

# ECONOMICS (ECO)

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## **ECO 113. Microeconomic Principles. 3 Credit Hours.**

This course introduces students to the basic principles of microeconomics, including the nature and method of economics and the role of the private and government sectors. Emphasis is placed on the firm, market structures, and resource allocation.

Session Cycle: Fall, Spring

Yearly Cycle: Annual.

## **ECO 114. Macroeconomic Principles. 3 Credit Hours.**

Students in this course learn the basic principles of macroeconomics, including national income accounting, business cycles, income determination, and monetary and fiscal problems and policy. Also considered is international economics, including trade, comparative advantage theory, balance of payments, exchange rates, and trade and finance problems and policy.

Session Cycle: Fall, Winter, Spring

Yearly Cycle: Annual.

## **ECO 201. Money and Banking. 3 Credit Hours.**

Unlike the real side of the economy, which is the actual conversion of resources into consumption, the financial system produces no tangible good that can be used to directly satisfy some need or want. Yet, no modern economy can exist without a well functioning financial system. The financial system impacts real economic activity by providing (1) ways to transfer economic resources through time, across geographic regions, and among industries, (2) ways to manage risk, (3) ways of clearing and settling payments to facilitate the exchange of goods, services and assets, (4) a mechanism for the pooling of funds to undertake large scale indivisible enterprise, (5) price information that helps coordinate decentralized decision making, and (6) ways to deal with the incentive problems when one party to a financial transaction has information that the other party does not, or when one party is an agent that makes decisions for another. This course will explore the financial system and its functions. Topics covered include the basic principles of money, credit and banking, their relation to prices and business fluctuations, the Federal Reserve System, monetary policy, and international macro-finance.

Prerequisites: ECO 114

Session Cycle: Fall, Spring

Yearly Cycle: Annual.

## **ECO 210. Research Methods in Economics. 3 Credit Hours.**

Research Methods in Economics introduces students to the mathematical, statistical, programming, technical writing, and public speaking skills necessary to comprehend and conduct meaningful economic research. Students will be introduced to topics such as mathematical optimization, data analysis, regression, and writing techniques used to understand and analyze complex economic problems. In addition, students will complete an individual and unique research project to solidify the concepts learned throughout the course of the semester to prepare them for upper level courses in economics. Note:

Applied Economic majors must take ECO 210 before taking ECO 315. All other students that took ECO 315 first cannot receive credit for ECO 210. Prerequisites: Either ECO 113 or ECO 114, and MATH 201 and sophomore standing

Session Cycle: Fall

Yearly Cycle: Annual.

## **ECO 213. Economics of Social Issues. 3 Credit Hours.**

The course objectives are to increase the student's knowledge and interest in the economic consequences of social issues and to provide the student with the basic analytical skills needed to assess social problems from an economics perspective. Students will learn how to determine the appropriate economic principles which, when applied, might bring about the reduction or resolution of particular social issues.

Prerequisites: ECO 113 or ECO 114

Session Cycle: Summer

Yearly Cycle: Varies.

## **ECO 310. Mathematical Economics. 3 Credit Hours.**

Mathematical economics refers to the application of mathematical methods to represent economic theories and analyze problems posed in economics. The purpose of this course is to equip students with the mathematical tools needed for economic analysis which are unlikely to be taught in other classes. The course has four major goals: i) review mathematical tools of algebra and calculus; ii) introduce analysis of differential and difference equations; iii) introduce matrix algebra; and iv) introduce static optimization including the concept of duality.

Prerequisites: ECO 113 or ECO 114 and MATH 110 or MATH 121 or instructor permission

Session Cycle: Spring

Yearly Cycle: Alternate Years.

## **ECO 313. Intermediate Microeconomics. 3 Credit Hours.**

In this course, the behavior of business firms will be studied through an investigation of demand, supply and equilibrium under conditions of perfect and imperfect competition in the product market. Similar analytical techniques are then employed to examine the efficient allocation of the factors of production.

Prerequisites: ECO 113

Session Cycle: Fall, Spring

Yearly Cycle: Annual.

## **ECO 314. Intermediate Macroeconomics. 3 Credit Hours.**

This course examines macroeconomics concepts and problems. Students will develop the analytical capability to determine how aggregate demand and aggregate supply are influenced by the public and private sectors as measured by changes in employment, inflation, national output, and international trade. An analysis will also be made of the impact of selected macroeconomic policies that employ classical and Keynesian recommendations for increasing real national output while maintaining price stability.

Prerequisites: ECO 114

Session Cycle: Fall, Spring

Yearly Cycle: Annual.

## **ECO 315. Econometrics. 3 Credit Hours.**

This course is an introduction to basic econometric techniques and strongly emphasizes on statistical applications to economic theories. Students consider problems in estimating such economic variables as consumption-income-price relationships, production functions as well as problems in simulating economic models. For data analysis, students will learn to use Stata and/or R. Applied Economic majors must take ECO 210 before taking ECO 315.

Prerequisites: ECO 113 or ECO 114 and MATH 110 and MATH 201

Session Cycle: Fall, Spring

Yearly Cycle: Annual.

**ECO 340. Sports Economics. 3 Credit Hours.**

This course applies microeconomic principles and theories to the sport industry. The core microeconomic fields of Industrial Organization, Public Finance and Labor Markets are the focus of this course to examine professional and college sports. Topics of particular interest are but not limited to sports franchises and profit maximization, monopoly behavior and union role, salary determination, and discrimination, cost-benefit analysis, investment decisions on stadiums and teams.

Prerequisites: ECO 113

Session Cycle: Fall

Yearly Cycle: Annual.

**ECO 350. America and the Free Market. 3 Credit Hours.**

The influence of the free market philosophy in the U.S. extends far beyond the market place or the economic arena. This course examines these influences and the consequences of the adoption of free market economics on many aspects of U.S. society including its influence on the economy, political economy, politics, socio-economic policies, education, culture, and media among others. There is a particular focus on the relationship between the ideals of free markets and democracy.

Prerequisites: ECO 113

Session Cycle: Spring

Yearly Cycle: Annual.

**ECO 363. Industrial Organization: American Industry. 3 Credit Hours.**

Industrial Organization is concerned with the way markets and industries are structured and the behavior and performance of firms in those markets and industries. Topics to be covered in this course include oligopoly, pricing strategies, research and development, barriers to entry, and advertising. Specific industries such as steel, autos, and computers will be examined.

Prerequisites: ECO 113

Session Cycle: Fall

Yearly Cycle: Alternate Years.

**ECO 364. Industrial Organization: Government and Business. 3 Credit Hours.**

The emphasis in this course is on the application of economic concepts and tools to evaluate the effectiveness of government antitrust laws and regulatory practices in bringing about a more competitive economic system. Topics include price fixing, predatory pricing, and price determination. The origins and tasks of Federal and State Regulatory Commissions are also examined.

Prerequisites: ECO 113

Session Cycle: Fall

Yearly Cycle: Alternate Years.

**ECO 367. Economic Development. 3 Credit Hours.**

An analysis of developing nations. Areas covered include characteristics of developing countries; economic, social, and political problems; foreign aid and trade; the role of governments; human and non-human capital formation; and some case studies of individual countries.

Prerequisites: ECO 114

Session Cycle: Spring

Yearly Cycle: Annual.

**ECO 391. Economics Internship. 3 Credit Hours.**

Economics internships give students the opportunity for supervised employment in an area where they can apply economic theories and principles. Interns work at least ten hours a week, meet periodically with a supervising faculty member, do research on their field of employment, and prepare a substantive report on their work experience and research. Approval required by a supervising faculty member and the department chair.

**ECO 393. Managerial Economics. 3 Credit Hours.**

This course is concerned with how economic principles and methodologies can assist managers in business and other organizations to make decisions. Areas of analysis include, but not limited to, supply and demand, production and cost, market structures and pricing, economics of information and managerial strategies, and the role of government in the market place.

Prerequisites: ECO 113

Session Cycle: Summer

Yearly Cycle: Annual.

**ECO 397. Directed Study in Economics. 3 Credit Hours.**

ECO 397 enables students (sophomores, juniors and seniors) to do an independent study of a specialized topic with an economics faculty member.

**ECO 413. Applied Microeconomics: Case Studies. 3 Credit Hours.**

This course, with its case study focus, examines the application of microeconomic theories to real business and industry environments. Issues of supply and demand, market structures, government intervention, and resource markets are among a few of the topics of discussions and analyses.

Prerequisites: ECO 113 and ECO 114 and junior standing

Session Cycle: Fall

Yearly Cycle: Annual.

**ECO 414. Applied Macroeconomics: Case Studies. 3 Credit Hours.**

This course covers core issues in macroeconomics at an advanced level. Topics covered will include long term growth, short term fluctuations and policy issues. The course centers on macroeconomic practical applications and issues by integrating case studies and journal articles. The overall goal is to gain a broad and critical understanding of models that can help to analyze specific policy issues in the global environment.

Prerequisites: ECO 113, ECO 114 and ECO 314 and junior standing

Session Cycle: Spring

Yearly Cycle: Annual.

**ECO 415. Applied Econometrics for Business and Policy. 3 Credit Hours.**

A fundamental problem faced by decision makers is to obtain solid empirical evidence to support or reject their propositions. Consequently, markets and governments are increasingly demanding professionals who can apply sophisticated statistical tools to obtain empirical evidence that can be used to analyze complex problems and make decisions. Applied Econometrics for Business and Policy is designed to apply modern methods of empirical analysis to the task of making informed choices related to business and policy projects. It is a hands-on-the-data course that gives to students practice and the tools to analyze a variety of economic and business problems.

Prerequisites: ECO 113 and ECO 114 and ECO 315 or FIN 311 or or MATH 350 or AM 332

Session Cycle: Fall

Yearly Cycle: Alternate Years.

**ECO 440. Machine Learning Applied to Economics. 3 Credit Hours.**

The dawn of the artificial intelligence era is disrupting both markets and the traditional framework for applying economics. This course offers an introduction to the economics of machine learning – computational algorithms that provides the ability to automatically learn from the data and improve from experience without being explicitly programmed – and explores the application of machine learning to make predictions and improve decision-making. Lectures, class discussion, guest speakers, and team projects will be used to expose students to a variety of topics and questions including: how machine learning makes prediction better? What data-based predictions are important to business and decision-makers? How to find relevant tasks to apply machine learning to solve economic problems? What are the off-the-shelf applications of machine learning (applications in analyzing text and images) that can be applied to economic decision-making?

Prerequisites: ECO 113, ECO 114, and one of the following: ECO 315, MATH 201, ISA 201, or ISA 221

Session Cycle: Fall

Yearly Cycle: Annual.

**ECO 445. Experimental Economics. 3 Credit Hours.**

This course provides an introduction to experimental methods in economics. In other economic courses, you have learned about economic theories. In this class, we will learn the methodology for testing those theories. Either we will be able to confirm the theories or we will find evidence that the theories are incorrect, usually because they are based on a questionable assumption. Students will also become familiar with state-of-the-art research methodology in experimental economics, and will learn to conduct their own research projects by participating in and designing experiments in bargaining, auction markets, and other economic situations.

Prerequisites: ECO 113 and ECO 114

Session Cycle: Fall

Yearly Cycle: Annual.

**ECO 450. Current Affairs of East Asian Economy. 3 Credit Hours.**

This course will encourage discussions of a variety of current economic issues in East Asian economy. To understand how three East Asian nations (China, Japan and Korea) have followed different economic development paths students will learn economic growth and development theories as well as their historical backgrounds. Within these theoretical frameworks, students will develop analytical skills to better understand the economic growth and development mechanism in the global setting. Students will also study how these economies have been affected by globalization.

Prerequisites: ECO 114 and sophomore standing

Session Cycle: Fall

Yearly Cycle: Varies.

**ECO 461. Environmental Economics. 3 Credit Hours.**

This course develops and uses microeconomic principles to better understand current environmental issues. Attention is given to the efficient use of environmental resources. Various public policies dealing with environmental problems such as acid rain, global warming and air and water pollution are discussed and analyzed. International comparisons regarding environmental policy is incorporated.

Prerequisites: ECO 113 and ECO 114

Session Cycle: Spring

Yearly Cycle: Alternate Years.

**ECO 462. Public Finance. 3 Credit Hours.**

This course examines the role of the federal government in the market when there are market failures. The course focuses on issues surrounding the efficient allocation of resources, the existing distribution of income and policies designed to stabilize the economy. The fundamentals of the personal income tax and social security tax are outlined and the impact on economic behavior is discussed. Similarly, federal expenditures for health, social security, education, and welfare are evaluated.

Prerequisites: ECO 113 and ECO 114

Session Cycle: Spring

Yearly Cycle: Alternate Years.

**ECO 463. Labor Economics. 3 Credit Hours.**

This course deals with a discussion of a variety of economic topics in the labor market. To understand how the labor market works, students will learn labor economic theories such as theories of labor supply, labor demand, and human capital. With theoretical frameworks, students will be able to better understand and examine government policies toward the labor market. Students will also study how the U.S. labor market is affected by globalization.

Prerequisites: ECO 113 and ECO 114

Session Cycle: Fall or Spring

Yearly Cycle: Annual.

**ECO 464. Behavioral Economics and Applications. 3 Credit Hours.**

This course analyzes the observed behavior of decision makers and explores when and why actual behavior deviates from the predictions of standard economic models. Drawing from research in psychology and economics, the course enriches standard economic theories by incorporating social, cognitive and emotional factors into decision-making models. These factors include (but are not limited to) bounded rationality, altruism, reciprocity, cooperation, procrastination and self-control, and individual decisions under uncertainty. The course also discusses the policy implications of behavioral models as they relate to savings, tax policies, health care industry and financial industries.

Prerequisites: ECO 113 and ECO 114 and sophomore standing

Session Cycle: Spring

Yearly Cycle: Annual.

**ECO 471. International Trade. 3 Credit Hours.**

International Trade offers a broad overview of international economic theory and its application to analyze real world events. A wide range of issues will be discussed including comparative advantage, gains from trade, protectionism, the effects of trade on economic performance and income inequality, the balance of payments, and major issues of finance. It will also examine political and economic development. By the end of the course students should be able to i) analyze and interpret international trade issues; ii) apply basic concepts of international economics to analyze current events and policy topics, and iii) critically evaluate the impacts of international trade on society's well-being.

Prerequisites: ECO 113 and ECO 114

Session Cycle: Spring

Yearly Cycle: Annual.

**ECO 473. Economics of Health and Medical Care. 3 Credit Hours.**

This course will examine economic processes in the health care industry of the United States. It provides the student with an understanding of how decisions are made by providers, consumers, and the third party payers for pricing and the quantity of healthcare services. This course will cover decision-making models, analyze policy issues and investigate political and economic aspects of the health care industry. Among the topics covered are market mechanism and structures, government intervention, health care reform and insurance, and ethics in health care.

Prerequisites: ECO 113 and ECO 114

Session Cycle: Fall

Yearly Cycle: Alternate Years.

**ECO 480. Economic Growth Policy and Practice. 3 Credit Hours.**

The factors determining long-term economic growth have been a major concern for economists and governing bodies for many years. The general purpose of this course is to begin to discover what is known about the determinants of long-run economic growth. The course has three major specific goals: i) briefly look and discuss the historical record related to cross-country economic growth; ii) introduce students to the economics of growth and examine how economic theory explains the actual growth record of the world's countries; and iii) apply economic growth models to investigate topics of special interest to students.

Prerequisites: ECO 113 and ECO 114 and junior standing

Session Cycle: Fall

Yearly Cycle: Annual.

**ECO 481. The Fed Challenge. 3 Credit Hours.**

The course prepares students for the College Fed Challenge, an academic competition to be held at the Boston Federal Reserve District Bank in November. Students research and analyze economic and financial conditions and then present and defend their analyses with recommendations for monetary policy before a panel of judges.

Prerequisites: ECO 113, ECO 114, permission of the instructor and sophomore standing.

Prerequisites: ECO 113 and ECO 114, sophomore standing and permission of the instructor

Session Cycle: Fall

Yearly Cycle: Annual.

**ECO 490. Capstone Economics Seminar. 3 Credit Hours.**

This senior level capstone seminar is designed for students majoring in economics to explore specific economic research topic of their interest, either as part of a weekly seminar or as an individual directed study. This course requires students to apply and analyze economic analysis. Where applicable they will be required to present their research paper before economics faculty and students.

Prerequisites: Economics major or concentrator and senior standing

Session Cycle: Spring

Yearly Cycle: Annual.

**ECO 497. Directed Study in Economics. 3 Credit Hours.**

ECO 497 Enables economics majors/concentrators to do an independent in-depth research or study of an advanced topic under the direction of a member of the Economics Department. The main requirement is the development of a professional quality paper (or other demonstration of mastery of the material.).

Prerequisites: ECO 113 and ECO 114.