

ECONOMICS

economics.northwestern.edu

The program in economics enables students to understand the basic concepts, theories, and techniques of economics as they apply to economic problems and policies. These may focus on macroeconomics, applied microeconomics, quantitative economics, or economic history. Whatever courses students take, they will become familiar with the way economists think about problems and devise solutions to them. Although the program does not offer specialized professional training in economics, it provides excellent preparation for graduate work in economics, the study of law, and careers in business or government. Students should consult a department adviser about field courses that fit their needs.

The Teaching of Economics

Weinberg College students pursuing a major in economics who also wish to be certified for secondary teaching must be admitted to the Teacher Education Program (<https://catalogs.northwestern.edu/undergraduate/education-social-policy/secondary-teaching/>) in the School of Education and Social Policy and complete all requirements as outlined in the SESP chapter of this catalog. Students are urged to contact the Office of Student Affairs in SESP as early as possible in their academic careers.

Programs of Study

- Economics Major (<https://catalogs.northwestern.edu/undergraduate/arts-sciences/economics/economics-major/>)
- Economics Minor (<https://catalogs.northwestern.edu/undergraduate/arts-sciences/economics/economics-minor/>)
- Economics BA/MA (<https://catalogs.northwestern.edu/undergraduate/arts-sciences/economics/economics-ba-ma/>)

Economics Learning Objectives

As individuals, families, and nations, we confront difficult choices about how to use limited resources to meet our needs and wants. Economists study how these choices are made in various settings, evaluate the outcomes in terms of criteria such as efficiency, equity, and stability, and search for alternative forms of economic organization that might produce higher living standards or a more desirable distribution of material well-being.

The learning objectives we expect our students to gain in our coursework are the following:

- In microeconomics, our students learn how markets work, in setting prices, quantities, and gains from trade to buyers and sellers. Moreover, students learn how markets can work well, how they can fail, and how attempts to externally regulate prices of quantities can have unfortunate results. Students learn important tools for decision making, including marginal analysis, opportunity costs, and the sunk cost fallacy.
- In macroeconomics, our students learn about the causes of macroeconomic conditions like inflation and unemployment, and the monetary and fiscal policy tools available for addressing them. Students learn about international trade, exchange rates, and investment flows. Students learn about the sources of economic growth, what we can do to encourage it, and the limits we face. Students gain an understanding of the financial system, the risks that can arise there, and the important role it plays. Students come away

with a sense of general macroeconomic equilibrium, in terms of the interrelation of output, income, labor markets, and financial markets.

- To understand many important economic concepts, students must have a strong command of quantitative relationships. This includes training in calculus, which is essential for understanding related rates of change and for finding maximums and minimums, concepts that are important for seeking the greatest profits or benefits, and the minimum costs. Students also learn the important concepts from probability and how they apply to statistics, which is the essential tool for analyzing data.
- Econometrics, the testing of the predictions of economic models against the observed data generated by the economic activity around us, is an essential part of what every economics student will learn. The number of plausible theories for how the world works is much greater than the number of theories that are consistent with the data we collect, and it is econometrics, using tools such as regression analysis and hypothesis testing, that allows us to find which of the theories that have been proposed is the most useful for understanding how the world works.
- Finally, our students learn how to apply the microeconomics, macroeconomics, and econometrics they have learned when they take their six advanced field courses. These classes help students ground what they have learned in the core classes in the intriguing and often counterintuitive narratives that come from studying the specialized topics in our advanced courses.

Economics Courses

ECON 100-BR Introduction to Problem-Solving in Economics (0.5 Unit)

For participants in the Warren Summer Bridge program. Developing facility with quantitative tools to solve problems in Economics.

ECON 101-7 College Seminar (1 Unit) Small, writing and discussion-oriented course exploring a specific topic or theme, and introducing skills necessary to thriving at Northwestern. Not eligible to be applied towards a WCAS major or minor except where specifically indicated.

ECON 101-8 First-Year Writing Seminar (1 Unit) Small, writing and discussion-oriented course exploring a specific topic or theme, and focused on the fundamentals of effective, college-level written communication. Not eligible to be applied towards a WCAS major or minor except where specifically indicated.

ECON 201-0 Introduction to Macroeconomics (1 Unit) An introduction to economics with emphasis on macroeconomics. Topics include: scarcity and choice, elements of supply and demand, inflation, unemployment, recessions, booms, fiscal and monetary policy, international balance of payments, and budget deficits. Prerequisite: basic algebra and graphing. *Social Behavioral Sciences Distro Area Social and Behavioral Science Foundational Discip*

ECON 201-MG Mentored Study Program (0 Unit) Study sessions facilitated by undergraduate peer leaders, for students enrolled in ECON 201. Meets weekly in small groups to collaboratively review material, solve practice problems, clarify concepts, and enhance study strategies. Enrollment optional. Graded S/U.

ECON 201-SG Peer-Guided Study Group: Introduction to Macroeconomics (0 Unit) Peer-guided study group for students enrolled in ECON 201-0. Meets weekly in small groups, along with a peer facilitator, to collaboratively review material, work through practice problems, and clarify course concepts. Enrollment optional. Graded S/U.

ECON 202-0 Introduction to Microeconomics (1 Unit) An introductory course on the fundamentals of microeconomics. The behavior of

individuals and firms in deciding on prices and allocation of scarce resources. Topics include: consumer preferences, costs of production, equilibrium prices and output, different market types, potential market failures, and the role of government interventions and public policy. Prerequisite: ECON 201-0. *Social Behavioral Sciences Distro Area Social and Behavioral Science Foundational Discipl*

ECON 202-MG Mentored Study Program (0 Unit) Study sessions facilitated by undergraduate peer leaders, for students enrolled in ECON 202-0. Meets weekly in small groups to collaboratively review material, solve practice problems, clarify concepts, and enhance study strategies. Enrollment optional. Graded S/U.

ECON 202-SG Peer-Guided Study Group: Introduction to Microeconomics (0 Unit) Peer-guided study group for students enrolled in ECON 202-0. Meets weekly in small groups, along with a peer facilitator, to collaboratively review material, work through practice problems, and clarify course concepts. Enrollment optional. Graded S/U.

ECON 249-0 Business Strategy (1 Unit) Firms' choices of prices, capacity, location, quality, variety, investment and product innovation when navigating complex economic environments shaped by government policy and inter-firm rivalries. (Majors and Minors should not take this course, but should take ECON 349-0 instead. Students may not receive credit if they have completed ECON 349-0). Prerequisites: ECON 202-0; MATH 220-1.

ECON 281-0 Introduction to Applied Econometrics (1 Unit) An introduction to econometrics. The underlying theory of regression and the practical application of these techniques to data sets. Understanding and diagnosing common statistical problems encountered during estimation. All other substitutions (including AP Statistics) must be cleared through the Director of Undergraduate Studies for Economics. Prerequisite: ECON 201-0, ECON 202-0, MATH 220-1, STAT 210-0 or higher level statistics class.

ECON 307-0 Economics of Medical Care (1 Unit) Application of microeconomics to the study of health insurance and the health care sector. Topics include: design and financing of health insurance, public and private demand for medical care, role of competition, regulation of hospitals and physicians, roles of nonprofit and for-profit organizations, and technological change. Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 308-0 Money and Banking (1 Unit) The role of money, banking, and financial markets in the modern economy. Topics include: function and history of money, financial flows, evolving nature of banks and their regulation, monetary policy, modern central bank practices, effect of monetary policy on economic outcomes, and the response to financial crises. Prerequisites: ECON 281-0, ECON 310-1, ECON 311-0.

ECON 309-0 Public Finance (1 Unit) Understanding the role of government in the economy in theory and practice. Topics include: structure and implications of various tax instruments, role of public debt, and methods for evaluating government expenditures and programs. Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 310-1 Microeconomics (1 Unit) A more mathematically formal and rigorous treatment of the core concepts of microeconomics introduced in ECON 202-0. Topics include: consumer behavior and the theory of demand, costs of production and the nature of equilibrium in competitive and monopolistic markets. Prerequisites: ECON 201-0, ECON 202-0, MATH 220-1.

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ECON 310-2 Microeconomics (1 Unit) The continuation of the intermediate microeconomics sequence provides tools to analyze social wellbeing, social choice, risk and uncertainty, information asymmetries, competitive independencies between firms (game theory), market spillovers and general equilibrium. Prerequisite: ECON 310-1.

ECON 310-MG-1 Mentored Study Program (0 Unit) Study sessions facilitated by undergraduate peer leaders, for students enrolled in ECON 310-1. Meets weekly in small groups to collaboratively review material, solve practice problems, clarify concepts, and enhance study strategies. Enrollment optional. Graded S/U.

ECON 310-MG-2 Mentored Study Program (0 Unit) Study sessions facilitated by undergraduate peer leaders, for students enrolled in ECON 310-2. Meets weekly in small groups to collaboratively review material, solve practice problems, clarify concepts, and enhance study strategies. Enrollment optional. Graded S/U.

ECON 310-SG-1 Peer-Guided Study Group: Microeconomics I (0 Unit) Peer-guided study group for students enrolled in ECON 310-1. Meets weekly in small groups, along with a peer facilitator, to collaboratively review material, work through practice problems, and clarify course concepts. Enrollment optional. Graded S/U.

ECON 310-SG-2 Peer-Guided Study Group: Microeconomics II (0 Unit) Peer-guided study group for students enrolled in ECON 310-2. Meets weekly in small groups, along with a peer facilitator, to collaboratively review material, work through practice problems, and clarify course concepts. Enrollment optional. Graded S/U.

ECON 311-0 Macroeconomics (1 Unit) A more mathematically formal and rigorous treatment of the core concepts of macroeconomics introduced in ECON 201-0. Topics include: aggregate consumption, inflation, unemployment, growth, international balances between countries, and the role of monetary and fiscal policy. Prerequisites: ECON 201-0, ECON 202-0, MATH 220-1.

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ECON 313-0 Economics of Data (1 Unit) Algorithms and data are increasingly used to guide high-stakes predictions about individuals, with a range of economic and social implications. This course covers theoretical frameworks for thinking through those implications. Prerequisites ECON 281-0, ECON 310-1, ECON 310-2, MATH 220-2 and MATH 230-1.

ECON 315-0 Topics in Economic History (1 Unit) Topics vary and may cover the economic history of a particular country or region, or a specific issue in economic history. May be taken twice for credit with different topics. Prerequisites: ECON 281-0, ECON 310-1, ECON 311-0.

ECON 316-0 Advanced Topics in Macroeconomics (1 Unit) This course is for students looking for advanced and rigorous analysis in macroeconomics. Topics vary and may include: growth, business cycles, unemployment and search, monetary economics, macroeconomic policy, inter-temporal choice, and general equilibrium. Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2, ECON 311-0, MATH 220-2, MATH 230-1.

ECON 318-0 History of Economic Thought (1 Unit) Development of economic thought from the advent of the mercantilists to the formation of current schools of economics. Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2, ECON 311-0.

ECON 323-1 Economic History of the United States Before 1865 (1 Unit)

Economic development of the United States with emphasis on changing structure and performance of the economy: Colonial period to 1865.

Prerequisites: ECON 281-0, ECON 310-1, ECON 311-0.

ECON 323-2 Economic History of the United States 1865 to Present (1 Unit)

Economic development of the United States with emphasis on changing structure and performance of the economy: 1865 to the present.

Prerequisites: ECON 281-0, ECON 310-1, ECON 311-0. ECON 323-1 is not a prerequisite.

ECON 324-0 Western Economic History (1 Unit)

Western European developments from 1750 to the present. Topics include: demographic, technical, social, and economic change.

Prerequisites: ECON 281-0, ECON 310-1, ECON 311-0.

ECON 325-0 Economic Growth & Development (1 Unit)

Macroeconomic aspects of long-term patterns of economic development, and the examination of differences in the income levels and growth performances across countries. The role of investment, education, population, and technological change in economic growth.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2, ECON 311-0.

ECON 326-0 The Economics of Developing Countries (1 Unit)

Microeconomic issues in underdeveloped countries. Topics include: land use, labor, migration, credit and microfinance, informal and formal insurance, famine, education and health.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 327-0 Economic Development in Africa (1 Unit)

Economic change in sub-Saharan Africa, emphasizing current issues and policies in their historical contexts. Agriculture and rural development, industrialization, and international economic relations.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2, ECON 326-0.

ECON 328-0 Complexity Economics (1 Unit)

Relaxing the traditional assumptions of an economy in equilibrium populated by agents who are perfectly rational. Complexity economics is one alternative approach that assumes that markets may not be in equilibrium and that the people in the economy may not perfectly understand their environment. They face fundamental uncertainty in their decision-making.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 329-0 Experimental Economics (1 Unit)

Application of experimental methods to study economic questions. Students will learn about, participate in, and potentially design, experiments to gain insight into economic theories about decision-making, games, and markets.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 330-0 Behavioral Economics (1 Unit)

Understanding of how humans make choices in economic situations. The incorporation of psychology and/or sociology into economics to gain deeper insight into economic behavior, to make better predictions, and to generate improved policy prescriptions.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 331-0 Economics of Risk and Uncertainty (1 Unit)

Models of decision making under uncertainty. Use of these models to understand economic phenomena such as investments in financial assets, insurance, contracting, and auctions.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2, MATH 300-0 or equivalent.

ECON 333-0 Economics of Social Policy (1 Unit)

Economic concepts and empirical tools to analyze the design and effects of social policies. Topics include the social safety net, health insurance, minimum wage, and taxation.

Prerequisites: Econ 281-0, Econ 310-1, Econ 310-2. SOC_POL 330-0 and ECON 333-0 are taught together; may not receive credit for both. SES students must register for SOC_POL 330-0.

ECON 335-0 Political Economics (1 Unit)

The analysis of political motivations and policy outcomes using economic models of social choice theory and voting theory. Application of formal theory to contemporary and historical public policy decisions.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 336-0 Analytic Methods for Public Policy Analysis (1 Unit)

Study of methodological problems in public policy analysis and an examination of how economists perform policy analysis in practice.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 337-0 Economics of State and Local Governments (1 Unit)

Economic functions and financing of state and local governments in theory and practice, costs and demands for local public services, and the role of government finance in urban and regional growth.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 339-0 Labor Economics (1 Unit)

The theory and empirical analysis of employment relationships. Topics include: decision to participate in the labor market, tradeoff between labor and leisure, demand for labor by firms, matching of workers and jobs, role and effect of trade unions, minimum wage legislation, labor mobility, and human capital acquisition.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2, ECON 311-0.

ECON 340-0 Economics of the Family (1 Unit)

Application of microeconomic theory to the analysis of family issues.

Topics include: marriage, cohabitation, decision to have children, divorce, credit and insurance, legacies, bargaining within the household, and division of household labor.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 341-0 Economics of Education (1 Unit)

The economic analysis of education. Topics include: returns to schooling, individual decisions to invest in education, the production of education, markets for schools and teachers, financing, and public policy.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 342-0 Economics of Gender (1 Unit)

Analysis of gender differences in employment, earnings and division of labor in the household. Topics include: the status of women around the world, education, marriage, fertility, labor supply, household decision-making, and discrimination.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 343-0 Economics of Immigration (1 Unit)

Economic determinants and consequences of international immigration. Who migrates and why? How do immigrants do in the receiving country? How do immigrants affect natives?

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2, ECON 311-0.

ECON 349-0 Industrial Economics (1 Unit)

Examination of the competitive and cooperative strategies employed by profit-maximizing firms in a wide range of market structures. Topics include: the setting of prices and outputs, product quality and variety, competitive responses, entry barriers, mergers and acquisitions, and relationships with suppliers and distributors.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 350-0 Monopoly Competition & Public Policy (1 Unit)

Application of microeconomic tools to the problems and issues caused by monopoly power in the context of antitrust law, public utility regulation, and intellectual property. Use of economic theory and landmark legal cases to study the purpose and development of policies to mitigate anti-competitive practices, and highlight currently unresolved public policy debates.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 351-0 Law and Economics (1 Unit)

Use of economic analysis to understand the incentives, workings and efficiency of the legal system. Topics include: torts, contracts, property, criminal law, corporate law, and antitrust and regulation statutes.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 354-0 Issues in Urban and Regional Economics (1 Unit)

Factors affecting the spatial distribution of economic activity within cities and between different regions of a country. Choice of residential and workplace location. Applications of economic analysis to problems of urban areas such as housing markets, zoning restrictions, and racial and social patterns of employment and housing.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 355-0 Transportation Economics and Public Policy (1 Unit)

Economics of all forms of transportation and the regulatory and public policy environment in which they operate. Topics include: demand by passengers and freight shippers, costs of production, optimal pricing, regulatory interventions, subsidies, evaluation of investment, and dealing with congestion.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 358-0 Economics of Art and Culture (1 Unit)

Application of economic analysis to creative and performing arts, and the heritage and cultural industries. The economic organization of the cultural sector and with the behavior of producers, consumers and governments in that sector.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 359-0 Economics of Nonprofit Organizations (1 Unit)

The economic rationale for the non-profit sector in a mixed economy. Topics include: objectives and behavior of non-profit organizations, competition with commercial firms, volunteerism, and charitable donations.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 360-1 Foundations of Corporate Finance Theory (1 Unit)

How corporations allocate resources over time as facilitated by capital markets. Topics include: discounting techniques and applications, stock and bond valuation, asset pricing models, diversification and portfolio choice, capital budgeting, and basic option theory.

Prerequisites: ECON 281-0, ECON 310-1, ECON 311-0. (May not receive credit for both this course and BUS_INST 304-0. Not for students who have previously taken KELLG_FE 310-0.).

ECON 360-2 Investments (1 Unit)

Analysis of the issues and tradeoffs involved in forming a portfolio of financial instruments from the perspectives of individual and institutional investors. (Should not be taken by students who have taken KELLG_FE 312-0).

Prerequisite: ECON 360-1 or equivalent.

ECON 361-0 International Trade (1 Unit)

Factors influencing trade in goods and services between countries and the implication of globalization. The reasons for, and the effects of, trade policy instruments such as tariffs, quotas, and voluntary export restrictions.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2, ECON 311-0.

ECON 362-0 International Finance (1 Unit)

The determination of exchange rates, international asset prices and flows, currency crises, and the international transmission of macroeconomic disturbances.

Prerequisites: ECON 281-0, ECON 310-1, ECON 311-0.

ECON 371-0 Economics of Energy (1 Unit)

Analysis of the functioning and regulation of electricity, oil and natural gas markets. Topics include: the role of competition and environmental concerns.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 372-0 Environmental Economics (1 Unit)

Economic analysis of scarcity and incentives explaining environmental issues such as pollution and climate change. Modeling and evaluation of public policy.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 373-0 Natural Resource Economics (1 Unit)

Evaluation of economics models and public policy concerning natural resources such as farming, fisheries, forests, minerals, ores and fossil fuels.

Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2.

ECON 380-1 Game Theory (1 Unit)

Game theory is a collection of mathematical models of interaction among decision makers. It is used widely in understanding economic phenomena. This course will present some of the basic ideas of game theory. (Should not be taken by students who have completed MMSS 211-2).

Prerequisites: ECON 310-1, ECON 310-2, MATH 220-2, MATH 230-1.

ECON 380-2 Game Theory (1 Unit)

This course extends the material presented in ECON 380-1 to explore more advanced models in game theory.

Prerequisite: ECON 380-1 or consent of instructor.

ECON 381-1 Econometrics (1 Unit)

First part of the specialized sequence in econometrics. A more rigorous and higher level alternative to ECON 281-0. Economics majors completing ECON 381-1 will have the ECON 281-0 requirement waived.

Prerequisites: ECON 310-1, (ECON 310-2, ECON 311-0 recommended), MATH 226-0, MATH 230-1, MATH 230-2, MATH 240-0 and MATH 314-0 (or equivalent).

ECON 381-2 Econometrics (1 Unit)

Second part of the upper-level econometrics sequence. The course introduces additional econometrics tools beyond those introduced in ECON 381-1. The course also explores the empirical application of these tools, and how to evaluate critically econometric and statistical methods used in policy analysis.

Prerequisite: ECON 381-1, (ECON 310-2, ECON 311-0 recommended).

ECON 383-0 Applied Econometrics (1 Unit)

Methods for using actual data together with modern software to build, assess critically, and interpret econometric models of real world phenomena and policy issues.

Prerequisites: ECON 281-0, ECON 310-1.

ECON 398-1 Senior Seminar (1 Unit)

For students of superior ability. Original research on a topic of interest to the student, culminating in a senior thesis. By department invitation only. Grade of K given in 398-1. Prerequisites: ECON 281-0, ECON 310-1, ECON 310-2, ECON 311-0, MATH 220-2, MATH 230-1; at least four 300-level economics electives.

Advanced Expression

ECON 398-2 Senior Seminar (1 Unit)

For students of superior ability. Original research on a topic of interest to the student, culminating in a

senior thesis. By department invitation only. Prerequisite: ECON 398-1.
Advanced Expression

ECON 399-0 Independent Study (1 Unit) Advanced work through reading, research, and discussion to build on economics coursework taken by the student. Project to be decided by mutual agreement with a faculty member.