ECON2229 Economic and Business Forecasting  Richard McGowan, S.J.

Prerequisites: ECON1151 and Calculus

The theory and practice of applied time series analysis will be explored, including the subjects of dynamic modeling, parameter estimation, prediction, and model evaluation. Specific topics to be covered will include linear regression, ARMA models, and vector autoregressions.

ECON2242 Public Policy in an Aging Society  Matt Rutledge

Prerequisites: ECON1131

We live in a rapidly aging nation. In two decades, the age distribution of the US will look like that of Florida today. We will analyze the underlying demographic trends, the economic status of the aged, the fiscal challenge of an aging society, public policies (especially social insurance) designed to assist older Americans, the impact of public policy on individual behavior, and proposals for reform.

ECON2261 Money, Banking, and Financial Markets  Hossein Kazemi

Prerequisites: ECON1131 and ECON1132

Not open to students who have completed ECON3361; cannot be taken concurrently with ECON3361.

This course deals with topics such as significance and functions of money in the economy, behavior of interest rates, banking and management of financial institutions, central banking and the conduct of monetary policy, Federal Reserve System, financial derivatives, money market, foreign exchange market, and the international financial system.

ECON2277 Environmental Economics and Policy  Richard Sweeney

Prerequisites: ECON1131

The course provides an introduction to the economics of environmental policy. We begin by examining market failures from externalities and public goods. We then discuss public policy options to correct these failures, and develop tools to assess the costs and benefits of each approach. With this framework in place, the remainder of the course is spent evaluating past efforts to conserve land and improve air and water quality, before concluding with an extensive discussion about global climate change policy.

ECON2278 Environmental Economics  Gokce Olcum

Prerequisites: ECON1131

The course will examine different aspects of natural resource allocation and the protection of environmental quality from an economic standpoint, including: specific areas of market failure, the allocation of public goods, the estimation of non-market values, public policy avenues for influencing natural resource management, and ethical issues in natural resource management.
ECON3305  Market Design
Prerequisites: ECON2201 or ECON2203

This is an introductory-level course on matching theory and market design. It aims to provide students with fundamental concepts of matching and allocation problems in the absence of monetary transfers. In this course we will cover standard models of one-sided and two-sided matching. The focus of the course is both introducing students to the matching theory as well as exploring real-life market design applications such as on-campus housing, school choice and kidney exchange.

ECON3308  Game Theory
Prerequisites: ECON2201 or ECON2203

This course is an introduction to game theory. Game theory consists of a coherent set of concepts and analytical tools to examine interactive or strategic situations between people, that is, situations where the well being of one actor depends not only what s/he does but also on what others do. Hence in deciding how best to act, each person needs to consider how others are likely to act as well. Game theory has become a widely used tool of analysis in a wide range of disciplines, including economics, business, political science, law and international relations.

ECON3309  Game Theory and Social Behavior
Prerequisites: ECON2201 and ECON2228

We apply insights from game theory to explain human social behavior, focusing on novel applications which have heretofore been the realm of psychologists and philosophers—for example, why people speak indirectly, in what sense beauty is socially constructed, and where our moral intuitions come from—and eschewing traditional economic applications such as industrial organization or auctions.

We will employ standard games such as the prisoners dilemma, coordination, hawk-dove, and costly signaling, and use standard game theory tools such as Nash equilibria, subgame perfection, and Bayesian games. These tools will be rigorously taught from scratch and no existing knowledge of game theory, economics, or mathematics is required. At the same time, students familiar with these games and tools will not find the course redundant because of the focus on non-orthodox applications.

In order to apply game theory to social applications, we will also introduce models of learning and evolution, employing mathematical techniques such as first order differential equations and Markov processes, as well as simple computer simulations in Matlab or Python. These, too, will be taught from scratch; no prior experience with differential equations or computer programming is required. The class will cover readings from other fields, such as research papers on animal behavior, and experiments in economics and psychology.

ECON3312  Evolutionary Economics
Prerequisites: ECON2201 and ECON2228

The course uses evolutionary biology to better understand the psychology of
preferences, a central concept in economics. Why are people risk averse? Impatient? What explains novelty seeking, habits, addictions? What makes parents provide for children? We will use evolutionary thinking to explore these and a host of other diverse topics: violence, adolescent risk taking, sexual behavior, mating preferences, marriage and divorce, rearing and investing in children, extended families, trade and specialization, cooperation and conflict, cults and gangs, religion, and interactions between genetic and cultural forces. This course has an intensive research and writing requirement and enrollment is limited. Prerequisites: Micro theory and econometrics. You should be comfortable using Stata. By department permission only.

ECON3331 Theories of Distributive Justice Uzi Segal

Prerequisites: ECON2201 or ECON2203

The course will analyze modern analysis of justice and fairness. We will discuss bargaining situations and social choice questions. Part of the course will be devoted to the recent experimental literature regarding fairness. Limited enrollment. Significant writing/research component. Please note this course requires a strong conceptual understanding of Micro Theory.

ECON3357 Advanced Topics in Industrial Organization: Theory and Applications Julie Holland Mortimer

Prerequisites: ECON2201 or ECON2203

We study the behavior of firms and the structure of industries, especially in cases when the assumptions of perfect competition break down. The course combines theoretical micro-economic analyses with studies of actual firm behavior in individual industries. Topics include horizontal relationships and mergers, vertical integration and control through contractual arrangements, price discrimination, information and search costs, and network externalities.

ECON3358 Industrial Organization, Creation, and Strategy Tracy Regan

Prerequisites: ECON2201 or ECON2203

This course is designed as an introduction to industrial organization with special emphasis on entrepreneurship and strategy. We will discuss various types of market structures and business methods. Students will work in groups to read and present popular press, non-fiction books on various techniques and approaches to business. Students will also read and present popular press, non-fiction books on specific current-day firms. The semester will conclude with the student groups presenting a business plan for a new start-up company.

ECON3361 Monetary Theory & Policy Hossein Kazemi

Prerequisites: ECON2202 or ECON2204 and ECON2228

This course is an analysis of the operation and behavior of financial markets and financial institutions. Emphasis is placed on financial intermediaries, including commercial banks, and the central bank. The money supply process and alternative theories of the demand for money are considered, as well as their implications for monetary policy and macroeconomic performance.
ECON3363# Micro Public Policy Issues

*Prerequisites: ECON2201 or ECON2203*

This is a seminar on the economic analysis of current microeconomic public policy issues. During the first half of the course, students will read and discuss articles on selected topics (from the syllabus), and prepare first drafts of papers on topics of their own choice. The second half of the course will be run like a professional economics conference. Students will read and critique others' papers, present their own drafts to the class, and then revise their own papers on the basis of the comments received.

ECON3365 Public Finance

*Prerequisites: ECON2201 or ECON2203 (may be taken concurrently)*

This is a course in the microeconomics of the public sector. We will discuss the rationale for the government's role in a market economy, major expenditure programs, and the theory and structure of the tax system. The focus will be on the federal (as opposed to state and local) government's expenditure and tax programs, with special attention given to topics of current concern.

ECON3370# Sports Econometrics

*Prerequisites: ECON2201 or ECON2203 and ECON2228 and/or ECON3327

This is not a sports history/trivia class.

This applied economics course focuses on empirical analysis and features extensive application of econometric methods, including discrete choice models, panel data techniques and non-linear estimation. The course is built around a sequence of empirical exercises on topics such as the efficacy of competitive balance initiatives, the Pythagorean Theorem in baseball, the valuation of NFL draft picks, *hot hands* in the NBA, MLB umpire bias and home field advantage, pay/performance in the NBA, understanding differences in ticket prices, and rating team performance. A term-long empirical research project/paper is an important part of the course.

ECON3372 International Finance

*Prerequisites: EC202 or EC204*

International financial markets, international trade and balance of payments issues will be studied by using analytical models of the open economy. Topics of particular interests are exchange rate determination, capital flows, trade flows, and other international linkages between economies. The course will apply the analytical tools of international economics to address macroeconomic aspects of current policy issues such as the global impact of the financial crisis, exchange rate policy, sovereign debt crises, and persistent trade deficits and international indebtedness.

ECON3373# Impact Evaluation in Developing Countries

*Prerequisites: ECON2201 and ECON2228*

The course reviews advanced econometric techniques and research designs used to estimate the causal effect of programs or policies implemented in developing countries. Fixed effects, difference-in-difference, instrumental variable, and propensity score methods
are discussed as are regression discontinuity, natural experiment, and randomized experiment designs. The economic rationale for such programs is also addressed. Topic areas include health, education, service delivery, insurance, and micro-finance.

**ECON3374#+ Development Economics and Policy**
Scott Fulford

*Prerequisites: ECON2201 or ECON2203 and ECON2202 or ECON2204*

This course examines development economics and development policy. The purpose is to understand the lives of the poor and the economics of poor countries in order to understand what—if anything—can be done to improve their lives. We will examine various theories of why some countries and groups are rich while others are not, with emphasis on understanding what changes might occur to promote development. We will consider what might be holding the poor back including: lack of infrastructure and capital, population growth, lack of education, poor health, corruption, and institutional impediments such as poorly developed or tightly constrained markets. We will examine different methods to evaluate the effects of a policy or program, and what we do, and do not, know about poverty. Students will write a paper which considers the research and economic reasoning for a particular program to help the poor by a government giving foreign aid, a developing country government, or an NGO. This course is appropriate for economics majors as well as for majors in international studies with the appropriate prerequisites.

**ECON3379 Financial Economics**
Peter Ireland

*Prerequisites: MATH1100, MATH1102, or MATH1105; ECON2201 or ECON2203; ECON1151 or ECON1155; and ECON2228*

This undergraduate elective focuses on financial economics, with specific emphasis on asset pricing and the valuation of risky cash flows. After developing and studying the details of consumer decision-making under uncertainty, it uses that general framework as a basis for understanding both equilibrium and no-arbitrage theories of securities pricing, including the capital asset pricing model (CAPM), the consumption capital asset pricing model (CCAPM), Arrow-Debreu theories, martingale pricing methods, and the arbitrage pricing theory (APT).

**ECON3380 Capital Markets**
Harold Petersen

*Prerequisites: ECON2201 or ECON2203 (may be taken concurrently) and ECON1151*

*Open only to A&S economics majors and minors.*

Valuation of assets, rates of return, measurement of earnings, finance and securities markets, risk and portfolio choice, and special problems in investment. The course is designed to give students an appreciation of the role of securities markets in the allocation of capital. It assumes some background in economics but no prior work in finance. Finance majors should not take the course since they would encounter most of the material elsewhere, and anyone who has had basic finance would find about half of the topics redundant.

There are three required books (all in paperback), plus library readings, but there is no textbook as such. Regular attendance is required, and class participation is expected. Grading is based on two mid-term exams, homework problems, an investment project, and a final exam.

**ECON3381# History of Financial Crises**
Harold Petersen
Prerequisites: ECON2201 (ECON2203) and ECON2202 (ECON2204)

History of Speculation and Financial Crises, from the Tulip Mania in Holland, John Law and the Mississippi Company in France, the South Sea Bubble in England, on through to the Panic of 1907 in the U.S., the Roaring Twenties and the Collapse of 1929, and the most recent financial crisis. We will look at these crises through the lens of Minsky's financial instability hypothesis and will of course ask why they continue to happen, over and over again.

ECON3382 Introduction to Computational Investing Tzuo Law

Prerequisites: ECON2201 (ECON2203), ECON2202 (ECON2204), and ECON2228

In this course we introduce the mechanics of electronic markets, visualize and analyze economic and financial data; propose, design and optimize data-driven investment strategies, write programs to automate trading using these strategies, evaluate how well the investment strategies do with real world data, and think about how economic models speak to aspects of the data.

The focus of this course is on the quantitative skills of modern investing. We will implement most of what we learn in class in a simulated “real-world” investment environment. At the end of the course, we take a step back and try to understand what we have done in the context of economic models. To accomplish this, we spend the first two thirds of the course getting our hands dirty with a lot of applied work. In the final third, we try to understand what we have done through the lens of economic models.

The first four to five weeks of the course introduces programming in MATLAB (an industry standard programming language). We will learn MATLAB by building financial investment tools in MATLAB. This will be challenging. The course assumes that students have never programmed before but are eager to learn how.

The next four to five weeks will be dedicated to project driven work. Students implement their own investment strategies in groups. We continue learning new concepts and tools while discussing how this can be incorporated into the investment strategies. The projects must meet two checkpoints to ensure that steady progress is made.

In the final three to four weeks, we will concentrate on economic models and relate them to the investment environment we have worked with.

ECON3384 (Economic) Principles and Theory of Medical and Health Care Martin Konan

Prerequisite: ECON2201 or ECON2203 Not open to students who have completed ECON3385.

This course is designed to teach students how to use basic principles and theories of microeconomics and statistics when thinking about medical and health care issues. In the course, we will use these concepts to understand the demand for health care, the supply of health care, the health insurance market, and the role of the government in health policy. We will focus on the U.S. health care industry. The market structure and the conduct and performance of the sub-sectors that compose this industry will be
covered. Private insurance, pharmaceuticals, physician services, hospital service and medical markets will be evaluated. Alternative health care systems will also be studied.

**ECON3386  Public Policy Analysis**  
Anant Nyshadham  
*Prerequisite: ECON2201 or ECON2203, and ECON2228. Linear Algebra recommended.*

The objective of this course is to review the state of the art in the development field with respect to applied theory, structural estimation procedures, and experimental design. We will review the latest papers from the field exemplifying these approaches and then practice applying these approaches in paper topics of the students’ choosing. The development of these papers will be guided by periodic presentations and group discussions.

**ECON3392 Quantitative Methods in Environmental Economics**  
Gokce Olcum  
*Prerequisites: ECON2201 or ECON2203. Basic linear algebra knowledge helpful.*

This course provides an introduction to the use of quantitative methods in environmental and energy economics. The emphasis will be on top-down and bottom-up modeling of integrated economic and environmental systems. For this purpose, the courses starts with a brief review of the basics from microeconomic theory, calculus, and linear algebra, which is followed by the conceptual foundations of economic modeling and the applications of optimization techniques on environment-energy related problems.

While the main focus of this course is on the use of optimization modeling for problems within the environment-energy-economy nexus, it also provides a very sound perspective in how to use these techniques in any other kind of economic and managerial decision making, which has become an increasingly sought-after skill for college graduates.

#Enrollment limited; significant writing/research component.  
+Fulfills cultural diversity core requirement.

For up-to-date information on Economics course offerings see [http://www.bc.edu/economics](http://www.bc.edu/economics)