

# ECONOMICS (ECON)

## **ECON 1001. Economics at Work. 1 Credit Hour.**

Students are introduced to career opportunities in economics and explore/identify how economics is used in different employment contexts.

## **ECON 1XXX. Economics Elective. 1-21 Credit Hours.**

### **ECON 2100. Economic Analysis and Policy Problems. 3 Credit Hours.**

Practice in analysis of decision problems of relevance to students in public policy and personal decision areas. Issues relating to individual decisions to produce, consume, invest, and trade will be explored. Analytical approaches will enable students to use and incorporate basic elements of micro- and macro-economic analysis and to appreciate issues regarding testing and measurements. Students can receive credit for either ECON 2100 or ECON 2101, or for ECON 2105/2106. Students cannot receive credit for ECON 2100 and ECON 2101 or for ECON 2100 and ECON 2105/2106 or for ECON 2101 and ECON 2105/2106.

### **ECON 2101. The Global Economy. 3 Credit Hours.**

Historical and theoretical understanding of global economy, including international trade, finance, investment production; regional economic integration; economic development; environment, using micro and macro economic principles. Students can receive credit for either ECON 2100 or ECON 2101, or for ECON 2105/2106. Students cannot receive credit for ECON 2100 and ECON 2101 or for ECON 2100 and ECON 2105/2106 or for ECON 2101 and ECON 2105/2106.

### **ECON 2105. Principles of Macroeconomics. 3 Credit Hours.**

This principles of economics course is intended to introduce students to concepts that will enable them to understand and analyze economic aggregates and evaluate economic policies. Students can receive credit for either ECON 2100 or ECON 2101, or for ECON 2105/2106. Students cannot receive credit for ECON 2100 and ECON 2101 or for ECON 2100 and ECON 2105/2106 or for ECON 2101 and ECON 2105/2106.

### **ECON 2106. Principles of Microeconomics. 3 Credit Hours.**

This principles of economics course is intended to introduce students to concepts that will enable them to understand and analyze structure and performance of the market economy. Students can receive credit for either ECON 2100 or ECON 2101, or for ECON 2105/2106. Students cannot receive credit for ECON 2100 and ECON 2101 or for ECON 2100 and ECON 2105/2106 or for ECON 2101 and ECON 2105/2106.

### **ECON 2250. Statistics for Economists. 3 Credit Hours.**

This course provides an introduction to probability theory and statistical inference. Students will explore tools and concepts relevant to the study of economics and gain a familiarity with statistical software widely used by economists.

### **ECON 2698. Undergraduate Research Assistantship. 1-12 Credit Hours.**

Independent research conducted under the guidance of a faculty member.

### **ECON 2699. Undergraduate Research. 1-12 Credit Hours.**

Independent research conducted under the guidance of a faculty member.

### **ECON 2803. Special Topics. 3 Credit Hours.**

Special topic offerings of current interest not included in permanent courses.

## **ECON 2XXX. Economics Elective. 1-21 Credit Hours.**

### **ECON 3110. Advanced Microeconomic Analysis. 3 Credit Hours.**

Review of important mathematical tools and techniques used in advanced microeconomics. Advanced topics include the estimation of demand and cost functions; the role of government in the economy (externalities, property rights, and public goods); public choice theory; factor markets (especially labor and capital markets); models of monopoly; pricing techniques used by firms with market power (monopolies and oligopolies); and game theory.

### **ECON 3120. Advanced Macroeconomic Analysis. 3 Credit Hours.**

Develops theories and models of income and output determination in the open economy. Students explore the impacts of fiscal and monetary policies changes on aggregate economic outcomes.

### **ECON 3150. Economic and Financial Modeling. 3 Credit Hours.**

Develops student ability to model the essential elements of the investment decision through the use of a valuation model and spreadsheet analysis. Expands upon basic knowledge of present value analysis to recognize risk, growth, capital markets, and market valuation of ongoing operations.

### **ECON 3160. Introduction to Empirical Economics: Data Visualization, Analysis, and Presentation. 3 Credit Hours.**

Develops student abilities to logically formulate economic issues; identify and collect data; analyze the data using spreadsheet and presentation software; generate sound and defensible conclusions and recommendations; and make effective presentations of analysis and conclusions.

### **ECON 3161. Econometric Analysis. 3 Credit Hours.**

Econometric techniques and applications in economic and business analysis. Practical issues involving modeling, estimation, hypothesis testing, and emphasizing computer implementation through econometric software.

### **ECON 3300. Economics of International Energy Markets. 3 Credit Hours.**

Examines the economics of energy markets, encompassing the full value chain from production to consumption. Covers all major primary energy resources, including fossil fuels, nuclear, hydroelectric, and renewables, as well as electricity and transportation fuel markets. The course highlights health and environmental impacts, regulation and industrial organization, and energy policy at both the state and federal levels.

## **ECON 3XXX. Economics Elective. 1-21 Credit Hours.**

### **ECON 4002. Coding and Data Analysis for Economics II. 1 Credit Hour.**

This is the second in the series of three courses on data and empirical techniques used in economic analysis. The course focuses on advanced skills that include large data management and manipulation, relational data management, extensive vertical and horizontal summative and remerging techniques to prepare data sets for advanced statistical and econometric analyses.

### **ECON 4003. Coding and Data Analysis for Economics III. 1 Credit Hour.**

This is the third in the series of three courses on data and empirical techniques used in economic analysis. The course trains students to routine their statistical programming and data analysis skills, such as analysis of variance, linear and logistic regression modelling, and evaluating model performance. This course is an ideal complement to Empirical Methods, various thesis-focused and other research-oriented courses.

**ECON 4010. Career Development Workshop. 1 Credit Hour.**

This workshop style class for economics majors focuses on strategies and skills for identifying career and graduate school pathways, conducting successful job and internship searches, and advancing in the workplace.

**ECON 4060. Money and Capital Markets. 3 Credit Hours.**

Examines the role of money in macroeconomic activity and the impacts of monetary institutions and policy strategy on the behavior of financial markets and aggregate economic activity.

**ECON 4160. Economic Forecasting. 3 Credit Hours.**

Surveys modern time series econometrics with topics such as univariate models, vector autoregressions, linear and nonlinear filtering, frequency domain methods, unit roots, structural breaks, empirical process theory asymptotics, and forecasting. The course highlights applications in macroeconomics and finance.

**ECON 4161. Machine Learning for Economics. 3 Credit Hours.**

Introduction to the use of Machine Learning in economic analysis. Students will learn popular Machine Learning techniques and the application of these tools in economics.

**ECON 4170. Mathematics for Economic Modeling. 3 Credit Hours.**

Applies mathematical tools to economic analysis. Topics include the uses of linear algebra, multivariable calculus, comparative-static analysis, and optimization in economics.

**ECON 4180. Game Theory I. 3 Credit Hours.**

Course covers static games of complete information, dynamic games of complete information, static games of incomplete information and dynamic games of incomplete information.

**ECON 4190. Game Theory II. 3 Credit Hours.**

Students will learn microeconomic theories of strategic decision making by firms and individuals, and how firms and individuals utilize information to interact strategically.

**ECON 4210. The Economics of Climate Change. 3 Credit Hours.**

This course will explore the economic causes and consequences of climate change and evaluate the suite of policy options to mitigate greenhouse-gas emissions.

**ECON 4232. Labor Economics. 3 Credit Hours.**

Introduces students to labor markets, government regulations, and the incentives and behavior of workers and firms. Topics include wage discrimination, minimum-wage laws, and unemployment.

**ECON 4301. Economics of Information, Transactions Costs, and Contracts. 3 Credit Hours.**

Builds from analysis of the individual in a trading or transaction situation to study organizations as groups of affiliated individuals. Assesses the situations when organizations are preferable to markets as forms of organizing economic and social activity. Institutional economics and transaction cost economics are studied. Analysis of corporate restructuring and privatization.

**ECON 4311. Strategic Economics for Global Enterprise. 3 Credit Hours.**

Examines the strategies, decisions, and operations of multinational enterprises in a fast-changing global environment. The course examines theories of trade, foreign direct investment, competition, firm strategy, and the macroeconomic environment and their implications for location decisions and growth of multinational firms.

**ECON 4321. Economics of Technology, Innovation, and Entrepreneurship. 3 Credit Hours.**

Analyzes the economics of entrepreneurship and innovation. Topics include the business and economic history of entrepreneurship as well as the legal and institutional framework of the entrepreneurial environment.

**ECON 4340. Economics of Industrial Competition. 3 Credit Hours.**

This course examines the theory of the firm, the relationship between market structure, practices, and performance, and the determinants of technological change. The role (and ability) of government policy to solve various market failures, via antitrust enforcement, regulation, etc., is also discussed.

**ECON 4345. Economic Regulation. 3 Credit Hours.**

This course examines how government economically regulates private industry, how it might regulate more efficiently, and when it should not regulate at all. General theories of antitrust enforcement and economic regulation are developed and applied to a variety of industry cases.

**ECON 4350. International Economics. 3 Credit Hours.**

Covers important topics in trade theory, trade policy, and international finance. The course emphasizes the use of economic tools to analyze a variety of current events in the world economy.

**ECON 4351. International Financial Economics. 3 Credit Hours.**

This course familiarizes students with concepts, models, theories and applications in international markets.

**ECON 4352. International Trade Theory and Policy. 3 Credit Hours.**

This course will develop a theoretical framework to understand international trade. Students will examine the possibility of gains from trade, the nature of comparative advantage, the determination of the pattern of trade, the role of scale economies, imperfect competition, and factor movements. Students will examine trade policy, in particular the effects of protection (tariffs and non-tariff barriers) on prices and domestic consumer and producer economic welfare. Students will not receive credit for ECON 4350 and ECON 4352.

**ECON 4357. Law and Economics of the Global Trading System. 3 Credit Hours.**

This course takes an interdisciplinary approach, examining the economics, law, and political economy of the global trading system and its rules and practices. The course reviews the main economic theories behind the existence of tariffs, quotas, subsidies, non-tariff barriers to trade, strategic trade policies, and discusses the basic rules of GATT and World Trade Organization (WTO). Case-study discussions are used to analyze how multinational enterprises (MNEs) alter their strategies and decision-making structures in response to multilateral rules and enforcement mechanisms embodied in the WTO.

**ECON 4360. Economics of Telecommunication Networks and E-commerce. 3 Credit Hours.**

Analyzes the telecommunications sector from the public policy, business strategy, and technology perspectives. The course explores the driving forces behind the radical change in telecommunications regulations and the impact of this regulation on business operations.

**ECON 4370. Law and Economics. 3 Credit Hours.**

To introduce students to economic aspects of legal decision-making and to develop students' ability to critically analyze the purposes and efficiency of legal decision-making from an economic perspective.

**ECON 4401. Behavioral Economics. 3 Credit Hours.**

Human psychology and the rational choice models of economics are joined to better understand human decision-making. Students will design and execute their own experiments.

**ECON 4411. Economic Development. 3 Credit Hours.**

Introduces models of economic growth and sustainable development with a focus on inequality and poverty in the national and global context.

**ECON 4412. Cost-Benefit Analysis. 3 Credit Hours.**

Introduces students to the principles, tools, issues, strengths, and limitations of cost-benefit analysis (CBA). The course prepares students to competently review, criticize, and use CBA studies.

**ECON 4415. Conflict and Security in Developing Countries. 3 Credit Hours.**

Introduces research on the causes and consequences of contemporary armed conflict as well as economic studies of terrorism.

**ECON 4421. Urban and Regional Economics. 3 Credit Hours.**

Introduces the economics of regions, cities, and space. Students learn theories of growth and location to analyze the effects of urbanization, agglomeration, and congestion. The course analyzes public policy relating to urban and regional problems.

**ECON 4430. Economics of Transportation and Communication Systems. 3 Credit Hours.**

Covers fundamentals of transport demand and supply, markets, infrastructure, and transport-related externalities. Empirical case studies explore current topics in transport sectors (e.g. the airline, rail, and highway sectors).

**ECON 4440. Economics of Natural Resources and the Environment. 3 Credit Hours.**

Explores how economics can address a variety of environmental issues ranging from climate change to local pollution. Topic areas include externalities and the social costs of pollution, valuation of non-market goods, climate change policy (emissions taxes and cap-and-trade), management of renewable resources (fisheries and forests), extraction of exhaustible resources (minerals and fossil fuels), and more. Focuses on global, regional, and local environmental policy.

**ECON 4460. Public Economics. 3 Credit Hours.**

Applies tools of microeconomics to the public sector. Explores the role of the government in the economy, providing an understanding of the reasons for government intervention in markets, the merits of possible government policies, and the response of economic agents to the government's actions. Topics covered include tax policy, externalities, public goods, and social insurance programs. Emphasis is placed on contemporary policy debates, such as income and wealth inequality, social security reform, climate policy, health care reform, and education policy.

**ECON 4510. Economics of Health and Health Care. 3 Credit Hours.**

Surveys theoretical and empirical evidence on current issues in health and health care. The course presents individual-level models of health behaviors and the demand for health and medical insurance. Students analyze the economic behaviors of physicians, hospitals, and insurance companies as well as the possible role of government in encouraging the equitable and efficient performance of health markets. The course emphasizes current debates involving individual health decisions, health care reform, and the diffusion of new medical technologies.

**ECON 4520. Economics of Sports. 3 Credit Hours.**

Uses economic principles from game theory, labor economics, and econometrics to analyze a wide range of issues in the realms of professional sports and collegiate athletics.

**ECON 4610. Seminar in Economic Policy. 3 Credit Hours.**

The objective of the course is to enable students to interpret current economic problems and policies using the economic models learned in their theory courses. Students study the current "Economic Report of the President" and apply analytical tools to the data included in the text. Each student selects a current issue for detailed examination and report.

**ECON 4620. History of Economic Thought. 3 Credit Hours.**

This course is concerned with the economists who interpreted and influenced the development of capitalism and socialism over the last two centuries.

**ECON 4698. Undergraduate Research Assistantship. 1-12 Credit Hours.**

This course is for students who want to complete a research assistantship.

**ECON 4699. Undergraduate Research. 1-12 Credit Hours.**

Independent research conducted under the guidance of a faculty member.

**ECON 4740. Seminar in Political Economy. 3 Credit Hours.**

Capstone experience in which students apply the tools of political economy to international issues. Crosslisted with INTA 4740.

**ECON 4741. Thesis in Political Economy. 3 Credit Hours.**

Individual project applying the tools of political economy to international issues. Crosslisted with INTA 4741.

**ECON 4803. Special Topics in Economics. 3 Credit Hours.**

Courses designed to permit students and a professor to pursue a specialized interest in an area of economics not extensively treated in the offerings of the School.

**ECON 4811. Special Topics in Economics. 1 Credit Hour.**

Courses designed to permit students and a professor to pursue a specialized interest in an area of economics not extensively treated in the offerings of the School.

**ECON 4812. Special Topics in Economics. 2 Credit Hours.**

Courses designed to permit students and a professor to pursue a specialized interest in an area of economics not extensively treated in the offerings of the School.

**ECON 4813. Special Topics in Economics. 3 Credit Hours.**

Courses designed to permit students and a professor to pursue a specialized interest in an area of economics not extensively treated in the offerings of the School.

**ECON 4814. Special Topics in Economics. 4 Credit Hours.**

Courses designed to permit students and a professor to pursue a specialized interest in an area of economics not extensively treated in the offerings of the School.

**ECON 4815. Special Topics in Economics. 5 Credit Hours.**

Courses designed to permit students and a professor to pursue a specialized interest in an area of economics not extensively treated in the offerings of the School.

**ECON 4901. Individual Research in Economics. 1-21 Credit Hours.**

Designed to permit independent study with a faculty member.

**ECON 4910. Individual Research in Economics. 3 Credit Hours.**

Course related to independent student research. Topics determined by instructor and student.

**ECON 4990. Internship in Professional Economics. 1-21 Credit Hours.**

Course projects related to professional internships. Topics and requirements to be arranged by student, instructor, and sponsor.

**ECON 4XXX. Economics Elective. 1-21 Credit Hours.**