

ECONOMICS (ECON)

Courses primarily for undergraduates:

ECON 1010: Principles of Microeconomics

Credits: 3. Contact Hours: Lecture 3.

Resource allocation, opportunity cost, comparative and absolute advantage. Supply and demand. Marginal analysis. Theories of production and consumption, pricing, and the market system. Perfect and imperfect competition and strategic behavior. Factor markets. Present discounted value. (Typically Offered: Fall, Spring, Summer)

ECON 1010H: Principles of Microeconomics: Honors

Credits: 3. Contact Hours: Lecture 3.

Prereq: Membership in the University Honors Program

Resource allocation, opportunity cost, comparative and absolute advantage. Supply and demand. Marginal analysis. Theories of production and consumption, pricing, and the market system. Perfect and imperfect competition and strategic behavior. Factor markets. Present discounted value.

ECON 1010L: Laboratory in Principles of Microeconomics

Credits: 1. Contact Hours: Laboratory 2.

Discussion of material typically covered in ECON 1010. Application of economic principles to real world problems. Economic principles and basic business management concepts applied to decision-making in agribusiness operations. (Typically Offered: Fall)

ECON 1020: Principles of Macroeconomics

Credits: 3. Contact Hours: Lecture 3.

Measurement of macro variables and general macro identities. Classical models of full employment. Production and growth. Savings and investment. Employment and unemployment. Money, inflation, and price levels. Operation of the U.S. banking system. Fiscal and monetary policy. Elements of international finance. ECON 1010 recommended. (Typically Offered: Fall, Spring, Summer)

ECON 1020H: Principles of Macroeconomics: Honors

Credits: 3. Contact Hours: Lecture 3.

Prereq: Membership in the University Honors Program

Measurement of macro variables and general macro identities. Classical models of full employment. Production and growth. Savings and investment. Employment and unemployment. Money, inflation, and price levels. Operation of the U.S. banking system. Fiscal and monetary policy. Elements of international finance. ECON 1010 recommended.

ECON 1030X: Introduction to Economics: Real World Applications

Credits: 3. Contact Hours: Lecture 3.

Introduction to key economics concepts in the context of current events and real-world questions. Topics will address some or all of the following concepts: market supply and demand, consumer and producer behavior, government policy and regulation, market structure, market failures, time value of money, inflation, gross domestic product, economic growth, labor markets, financial markets, and international trade. Cannot be used as a substitute for ECON 1010 or ECON 1020 prerequisite.

ECON 1100: Orientation in Agricultural Business

Credits: 1. Contact Hours: Discussion 0.5, Lecture 0.5.

Orientation course for freshman and new transfer students in agricultural business. (Typically Offered: Fall)

ECON 2070: Applied Economic Optimization

Credits: 3. Contact Hours: Lecture 2, Discussion 2.

Prereq: MATH 1510 or MATH 1600 or MATH 1650

Application of linear algebra, calculus and unconstrained and constrained optimization techniques to economic problems. Learning outcomes include the ability to (i) identify the objective, decision variables and constraints in economic decision problems, (ii) represent elements of an economic problem in simple mathematical models, (iii) identify and apply mathematical tools that can be used to solve the problems, (iv) identify the strengths and limitations of the solution method, and (v) interpret the economic meaning and implications of the solution. (Typically Offered: Fall, Spring)

ECON 2300: Farm Business Management

Credits: 3. Contact Hours: Lecture 3.

Prereq: ACCT 2840; ECON 1010

Business and economic principles applied to decision making and problem solving in the management of a farm business. Cash flow, partial, enterprise, and whole farm budgeting. Information systems for farm accounting, analysis, and control. Obtaining and managing land, capital, and labor resources. Alternatives for farm business organization and risk management. (Typically Offered: Fall, Spring)

ECON 2340: Small Business Management

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

An introduction to small business management, entrepreneurship, and economics utilizing a series of case studies. Exploration of issues related to starting or acquiring a new business and development of knowledge and skills for successful management of a small business, with an emphasis on agricultural business.

ECON 2350: Introduction to Agricultural Markets

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

Basic concepts and economics principles related to markets for agricultural inputs and products. Overview of current marketing problems faced by farms and agribusinesses, farm and retail price behavior, structure of markets, food marketing channels, food quality and food safety, and the role of agriculture in the general economy. The implications of consumer preferences at the farm level. Introduction to hedging, futures, and other risk management tools. (Typically Offered: Fall, Spring)

ECON 2360: Agricultural Selling

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

Principles of selling with application to agricultural and food related businesses. Attitudes, value systems, and behavioral patterns that relate to agricultural sales. Marketing, selling strategies, preparing for sales calls, making sales presentations, handling objections, and closing sales. Analysis of the buying or purchasing process. Evaluation of agri-selling profession. (Typically Offered: Fall, Spring, Summer)

ECON 2710: Introduction to Data Analysis in Agri-Food Industry

Credits: 3. Contact Hours: Lecture 3.

Introduction to quantitative methods for economic decision making. Examples from agricultural and natural resource economics presented using spreadsheet software tools such as Microsoft Excel. (Typically Offered: Spring)

ECON 2920A: Career Seminar: Agricultural Business

Credits: 1. Contact Hours: Lecture 1.

Prereq: Major in economics or agricultural business

Career opportunities in the various industries and government institutions. Required training and skills needed to perform successfully in different types of careers. Factors important in finding and obtaining employment either before or after graduation including personal resumes, interviewing, and letter writing. Graduation Restriction: Only one of ECON 2920, 2920A, and 2920B can be used toward graduation.

ECON 2920B: Career Seminar: Economics and Business Economics

Credits: 1. Contact Hours: Lecture 1.

Prereq: Major in economics or business economics

Career opportunities in the various industries and government institutions. Required training and skills needed to perform successfully in different types of careers. Factors important in finding and obtaining employment either before or after graduation including personal resumes, interviewing, and letter writing. Graduation Restriction: Only one of ECON 2920, 2920A, and 2920B can be used toward graduation.

ECON 2970: Internship

Credits: 2. Repeatable, maximum of 4 credits.

Prereq: Permission of Instructor; and major in Agricultural Business or Economics

Students complete a research report, based on their internship or approved work experience, that examines chosen topics in management, marketing or finance.

ECON 2980: Cooperative Education

Credits: Required. Repeatable.

Prereq: Permission of the department cooperative education coordinator; sophomore classification

Required of all cooperative education students. Students must register for this course prior to commencing each work period.

ECON 3010: Intermediate Microeconomics

Credits: 3-4. Contact Hours: Discussion 1, Lecture 3.

Prereq: ECON 1010 and ECON 2070 or MATH 1660

Theory of consumer and business behavior; optimal consumption choices and demand; theory of firm behavior; costs, production, and supply; competitive and imperfectly competitive markets; theory of demand for and supply of factors of production; general equilibrium analysis. Fall and spring require recitation and are 4 credits; summer is 3.0 credits. (Typically Offered: Fall, Spring, Summer)

ECON 3010H: Intermediate Microeconomics: Honors

Credits: 3-4. Contact Hours: Lecture 3.

Prereq: ECON 1010 and ECON 2070 or MATH 1660

Theory of consumer and business behavior; optimal consumption choices and demand; theory of firm behavior; costs, production, and supply; competitive and imperfectly competitive markets; theory of demand for and supply of factors of production; general equilibrium analysis. Recitation required for 4 credits.

ECON 3020: Intermediate Macroeconomics

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010; ECON 1020; (MATH 1600 or MATH 1650)

Theory of income, employment, interest rates, and the price level; fiscal and monetary policy; budget and trade deficits; money and capital inflows, interest rates, and inflation. (Typically Offered: Fall, Spring)

ECON 3020H: Intermediate Macroeconomics: Honors

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010; ECON 1020; (MATH 1600 or MATH 1650)

Theory of income, employment, interest rates, and the price level; fiscal and monetary policy; budget and trade deficits; money and capital inflows, interest rates, and inflation.

ECON 3130: Economics of Sports

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

Application of economics to issues in sports, including franchising; rival leagues and barriers to entry; cooperative, competitive, and collusive behavior; player productivity and compensation; contracts, unions, and discrimination; antitrust, taxation, and subsidies. Economic concepts include supply and demand, costs, competition, time value of money, labor economics, pricing, public finance, production, game theory, risk analysis, and industrial organization.

ECON 3200: Labor Economics

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

Economic analysis of contemporary domestic and international labor market issues including labor supply and demand, unemployment, and employment in the U.S. and elsewhere; investments in and returns to education, training, health, immigration and migration; income inequality; labor productivity; out-sourcing and global competitiveness; work incentives; compensation including benefits; and labor policies such as minimum wages, over-time pay, discrimination, unions, and immigration. Examples drawn from the U.S. and other developed countries with reference to developing countries where relevant. Meets International Perspectives Requirement.

ECON 3210: Economics of Discrimination

(Cross-listed with WGS 3210).

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

Economic theories of discrimination. Analysis of the economic problems of women and minorities in such areas as earnings, occupations, and unemployment. Public policy concerning discrimination. Poverty measurement and antipoverty programs in the U.S. Meets U.S. Diversity Requirement.

ECON 3300: Advanced Farm Business Management

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 2300

Effective use of strategic planning, decision methods, and computer assistance for solving farm problems. Applications of economic and management theory to analyze farm business decisions using efficiency measures to assess current resource use and direct the farm business analysis, planning, and tax process.

ECON 3320: Cooperatives

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

Survey of cooperative business structure, including historical developments in the United States, principles of cooperation, state and federal authorization for cooperative activity, economic motivations and foundations, governance, marketing and pricing strategies, and financing, capitalization and taxation considerations. Students will learn how the cooperative model is applied in a variety of markets.

ECON 3340: Entrepreneurship in Agriculture

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

Introduction to the process of entrepreneurship within the agricultural and food sectors. Emphasis on opportunity recognition and creation of concept for new startup ventures. Students will develop a business plan for a startup business or non-profit organization. (Typically Offered: Fall, Spring)

ECON 3350: The Economics of Global Agricultural Food and Bio-energy

(Cross-listed with GLOBE 3350).

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

Applied economic analysis of the determinants of world agricultural production, marketing, and use in feed, food, fiber, biofuel, and other applications, and global food processing and consumption. Analysis of market case studies and various data on global agricultural production and transformation, land and resource use, demography, economic activity, nutrition and health trends. Meets International Perspectives Requirement.

ECON 3370: Agricultural Marketing

Credits: 3. Contact Hours: Lecture 3, Discussion 0.

Prereq: ECON 1010

Understanding of agricultural commodity markets for grain, livestock and dairy with emphasis on marketing decisions and risk management for farmers and processors. Hands-on applications of marketing and management tools via market simulations. ECON 2350 recommended.

ECON 3440: Public Finance

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

The economic role of governments in market economies. Public goods, externalities, income distribution, and income maintenance programs. The effect of taxes on economic behavior, descriptions of the structure of the principal U.S. taxes, and current reform proposals.

ECON 3530: Money, Banking, and Financial Institutions

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010; ECON 1020

Theoretical and applied analysis of money, banking, and financial markets; interest rates and portfolio choice; the banking industry in transition; the money supply process; the Federal Reserve System and the conduct of monetary policy; macro implications of monetary policy; international finance. (Typically Offered: Fall, Spring, Summer)

ECON 3550: International Trade and Finance

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010; ECON 1020

Explanations of causes of international trade and the impact of trade on welfare and employment patterns. Analysis of government policies towards trade, such as tariffs, quotas, and free trade areas. Theory of balance of payments and exchange rate determination, and the role of government policies. Examination of alternative international monetary arrangements. Meets International Perspectives Requirement.

ECON 3620: Applied Ethics in Agricultural Business

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010; *Junior or Senior classification; College of Agriculture and Life Sciences major*

Explore ethics of management and decision-making in agriculture and agricultural business. Discuss and debate proper ethical behavior in these issues and situations and the relationship between business and personal ethical behavior.

ECON 3640: Rural Property Appraisal

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

Use of income capitalization, sales comparison and cost appraisal concepts in appraising agricultural resources. Application of underlying economic/business/management principles, especially present value, as they relate to farmland appraisal. Determination and estimation of economic impacts of special consideration and property use factors. Evaluate feasibility and profitability of investment in rural property.

ECON 3710: Introductory Econometrics

Credits: 4. Contact Hours: Lecture 4.

Prereq: ECON 3010 and ECON 3020 or ECON 3530 and STAT 3260

Introduction to the models and methods used to estimate relationships and test hypotheses pertaining to economic variables. Among the topics covered in the course are: Single and multiple regression analysis; functional forms; omitted variable analysis; multicollinearity; heteroskedasticity; autocorrelation; simultaneous equations; and dynamic models. (Typically Offered: Fall, Spring)

ECON 3760: Rural, Urban and Regional Economics

(Cross-listed with CRP 3760).

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

Firm location with respect to regional resources, transport, scale economies, externalities, and policies. Measures of local comparative advantage and specialization. Spatial markets. Population location considering jobs, wages, commuting, and local amenities. Business, residential, and farm land use and value. Migration. Other topics may include market failure, regulation, the product cycle, theories of rural and urban development, developmental policy, firm recruiting, local public goods and public finance, schools, poverty, segregation, and crime.

ECON 3800: Energy, Environmental and Resource Economics

(Cross-listed with ENVS 3800).

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

Natural resource availability, use, conservation, and government policy, with emphasis on energy issues. Environmental quality and pollution control policies.

ECON 3850: Economic Development

(Cross-listed with GLOBE 3850).

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010; ECON 1020

Current problems of developing countries, theories of economic development, agriculture, and economic development, measurement and prediction of economic performance of developing countries, alternative policies and reforms required for satisfying basic needs of Third World countries, interrelationships between industrialized countries and the developing countries, including foreign aid. Meets International Perspectives Requirement.

ECON 3870: Economies of China and India

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 1010

The economic development of China and India within the larger historical, political, and socioeconomic contexts. The characteristics of the development paths of major industries. The drivers of and impediments for future economic development. The two economies' connections with the world economy. Meets International Perspectives Requirement.

ECON 3980: Cooperative Education

Credits: Required. Repeatable.

Prereq: Permission of Department Cooperative Education Coordinator; *Junior classification*

Required of all cooperative education students. Students must register for this course prior to commencing each work period.

ECON 4010: Topics in Microeconomics

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 3010 and STAT 2260

Advanced treatment of selected topics from one or more of the following areas: household production models, factor markets, game theory and imperfect competition, general equilibrium, intertemporal choice, asset markets, income distribution, externalities and public goods, etc.

ECON 4020: Topics in Macroeconomics

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 3010, ECON 3020, and STAT 2260

Advanced treatment of selected topics from one or more of the following areas: business cycle theory, growth theory, fiscal and monetary policy, coordination issues, open economy macroeconomics, and financial economics.

ECON 4100X: Experimental Economics

Credits: 3. Contact Hours: Lecture 3.

Introduction to experimental economics and major subject areas addressed by laboratory and field experiments. Topics include an introduction to the technique of using laboratory experimental methods to test economic theories, understanding economic behavior, and conducting field experiments. Additional topics will introduce students to human subjects review, experimental design, writing a literature review, and the study of a series of experiments: markets, individual decision-making, asset markets, behavioral game theory, and neuroeconomics.

ECON 4160: Industrial Organization

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 3010

Study of the structure of firms and markets and of their interaction, with emphasis on imperfectly competitive markets. Behavior of firms in strategic settings and insights of basic game-theoretic models. Welfare implications of alternative market organizations, consequences of market power, and scope for government regulation and antitrust/competition policies. Topics include monopoly and price discrimination, oligopoly models, product quality, product differentiation, vertical integration, information and advertising, patents, R&D and innovation, and regulation.

ECON 4180: Introduction to Game Theory

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 3010

Systematic introduction to game theory and its uses in economics. Develops the basic framework, models and tools necessary to analyze games of strategy, including: Strategic and extensive-form representations of games; best response functions and Nash equilibrium, mixed strategies backward induction and subgame-perfect equilibrium, imperfect and incomplete information, Bayesian and sequential equilibria. Examples and applications taken from economics, business, political science, law and biology.

ECON 4310: Managerial Economics

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 3010

Theory of the firm; organizational incentives and efficiency; moral hazard; role of information and decision making under uncertainty; ownership and control; business investment.

ECON 4350: Analysis of Food Markets

(Cross-listed with FSHN 4350).

Credits: 3. Contact Hours: Lecture 3.

Prereq: STAT 2260, ECON 2350, and ECON 3010

Food market analysis from an economics perspective; food markets and consumption; methods of economic analysis; food industry structure and organization; food and agriculture regulations; labeling; consumer concerns; agricultural commodity promotion. Final project required.

(Typically Offered: Spring)

ECON 4370: Commodity Marketing and Risk Management

Credits: 3. Contact Hours: Lecture 3.

Prereq: STAT 2260, ECON 2350, and ECON 3010

The purpose and performance of commodity markets. How commodity marketing institutions function. Merchandising arrangements. Distinguishing features of agricultural commodities. Hedging, arbitrage, and speculation in commodity spot, forward, futures, and options markets. Valuation theory.

ECON 4500X: Economic Growth

Credits: 3. Contact Hours: Lecture 3.

A theoretical and empirical examination of economic growth and income differences between countries. Focuses on both the historical experience of countries that are currently rich and the process of catch#up, or stagnation, among poor countries. Topics include population growth, accumulation of physical and human capital, technological change, natural resources, income distribution, geography, government, and culture. Meets International Perspectives Requirement. (Typically Offered: Fall)

ECON 4550: International Trade

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 3010

Rigorous treatment of theories of international trade and international factor movements. Examination of the impact of trade and labor migration on domestic and world welfare and on the distribution of income. Theoretical analysis of government policies towards trade and factor movements, including quotas, tariffs, free trade areas and immigration restrictions. Discussion of contemporary issues and controversies concerning globalization, including multinational firms and labor migration. Meets International Perspectives Requirement.

ECON 4570: International Finance

(Dual-listed with ECON 5570).

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 3020

National income accounting and balance of payments; foreign exchange rates and exchange rate markets; money, interest rates, and exchange rate determination; prices, exchange rates, and output in the short run; international monetary arrangements; fixed versus flexible exchange rates; optimal currency areas; international capital flows; currency and financial crises in emerging markets. Graduation Restriction: Retrieving data. Wait a few seconds and try to cut or copy again. Meets International Perspectives Requirement.

ECON 4600: Agricultural, Food, and Trade Policy

(Dual-listed with ECON 5600).

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 3010 or ECON 5010

Description and analysis of economic problems of U.S. agriculture. Explanation and economic analysis of government policies and programs to develop agriculture, conserve agricultural resources, address consumer food concerns, stabilize farm prices, and raise farm incomes. The influence of macropolicy, world economy, international trade, and bioenergy on U.S. agriculture.

ECON 4660: Agricultural Finance

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 3010; FIN 3010; STAT 2260

Financial analysis of agricultural businesses; liquidity, capital structure, and growth and risk of agricultural firms; capital budgeting methods; analysis of land investments, leasing, and costs of credit; financial intermediation and major financial institutions for agriculture; borrower-lender relationships, and asset-liability management techniques by financial intermediaries; public policies affecting agricultural credit markets. ECON 3530 recommended.

ECON 4800: Intermediate Environmental and Resource Economics

(Dual-listed with ECON 5800).

Credits: 3. Contact Hours: Lecture 3.

Prereq: ECON 3010

Theories of natural resource utilization and allocation. Externalities, public goods, and environmental quality. Renewable energy, biofuels, land use change and life cycle analysis of carbon, and sustainability and resource conservation. Methodologies for analyzing natural resource and environmental problems and evaluating resource policies.

ECON 4900: Independent Study

Credits: 1-3. Repeatable, maximum of 4 credits.

Prereq: Junior or Senior classification; 14 credits in ECON; Permission of Instructor

Graduation Restriction: No more than 9 credits of ECON 4900 may be used toward graduation.

ECON 4900E: Independent Study: Entrepreneurship

Credits: 1-5. Repeatable, maximum of 6 credits.

Prereq: Junior or Senior classification; 14 credits in ECON; Permission of Instructor

Graduation Restriction: No more than 9 credits of ECON 4900 may be used toward graduation.

ECON 4900H: Independent Study: Honors

Credits: 1-5. Repeatable, maximum of 6 credits.

Prereq: Junior or Senior classification; 14 credits in ECON; Permission of Instructor

Graduation Restriction: No more than 9 credits of ECON 4900 may be used toward graduation.

ECON 4920: Graduating Senior Survey

Credits: Required. Contact Hours: Lecture 1.

Final preparations for graduation. The final stages of job searching, interviewing, letter writing, and resume preparation. Outcomes assessment information from graduating seniors including opinion surveys, instructor/advisor/course evaluations, exit interviews, student accomplishment surveys, job placement surveys, and comprehensive skills examinations. Departmental recognition of graduating seniors. Life as an alumnus - expectations and obligations. Convocation and commencement information. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

ECON 4950: Economics Domestic Travel Course

Credits: 1-3. Contact Hours: Lecture 4.

Prereq: Permission of Instructor; Sophomore classification

Tour and study of domestic businesses, markets, and economic institutions located outside Iowa to expose students to the diversity of activities within the U.S. economy. Pre-trip sessions arranged. Locations and duration of tours will vary.

ECON 4960: Economics International Travel Course

Credits: 1-3. Repeatable.

Prereq: Permission of Instructor; Sophomore classification

Tour and study of international agricultural and/or nonagricultural economies, markets, and institutions. Locations and duration of tours will vary. Limited enrollment. Meets International Perspectives Requirement.

ECON 4970X: Agricultural Business Capstone

Credits: 3.

Students admitted into this experiential course will act as consultants to an agricultural business, consortium, or trade organization to execute an innovation project. Students are mentored through a process for developing and executing the consulting project, where they assimilate knowledge from other courses as they analyze new business/market opportunities. Students will develop insights through idea/concept articulation, opportunity assessment, customer needs analysis, value proposition, and financial modeling which will coalesce into a final summary report and presentation to present to the sponsor organization at the end of the semester.

ECON 4980: Cooperative Education

Credits: Required. Repeatable.

Prereq: Permission of Department Cooperative Education Coordinator; Senior classification

Required of all cooperative education students. Students must register for this course prior to commencing each work period.

Courses primarily for graduate students, open to qualified undergraduates:**ECON 5000: Quantitative Methods in Economic Analysis I**

Credits: 4. Contact Hours: Lecture 4.

Economic applications of selected mathematical and statistical concepts: linear models and matrix algebra; differential calculus and optimization; integral calculus and economic dynamics; probability distributions, estimation, and hypothesis testing in the analysis of economic data. The best math preparation is a full year of calculus. (Typically Offered: Fall)

ECON 5010: Microeconomics

Credits: 4. Contact Hours: Lecture 4.

The theory of the consumer, theory of the firm, perfect and imperfect competition, welfare economics, and selected topics in general equilibrium and uncertainty. (Typically Offered: Fall)

ECON 5020: Macroeconomics

Credits: 4. Contact Hours: Lecture 4.

Models of aggregate supply and demand, theories of consumption and investment, money supply and demand, inflation, rational expectations, stabilization policy, financial markets, and international finance. (Typically Offered: Fall)

ECON 5090: Applied Numerical Methods in Economics

Credits: 3. Contact Hours: Lecture 3.

Use of numerical techniques to solve economic problems. Numerical differentiation and integration numeric solutions of systems of equations, static and dynamic optimization problems including unconstrained optimization, maximum likelihood methods, general nonlinear programming methods, dynamic programming and optimal control, numerical methods for solving functional equations.

ECON 5100: Experimental Economics

Credits: 3. Contact Hours: Lecture 3.

Introduction to experimental economics and major subject areas addressed by laboratory and field experiments. Exploration of experimental methods by concentrating on series of experiments. Applications include individual decision-making, behavioral game theory, markets, behavioral labor, public and development economics, social network, and neuroeconomics. Research project.

ECON 5110X: Research Seminar in Experimental Economics

Credits: 3. Contact Hours: Lecture 3.

Design, conduct, interpret, and report on economic experiments.

Preparation of a potentially publishable experimental research paper. Topics vary according to student interest. (Typically Offered: Fall)

ECON 5200: Labor Supply and Human Capital Formation

Credits: 3. Contact Hours: Lecture 3.

Labor supply decisions and empirical analysis for agricultural operators and other self-employed and wage-earning households; multiple job holding; resource allocation in productive households; human capital formation by households, firms, and public institutions, which includes schooling, on-the-job training, migration, health, research, raising of children, and implications for household income and welfare; applications to problems in rural areas of developing and developed countries.

ECON 5310: Trends Impacting Agri-Food Businesses

Credits: 2. Contact Hours: Lecture 2.

Explore trends impacting agricultural and food businesses. Video interviews with a range of entrepreneurs, investors and industry experts will expose students to a variety of ideas and opinions on the most important trends and issues impacting the future structure of agri-food markets and explore the implications for agri-food businesses. In addition, students will be challenged to develop their own ideas about how these trends will impact their business and career. (Typically Offered: Fall)

ECON 5320: Managerial Economics for the Global Organization

Credits: 3. Contact Hours: Lecture 3.

Applications of microeconomic theory and decision analysis for firms operating in U.S. and internationally. Topics include demand & supply, consumer choice theory, production and cost theory, short run and long run business decisions, input cost and human capital differences across countries, empirical estimation of demand and supply, pricing, exchange rates, government and business, market structures and strategy.

ECON 5370: Commodity Markets: Analysis and Strategy

Credits: 3. Contact Hours: Lecture 3.

Analysis of exchange-traded and over-the-counter commodity markets, their functions and performance. Evaluation of hedging, speculation, and arbitrage strategies. Commodity transformation over space and time. Valuation of derivatives and comparison with derivatives on financial assets. Efficiency and the role of information in commodity markets. Market regulation.

ECON 5450: Public Economics

Credits: 3. Contact Hours: Lecture 3.

Economic justifications for government activities; illustrative theoretical and empirical analyses of expenditure programs; foundations of excess burden, incidence analysis, and optimal taxation; effects of taxation on labor supply; public goods and externalities; social insurance; introduction to economics of the health sector with an emphasis on the role of market failures.

ECON 5570X: International Finance

(Dual-listed with ECON 5570).

Credits: 3. Contact Hours: Lecture 3.

National income accounting and balance of payments; foreign exchange rates and exchange rate markets; money, interest rates, and exchange rate determination; prices, exchange rates, and output in the short run; international monetary arrangements; fixed versus flexible exchange rates; optimal currency areas; international capital flows; currency and financial crises in emerging markets. Graduation Restriction: Retrieving data. Wait a few seconds and try to cut or copy again. Meets International Perspectives Requirement.

ECON 5600: Agricultural, Food, and Trade Policy

(Dual-listed with ECON 4600).

Credits: 3. Contact Hours: Lecture 3.

Description and analysis of economic problems of U.S. agriculture. Explanation and economic analysis of government policies and programs to develop agriculture, conserve agricultural resources, address consumer food concerns, stabilize farm prices, and raise farm incomes. The influence of macroeconomic policy, world economy, international trade, and bioenergy on U.S. agriculture. (Typically Offered: Fall, Spring, Summer)

ECON 5710: Intermediate Econometrics

Credits: 4. Contact Hours: Lecture 3, Laboratory 2.

Single and multiple equation regression models; dummy explanatory variables; serial correlation; heteroskedasticity; distributed lags; qualitative dependent variables; simultaneity. Use of econometric models for tests of economic theories and forecasting. (Typically Offered: Spring)

ECON 5760: Spatial Economics

Credits: 3. Contact Hours: Lecture 3.

Analysis of location choice by firms, employees, and households emphasizing the role of spatial variations in agglomeration economies, economies of scale, distance, transport, endowments, amenities, and local government. Models of land use, urban form, spatial competition, central place theory, and migration. Techniques of discrete choice analysis, statistical analysis of categorical data, urban system modeling, and interregional computable general equilibrium.

ECON 5800: Intermediate Environmental and Resource Economics

(Dual-listed with ECON 4800).

Credits: 3. Contact Hours: Lecture 3.

Theories of natural resource utilization and allocation. Externalities, public goods, and environmental quality. Renewable energy, biofuels, land use change and life cycle analysis of carbon, and sustainability and resource conservation. Methodologies for analyzing natural and environmental problems and evaluating resource policies. (Typically Offered: Fall, Spring, Summer)

ECON 5810: Advanced Environmental Economics

Credits: 3. Contact Hours: Lecture 3.

Interrelationships of natural resource use and the environment. Applied welfare and benefit-cost analyses. Externalities and pollution abatement. Nonmarket valuation of resources. Property rights. Legal and social constraints. Policy approaches.

ECON 5900: Special Topics

Credits: 1-5. Repeatable.

Prereq: Instructor Permission for Course

Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

ECON 5940: Research Methods in Economics I

Credits: 1. Contact Hours: Lecture 1.

Introduction to methods used in empirical economic research.

Formulation of well-posed economic questions, locating and evaluating relevant literature, and meaning of testable hypotheses. (Typically Offered: Fall)

ECON 5950: Research Methods in Economics II

Credits: 1. Contact Hours: Lecture 1.

Develop skills required to successfully acquire, manipulate and analyze data that can be used for conducting empirical economic research. Topics include research design, developing workflows that support reproducible analysis, data visualization and related issues. Hands on work with one or more example data sets to gain experience and confidence in using statistical software and interpreting the results of this analysis. (Typically Offered: Spring)

ECON 5960: Research Methods in Economics III

Credits: 1. Contact Hours: Lecture 1.

Formulation of the research question, problem identification, literature review, data identification, formulation and testing of hypotheses, and presentation of research results. Lectures will build on assigned readings, and cover components of applied economic research, and writing skills. Student research presentations and lectures by invited speakers. Students develop their creative component in a "hands on" environment where the instructor and others can offer guidance. (Typically Offered: Spring)

ECON 5990: Creative Component

Credits: 1-5. Repeatable.

Prereq: Instructor Permission for Course

Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

Courses for graduate students:**ECON 6010: Microeconomic Analysis I**

Credits: 4. Contact Hours: Lecture 4, Discussion 1.

Economic theory and methodology; theory of consumer behavior, theory of the competitive firm, supply and factor demand; duality relations in consumer and producer theory, welfare change measures; partial equilibrium analysis, perfect competition, monopoly; choice under uncertainty, the expected utility model, risk aversion; insurance, portfolio and production decisions under risk. (Typically Offered: Fall)

ECON 6020: Macroeconomic Analysis

Credits: 4. Contact Hours: Lecture 4, Discussion 1.

Neoclassical aggregate growth models; the overlapping generations model; endogenous growth models; equilibrium business cycle theories; equilibrium job search and matching; models of money; fiscal and monetary policy; income and wealth distribution. (Typically Offered: Spring)

ECON 6030: Microeconomic Analysis II

Credits: 4. Contact Hours: Lecture 3, Discussion 1.

General equilibrium analysis, efficiency, and welfare; market failures, externalities, and the theory of the second best; introduction to game theory; adverse selection, signaling, screening and moral hazard. (Typically Offered: Spring)

ECON 6040: Advanced Macroeconomic Analysis

Credits: 4. Contact Hours: Lecture 4, Discussion 1.

Topics will be selected from: new Keynesian approaches to business cycle theory; endogenously generated business cycles; models of credit and financial intermediation; mechanism design and time inconsistency issues; political economy models; heterogeneous-agent models with strategic interaction; path dependence, network effects, and lock-in; economies as evolving self-organizing systems. (Typically Offered: Fall)

ECON 6060: Advanced Topics in Macroeconomics

Credits: 3. Contact Hours: Lecture 3.

Selected topics in macroeconomic theory of current significance to the profession.

ECON 6150: Industrial Organization I

Credits: 3. Contact Hours: Lecture 3.

Introduction to industrial organization theory and game-theoretic methods. Monopoly and price discrimination. Oligopoly theory and product differentiation. Quality and asymmetric information. Research & development and innovation. Introduction to empirical methods in industrial organization. Discrete choice models of product differentiation. Cost and production functions. Entry, exit, and dynamic equilibrium models.

ECON 6180: Game Theory

Credits: 3. Contact Hours: Lecture 3.

Theoretical analysis and applications of strategic games, extensive form games, and cooperative games. Nash equilibrium, correlated equilibrium, Bayesian games, subgame perfect equilibrium, the core, evolutionary equilibrium, repeated games with finite automata, and common knowledge.

ECON 6210: Advanced Labor Demand and Labor Markets

Credits: 3. Contact Hours: Lecture 3.

Analysis of labor demand, job search and matching, unemployment, market determination of wages, compensating differentials, employment contracts and incentives, wage inequality and discrimination, effects of minimum wage legislation, occupation choice, labor unions. (Typically Offered: Spring)

ECON 6410: Agricultural Economics I

Credits: 3. Contact Hours: Lecture 3.

Advanced treatment of selected topics and models in agricultural economics, with policy analysis applications. Topics include: farm-level input and output choices; decision making under uncertainty; supply analysis, storage and commodity markets; risk management and hedging; crop insurance; credit markets; farmland prices; market integration.

ECON 6420: Agricultural Economics II

Credits: 3. Contact Hours: Lecture 3.

Advanced treatment of selected topics and models in agricultural economics, with policy analysis applications. Topics include: demand systems for food and agricultural goods; imperfect competition and market power in agriculture; contracts; economics of R&D and innovation; quality and product differentiation; equilibrium models for agricultural policy analysis.

ECON 6530: Financial Economics

Credits: 3. Contact Hours: Lecture 3.

Review of decision-making under uncertainty. Portfolio Theory. Theoretical foundations of asset valuation models: capital asset pricing model (CAPM), arbitrage pricing theory (APT), representative agent models, pricing of derivative securities. Complete and incomplete asset markets, credit markets, financial intermediaries, the role of government in the financial sector. Market frictions, crashes, bubbles. Applications of asset valuation models, with emphasis on their testable implications.

ECON 6550: International Trade

Credits: 3. Contact Hours: Lecture 3.

Theories of international trade; welfare and distributional aspects of trade and commercial policies. Optimal trade policies in the presence of domestic distortions; strategic trade policy; international trade and economic growth.

ECON 6570: International Finance

Credits: 3. Contact Hours: Lecture 3.

The intertemporal approach to current account determination; non-traded goods and the real exchange rate; fiscal policy in the open economy; monetary approach to balance of payments and exchange rate determination; sticky price models of the open economy; exchange-rate based stabilizations; capital inflows; financial and balance of payments crises; international business cycles.

ECON 6710: Econometrics I

Credits: 4. Contact Hours: Lecture 4, Discussion 1.

Probability and distribution theory for univariate and multivariate normal random variables, introduction to the theory of estimators for linear models, hypothesis testing and inference, introduction to large sample properties of estimators; derivation of common estimators and their properties for the classical and general multiple regression models, hypothesis testing, forecasting, implications of specification errors - missing data, left-out regressors, measurement error, stochastic regressors. (Typically Offered: Fall)

ECON 6720: Econometrics II

Credits: 4. Contact Hours: Lecture 4, Discussion 1.

Identification, estimation, and evaluation of systems of simultaneous equations; qualitative choice and limited dependent variable models; introduction to time series methods and applications, including alternative variance specifications. (Typically Offered: Spring)

ECON 6730: Microeconometrics

Credits: 3. Contact Hours: Lecture 3.

Econometric treatment of models arising in microeconomic applications. Methods are primarily concerned with the analysis of cross-section data. Topics may include: systems of demand equations in panel data settings, random utility models of discrete choices, production possibilities frontier estimation, and discrete/continuous models of participation and consumption.

ECON 6740: Macroeconomics

Credits: 3. Contact Hours: Lecture 3.

Time-series econometric techniques and their application to macroeconomics and financial markets. Techniques may include GARCH and ARCH-M models, unit-root tests, nonlinear adjustment models, structural VARs, and cointegration tests.

ECON 6800: Advanced Resource Economics

Credits: 3. Contact Hours: Lecture 3.

Dynamic allocation of scarce, exhaustible, and renewable natural resources, including minerals and energy, soil, water, forests, and fish. Social versus private decisions. Market and nonmarket considerations. Technological change. Regulation. Dynamics and uncertainty.

ECON 6900: Advanced Topics

Credits: 1-5. Contact Hours: Lecture 5.

Repeatable.

Prereq: Instructor Permission for Course

Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

ECON 6940A: Research Workshop

Credits: 3. Contact Hours: Lecture 3.

Prereq: Instructor Permission for Course

Instruction in basic and applied research methods commonly used in economics. Survey methodologies, critique written work, summarize and evaluate data, prepare and present work orally, and develop an original research paper. Satisfactory-fail only. (Typically Offered: Fall)

ECON 6940B: Research Workshop

Credits: 3. Contact Hours: Lecture 2, Discussion 1.

Prereq: ECON 6940A

Writing and communicating economic research. Continuation of ECON 6940A, resulting in completion of an original research paper. Satisfactory-fail only. (Typically Offered: Spring)

ECON 6990: Research for Thesis or Dissertation

Credits: 1-30. Repeatable.

Prereq: Instructor Permission for Course

Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)