides the background needed for more advanced theoretical and applied econometrics courses. The course Includes: OLS (testing and prediction), IV, Generalized Regression Models, 2 Step Regression, Linear Models for Panel Data, Non-linear regression, MLE, GMM, Quantile Regression, Bayesian Analysis, and Time Series. **Prerequisites: ECON 381 (no exceptions).**

ECON 383

Econometrics II. The aim of this course is to expose students to the most frequently used econometric techniques for the analysis of cross-sectional and panel data, and for causal inference. It will cover regression analysis and matching, instrumental variables estimation, differences- in-differences, regression discontinuity designs, limited dependent variable models as well as commonly used panel data estimation methods. Although the course will teach the basic econometric theory behind these techniques, the focus will be on their empirical applications. **Prerequisites: ECON 382 (no exceptions).**

ECON 384

Time Series Econometrics. This course provides an introduction to modern time series econometrics. Topics covered include deterministic trend models, autoregressive moving average models, vector autoregressions, unit roots, and cointegration. We examine and illustrate various approaches to model estimation and inference, including least squares, generalized method of moments, maximum likelihood, and Bayesian methods.

Applications are drawn from macroeconomics, with focus on the empirical analysis of dynamic stochastic general equilibrium models and forecasting and policy analysis with structural vector autoregressions. Students will learn basic forecasting tools as well as how to model economic and financial time series. **Prerequisite: ECON 383.**

ECON 399a

Dissertation Workshop I. Providing guidance for beginning dissertations. Coverage includes: establishing a topic (originality, importance, and search); trade off and balance between theory and empirical research; and selection of advisor and committee. **Prerequisite: Instructor approval.**

ECON 399b

Dissertation Workshop II. For dissertations beyond the beginning stages. Providing critical feedback for those who are in advanced stage. Coverage includes, oral and written presentation, packaging research, and giving and responding to constructive feedback. **Prerequisite: Instructor approval.**

ECON 425

Behavioral Economics Practicum. This course has two purposes. First, to impart tacit research skills from professor to student via learning by doing. The course will begin with a literature-review phase in which papers will be read and discussed. Then students and faculty will brainstorm possible research projects. The course then transitions to the research phase. The second purpose of the course is to produce publishable research.

Students and faculty will work together as a research team on the new project. By the end of the course there should be a fledgling research project that will lead to an academic publication. **Prerequisites: Instructor approval.**

ECON 472

Political Economy in Macroeconomics. This course is an exploration of the nexus of political institutions, the economic environment, and economic policy. We will develop the basic tools of social choice and some of the fundamental results of spatial theories of politics. We will then discuss classic problems of institutional design such as agency, time-consistency, information aggregation, dynamic common pool problems and common institutional solutions. Then we will apply these insights to several fields of macroeconomics: political business cycles, the timing of fiscal adjustments, central bank independence, and long-run economic growth. Students will learn the canonical approach and theoretical results of social choice and will become familiar with its application to several specific areas in political economy and macroeconomics. **Prerequisites: ECON 302 and ECON 303 (recommended).**

PP 481

Quantitative Research Methods. This course concentrates on the elements of research design and hypothesis testing, as well as the application of statistical techniques to social and political problems and data. Topics covered include sampling distributions and statistical probability, chi-square testing of the difference of means, analysis of variance, correlation and regression. Students complete a number of computer-based assignments.

PP 482

Advanced Quantitative Research Methods. This is a course in regression analysis. Our attention will be focused partly on theoretical issues and partly on practical problems in applied regression. The dual aims of the course are to develop students' good taste as consumers of published quantitative research and to prepare them for more advanced study of econometric techniques.

SPE 307

Designing Enterprise Experiments. This course prepares students to run a variety of experiments in businesses using research methods from the behavioral sciences (behavioral economics, experimental psychology, neuroscience). The class uses case studies of real business problems for which groups of students design research protocols to understand and provide business-relevant advice. Topics include marketing, user experiences, innovation, and culture change, among others. **Prerequisites: ECON 313 and Statistics or PSYCY 308A, B, C or equivalent.**

SPE 309

Beh. Research Practicum (2-units). The practicum will provide students practical experience in applying research methodologies to real world problems. Students will complete internship programs in areas that utilize behavioral data and analysis of these data as individuals or in teams. This course will partly build off of the material presented in Designing Enterprise Experiments or equivalent courses. **Prerequisites: ECON 307 or equivalent. Please contact instructor.**

SPE 312

Public-Private Partnerships. Many of the most important issues facing our region and our world are demanding partnerships of government, business, and civil society. This course explores the design and management of such partnerships. We examine theoretical approaches, especially from economics, to analyze when various forms of collaboration might make sense. We also consider the practical challenges of making public-private partnerships work, looking at some of the latest management literature and at outstanding case studies. Along the way, we have the chance to reconsider the meaning and practice of public policy and policy analysis.

SPE 315

Game Theory. Game theory is the analytic study of strategic interaction between individuals, firms, governments, or other groups of people. Game theory has been widely used in the study of economics, and more recently applied to a host of strategic political interactions in all areas of political science.

SPE 318

Cost Benefit Analysis. Cost benefit analyses (CBAs) are a key means of evaluating government projects and programs, both in advance of funding them and as post-audits. The basic features, rationales, criticisms, and designs are presented, with a focus on actual use and critical consumption of such studies. Students will critique case study CBAs and will as part of a group, write and present CBAs.

SPE 350

Comparative Politics. This course examines the evolution, approaches, methods, and substance of the sub-discipline of comparative politics.

SPE 351

Comparative Institutional Analysis. This course is an introduction to modern methods of analyzing major institutional structures. Our focus will be on understanding how different political institutions produce different political outcomes.

SPE 352

Comparative Political Economy. This course examines the interaction between capitalism and democracy. This class studies how the economy affects politics and how politics—in particular, political institutions—shape economic policies and outcomes. It explores the impact of global markets on national politics and the impact of politics on economic development in both developed and developing countries. We will also examine how various domestic political conditions (e.g. regime type, partisan politics, and constitutional features) affect economic policies (e.g. tax and welfare, growth, inequality, and poverty).

SPE 371

Globalization. Globalization is one of the most frequently used and least well understood concepts of our time. What is globalization and what is the globalization debate about? This course explores the causes and consequences of globalization—with respect primarily to trade, the multinationalization of production, and the international integration of financial markets. Readings and discussions will focus on the relations between globalization and a number of key areas: growth, inequality, poverty, labor, the environment, gender, culture, race, etc.

SPE 410

Foundations of Political Economy. Political economy covers a wide domain of intellectual endeavor and is inherently interdisciplinary. In popular vernacular, it is often used to describe the political feasibility of implementing a public policy such as health care reform. However, many of history's greatest 'economists' were actually political-economists including Adam Smith and David Ricardo. This class covers two main political economy topics; using economic methods to analyze politics and government, as well as explanations of how political and market institutions affect resource allocations and social welfare. Students interested in the international aspects of political economy should include that DPE specialization in their coursework.

SPE 411

Advanced International Political Economy (IPE). This course offers an introduction to major theories and topics in international political economy for graduate students. It is intended to help graduate students begin to think about how to contribute to the current research frontier in IPE. Readings in the seminar will be a sample of both classics and recent articles on a number of topics across the spectrum of IPE
Prerequisite: PP 481 and PP 482.

SPE 418

Seminar in International Political Economy. Is the world flat, or on fire? "Globalization" has come under fire in recent years with pundits blaming it for income and social inequality, asset bubbles, unsustainable consumption, and all manner of negative environmental externalities. This course digs deep into the theoretical and empirical research on international political economy and investigates the role of institutions on trade, the effects of trade and foreign direct investment on economic growth, as well as the institutional incentive structures of foreign exchange rate policies. We also survey the literature on the effectiveness of international sanctions and trade and the environment. An area of special emphasis is on developing an analytical framework to study the political economy of tradable services, an area of little scholarly attention. **Prerequisite: PP 481 and PP 482.**

wSPE 471

Strategic Modeling for Political, Economic, and Business Decisions. The goal of this course is to provide students with an understanding of several decision-making approaches in political science. The course is divided into four substantive sections emphasizing both theory and applications. The first section deals with a general overview of approaches and assumptions underlying positive decision making in political science. The second section focuses on game theory, the third section centers on expected utility theory and finally the final section deals with spatial bargaining models.

SPE 485

Computer Applications for Social Science Research. This course provides hands-on practice with computer applications for quantitative data analysis. There will be step-by-step instructions on how to put research inquiry into actual statistical programming. We will use the two most popular statistical software programs - Stata and R. Both Stata and R run on publicly available packages and user-written scripts. They offer flexible environments that allow users to draw statistical inferences based on the understanding of matrix algebra. In particular, we will cover a few techniques that can be very useful for writing a quantitative research paper. In addition to working on data analysis techniques, this class is designed to help students learn and use LaTeX, a typesetting system allowing students to produce scientific and technical documentation.

SPE 486

Data Analytics & Visualization. This course is a hands-on, introduction to applied data analytics and visualization. Political, economic or business strategy drives which best practice theories, data, models and methods get implemented, turning insights into action for data driven decision-making. Thus, we will cover current state-of-art business intelligence, data analytics, predictive analytics and visualization techniques used across academia, industry and policy circles. The course is specifically designed as an introductory seminar covering the broad themes, topics and methods to data analytics. Students learn and use widely accepted analytics software platforms, including Excel, R, STATA, TABLEAU, and GEPHI among others

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