Economics (ECON)

ECON 1000. Economics at Northeastern. (1 Hour)
Intended for freshmen in the College of Social Sciences and Humanities. Introduces freshmen to the liberal arts in general; familiarizes them with their major; helps them develop the academic skills necessary to succeed (analytical ability and critical thinking); provides grounding in the culture and values of the University community; and helps them develop interpersonal skills—in short, familiarizes students with all skills needed to become a successful university student.

ECON 1115. Principles of Macroeconomics. (4 Hours)
Introduces macroeconomic analysis. Topics include the flow of national income, economic growth and fluctuation, the role of money and banking, and monetary and fiscal policies. Emphasizes the development of conceptual tools to analyze the economic problems facing modern society, including long-run growth, unemployment, inflation, and inequality. Analyzes strengths and weaknesses of aggregate measures of economic activity, including how aggregation can hide underlying inequalities across racial, gender, and socioeconomic lines.

Attribute(s): NUpath Analyzing/Using Data, NUpath Societies/Institutions

ECON 1116. Principles of Microeconomics. (4 Hours)
Introduces microeconomics—a branch of economics that focuses on the interaction of consumers, firms, and governments in markets. Covers a basic theory of supply, demand, and competitive equilibrium. Presents several market structures and emphasizes different forms of market and government failure. Explores the compatibility of efficiency and equity in a variety of areas, such as social justice, sustainability, and income distribution. Offers students an opportunity to become familiar with the economic way of thinking, which provides a foundation for subsequent learning in economics.

Attribute(s): NUpath Analyzing/Using Data, NUpath Societies/Institutions

ECON 1125. Recitation for ECON 1115. (0 Hours)
Provides small-group discussion format to cover material in ECON 1115.

ECON 1126. Recitation for ECON 1116. (0 Hours)
Offers small-group discussion format to cover material in ECON 1116.

ECON 1230. Healthcare and Medical Economics. (4 Hours)
Enables students to recognize the relevance of economics to health and medical care and apply economic reasoning to understand health-related issues better; to understand the mechanism of healthcare delivery in the United States within broad social, political, and economic contexts; to explore the changing nature of health and medical care and its implications for medical practice, medical education and research, and health policy; and to analyze public policy in health and medical care from an economic perspective.

ECON 1240. Economics of Crime. (4 Hours)
Offers an overview of core issues specific to the economics of crime. Examines the social costs of crime, the determinants of criminal behavior, and the design of enforcement policies. Topics may include incarceration, policing, the deterrent effect of punishment, gun policy, cybercrime, drug policy, and racial bias within the criminal justice system. May consider social factors relating to education, poverty, family structure, and the environment.

Attribute(s): NUpath Societies/Institutions

ECON 1245. Economics of Inequality. (4 Hours)
Introduces inequality from an economic perspective. Studies how inequality relates to scarcity, appropriability, and inheritability. Discusses how taxation, economic growth, globalization, and technological progress affect inequality. Emphasizes the difference between inequality of economic outcomes and inequality of economic opportunity. Covers inequality in sectors such as housing, healthcare, labor market, and others. Discusses alternative empirical methods for measuring inequality, and presents economic policies designed to address it.

ECON 1260. Contested Issues in the U.S. Economy. (4 Hours)
Covers many of the contested economic issues that the United States faces as a nation—the size of government, the national debt, the war on drugs, national healthcare, taxation, and many more. An important social system in any society is the economic system—the allocation of scarce resources. In the large and complex economy of the United States, there is controversy over what goods and services are produced and how they are distributed. To understand the nature and causes of these issues requires a course where theory is a tool of analysis, not the focus. Economics is not value free. Attention is given to the role of ethics and how our moral values shape policy. Course topics vary from semester to semester.

Attribute(s): NUpath Ethical Reasoning, NUpath Societies/Institutions

ECON 1292. Economic History of the Middle East. (4 Hours)
Provides an historical account of the economies of the Middle East from the sixth century C.E. to the present. Conceives of the area between the Nile and Oxus as forming the core of the Middle East; besides the core, the region includes Turkey and North Africa. Identifies the major economic and demographic trends in the region, or segments of the region, to examine the ecological bases of the economies and the connection between political history and the economic trends and to understand the ways in which economies of the region articulated with other major economic regions including Europe, West Africa, and the economies of the Indian Ocean. Studies the systems of government and laws, agriculture, commerce, and manufacturing.

Attribute(s): NUpath Difference/Diversity

ECON 1711. Economics of Sustainability. (4 Hours)
Studies the significance of behavioral assumptions on economic outcomes and social norms, specifically as these relate to the perceived value of resources and the broader ecosystem. Explores the importance of economic concepts such as externalities and elasticity in relation to a market-driven economy, price, and consumption behavior. Through the use of elementary life cycle analysis, introduces both the definition and responsibilities of the rational agent as these relate to the establishment of sustainable outcomes. Offers students an opportunity to articulate the relationship between economic growth and climate change and reconcile the historical relationship between social values and sustainable outcomes.

ECON 1915. Introductory Selected Topics in Macroeconomics. (4 Hours)
Covers selected topics in the field of macroeconomics. The specific topic is chosen by the instructor. May be repeated up to three times.

ECON 1916. Introductory Selected Topics in Microeconomics. (4 Hours)
Covers selected topic matter in the field of microeconomics. The specific topic is chosen by the instructor. May be repeated up to three times.

ECON 1990. Elective. (1-4 Hours)
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

ECON 2315. Macroeconomic Theory. (4 Hours)
Presents several theoretical approaches to the study of macroeconomic dynamics in both the short and long run. Emphasizes the use of rigorous mathematical tools, such as calculus, to examine the major determinants of fluctuations in employment and price level, as well as the rate of economic growth. Explores theoretical models to evaluate the operation and impact of various macroeconomic policy tools. Discusses how macroeconomic performance relates to issues of social justice.

Prerequisite(s): ECON 1115 with a minimum grade of D- ; (MATH 1231 with a minimum grade of D- or MATH 1241 with a minimum grade of D- or MATH 1242 with a minimum grade of D- or MATH 1245 with a minimum grade of D- or MATH 1251 with a minimum grade of D- or MATH 1340 with a minimum grade of D- or MATH 1341 with a minimum grade of D- or MATH 1342 with a minimum grade of D-)
Attribute(s): NUpath Analyzing/Using Data, NUpath Societies/Institutions

ECON 2316. Microeconomic Theory. (4 Hours)
Examines the behavior of consumers and firms under several different market structures, including monopoly, oligopoly, monopolistic competition, and perfect competition. Covers sources of market failure, such as public goods, externalities, and information asymmetry. Presents the key analytical tools economists apply to evaluate the welfare and distributional impacts of policies designed to improve market outcomes. Relies on calculus-based methods, offering an opportunity for students to extend their knowledge of microeconomics.

Prerequisite(s): ECON 1116 with a minimum grade of D- ; (MATH 1231 with a minimum grade of D- or MATH 1241 with a minimum grade of D- or MATH 1242 with a minimum grade of D- or MATH 1245 with a minimum grade of D- or MATH 1251 with a minimum grade of D- or MATH 1340 with a minimum grade of D- or MATH 1341 with a minimum grade of D- or MATH 1342 with a minimum grade of D-)
Attribute(s): NUpath Natural/Designed World

ECON 2350. Statistics for Economists. (4 Hours)
Presents statistical techniques used to analyze data in order to address issues related to economics and other social sciences. Explores different types of datasets, sampling, and data collection techniques. Discusses how to obtain sociodemographic data for different subpopulations based on gender, race, class, ethnicity, and other stratifications. Uses data visualization techniques to depict economic phenomena. Offers students an opportunity to compute and interpret summary statistics, conduct confidence interval estimation, hypothesis testing, and simple regression analysis. Computer applications are an integral part of the course.

Prerequisite(s): (CS 1100 (may be taken concurrently) with a minimum grade of D- or CS 2500 (may be taken concurrently) with a minimum grade of D- or DS 2000 (may be taken concurrently) with a minimum grade of D- or MISM 2510 (may be taken concurrently) with a minimum grade of D-)
Attribute(s): NUpath Analyzing/Using Data, NUpath Formal/Quant Reasoning

ECON 2560. Applied Econometrics. (4 Hours)
Introduces the techniques of regression analysis useful to address relevant questions in economics and related subjects. Covers the foundations of multivariate regression analysis, including potential issues such as heteroskedasticity, multicollinearity, omitted variable bias, and model specification. Additional topics may include instrumental variables, panel data, discrete choice models, and time-series analysis. Utilizes regression software (e.g., Stata, R, Python) throughout the course to analyze real-world data. Writing an applied econometrics paper is an integral part of the course.

Prerequisite(s): (CS 1100 with a minimum grade of D- or CS 2500 with a minimum grade of D- or DS 2000 with a minimum grade of D- or MISM 2510 with a minimum grade of D-); ECON 1115 with a minimum grade of D- ; ECON 1116 with a minimum grade of D- ; (ECON 2350 with a minimum grade of D- or MATH 2280 with a minimum grade of D- or MATH 3081 with a minimum grade of D- or INSH 3102 with a minimum grade of D- or MGSC 2301 with a minimum grade of D- or POLS 2400 with a minimum grade of D- or PSYC 2320 with a minimum grade of D-); (ENGW 1111 with a minimum grade of C or ENGW 1102 with a minimum grade of C or ENGL 1111 with a minimum grade of C or ENGW 1113 with a minimum grade of C or ENGW 1114 with a minimum grade of C or ENGL 1102 with a minimum grade of C); (MATH 1231 with a minimum grade of D- or MATH 1241 with a minimum grade of D- or MATH 1245 with a minimum grade of D- or MATH 1251 with a minimum grade of D- or MATH 1340 with a minimum grade of D- or MATH 1341 with a minimum grade of D-)
Attribute(s): NUpath Analyzing/Using Data, NUpath Writing Intensive

ECON 2990. Elective. (1-4 Hours)
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

Prerequisite(s): ECON 1115 with a minimum grade of D- ; ECON 1116 with a minimum grade of D-

ECON 3255. Economics of Financial Market Structure. (4 Hours)
Examines global financial markets such as U.S. equities markets, stock options exchange markets, and the Treasury debt market. Explores financial instruments used in each of these markets such as debt and equity instruments, futures and options, credit default swaps, and interest rate swaps. Analyzes government regulation and shortcomings of these markets. Discusses policies for the potential improvement of financial markets. Offers students an opportunity to develop skills in the use of current financial market technologies and instruments.

Prerequisite(s): ECON 1116 with a minimum grade of D-

ECON 3290. History of the Global Economy. (4 Hours)
Covers ideological biases in economics; the extent of global disparities around 1800; evolution of global disparities since 1800; evolution of international integration and international trading and monetary regimes, 1800–2000; theories explaining global disparities: classical, neoclassical, Marxian, neo-Marxian, and structuralist; import-substituting industrialization: Latin America, Asia, and Africa; international debt crises: nineteenth and twentieth centuries; the new global regime; structural adjustment: GATT (General Agreement on Tariffs and Trade) and WTO (World Trade Organization); and socialist interlude: a socialist experience and transition to capitalism.

Prerequisite(s): ECON 1116 with a minimum grade of D- or ECON 1115 with a minimum grade of D-
Attribute(s): NUpath Societies/Institutions

ECON 3291. Development Economics. (4 Hours)
Explores social and economic development around the world. Topics include income, poverty, inequality, human development, geography, growth, impact evaluation, health, education, financial markets, trade, and gender inequality. Analyzes four key elements of economic development: income, poverty, inequality, and human development. Offers students an opportunity to understand the determinants of economic growth. Focuses on major policy issues concerning health, education, credit, savings, gender differences, and globalization. Studies which interventions worked and which did not. Exposes students to readings and perspectives from several academic disciplines. Emphasizes one unifying methodological theme: the usefulness of empirical economic tools in assessing the arguments presented in debates about development.

Prerequisite(s): ECON 1116 with a minimum grade of D- ; (ECON 2350 with a minimum grade of D- or MATH 2280 with a minimum grade of D- or MATH 3081 with a minimum grade of D- or MGSC 2301 with a minimum grade of D- or POLS 2400 with a minimum grade of D- or PSYC 2320 with a minimum grade of D-)
Attribute(s): NUpath Societies/Institutions

ECON 3404. International Food Policy. (4 Hours)
Offers an overview of the rationale for and types of food policies in developing countries. Uses a food systems approach to cover economic and political dimensions of food policy. Emphasizes food security, nutrition, poverty alleviation, and environmental issues. Discusses and analyzes the dynamics of change in the role of government; food value chains; and institutions and governance and their implications for local, regional, and global food systems.

Prerequisite(s): ECON 1116 with a minimum grade of D-
Attribute(s): NUpath Societies/Institutions

ECON 3405. A Critique of Capitalism. (4 Hours)
Examines the origins, workings, successes, and failures of capitalism, defined as an economic system where capital is mostly privately owned and markets generally solve economic problems. Examines, in addition, several variants of private-ownership economies including slavery, feudalism, land-tenancy, putting-out system, and self-employment. Also examines some alternatives to capitalism, such as command socialism, market socialism, worker-ownership of capital, cooperatives, Islamic economy, and Christian economy.

Prerequisite(s): ECON 1116 with a minimum grade of D-
Attribute(s): NUpath Societies/Institutions

ECON 3410. Labor Economics. (4 Hours)
Emphasizes an economic analysis of the labor market, the labor force, and wages and earnings. Explores the differences that have existed and currently exist in the labor market with regard to race, ethnicity, and gender and the theories behind why they have existed and continue to exist. Covers supply, development, and efficient use of human resources; demand for labor by businesses and industries; wage inequality and its determinants; changing occupational and industrial structure; nature, causes, and incidence of unemployment; economic impact of unions; and influence of related labor-market institutions and relevant public policies including minimum wages, wage subsidies, and earned-income tax credits; health and safety regulations (OSHA); and antidiscrimination and affirmative action policies and programs.

Prerequisite(s): ECON 1116 with a minimum grade of D- ; (ECON 2350 with a minimum grade of D- or MATH 2280 with a minimum grade of D- or MATH 3081 with a minimum grade of D- or MGSC 2301 with a minimum grade of D- or POLS 2400 with a minimum grade of D- or PSYC 2320 with a minimum grade of D-)
Attribute(s): NUpath Difference/Diversity, NUpath Societies/Institutions

ECON 3413. Health Economics and Healthcare Policy. (4 Hours)
Studies functional skills economists use in health policy analysis, how to apply economic models, and the tools of data and statistical analysis, with the goal of answering health policy questions. Topics include individual health decisions, health insurance coverage and access to care, the behavior of hospitals and health insurers, the Medicare and Medicaid programs, prescription drug prices, innovation/RD in the pharmaceutical sector, and topics in public health. Offers students an opportunity to develop the knowledge and tools required to understand, discuss, and provide informed perspective on national policy debates, such as the Affordable Care Act, rising healthcare prices and lack of affordability, the benefits and drawbacks of a national single-payer health insurance program, and public health topics such as rising mortality and prescription opioid and heroin abuse.

Prerequisite(s): ECON 1116 with a minimum grade of D- ; (ECON 2350 with a minimum grade of D- or MATH 2280 with a minimum grade of D- or MATH 3081 with a minimum grade of D- or MGSC 2301 with a minimum grade of D- or POLS 2400 with a minimum grade of D- or PSYC 2320 with a minimum grade of D-)

ECON 3416. Behavioral Economics. (4 Hours)
Questions assumptions made in standard microeconomic utility-driven models, using insights from psychology and other social sciences. Examines behavior that departs from these assumptions and tests theories with data. Incorporates empirical evidence from a wide range of fields, including development economics, health economics, labor economics, industrial organization, and finance. Topics include deviations from standard models in terms of preferences (present bias, reference dependence, and social preferences); beliefs (projection bias); and decision making (cognition, attention, and framing); as well as market and policy reactions to such deviations.

Prerequisite(s): ECON 1116 with a minimum grade of D- ; (ECON 2350 with a minimum grade of D- or MATH 2280 with a minimum grade of D- or MATH 3081 with a minimum grade of D- or MGSC 2301 with a minimum grade of D- or POLS 2400 with a minimum grade of D- or PSYC 2320 with a minimum grade of D-)

ECON 3420. Urban Economic Issues. (4 Hours)
Studies urban growth and development, focusing on economic analysis of selected urban problems such as housing, poverty, transportation, education, health, crime, and the urban environment. Discusses public policies related to such problems.

Prerequisite(s): ECON 1116 with a minimum grade of D-
Attribute(s): NUpath Societies/Institutions

ECON 3423. Environmental Economics. (4 Hours)
Applies the tools of economics to environmental issues. Explores taxonomy of environmental effects; externalities; the commons problem; taxation, regulations, marketable permits, and property rights as a solution; measuring benefits of cleaner air and water, noise abatement, and recreational areas; global issues including tropical deforestation and acid rain; and the relevance of economics to the environmental debate.

Prerequisite(s): ECON 1116 with a minimum grade of D-

ECON 3424. Law and Economics. (4 Hours)
Introduces students to the economic approach to law. Focuses on several different bodies of law, including torts, property, contracts, and crime. Specific applications may consider additional areas, including those related to health and safety, the environment, and the legal services industry. Relies on economic models to examine the incentives created by various rules and considers the implications for social welfare. Covers select cases to highlight their economic importance. Examines the economic logic underlying the evolution of the common law.

Prerequisite(s): ECON 1116 with a minimum grade of D-
Attribute(s): NUpath Formal/Quant Reasoning, NUpath Societies/Institutions

ECON 3425. Energy Economics. (4 Hours)
Introduces theoretical and empirical perspectives on energy demand and energy supply. Energy is vital to modern economies. Emphasizes the role markets play in determining how to use energy and its sources and the scope for public policy to address market imperfections. Discusses oil, natural gas, coal, nuclear power, and renewable energy (such as hydro-, wind, and solar power). Covers the public policy issues around greenhouse gas emissions and energy security.

Prerequisite(s): ECON 1116 with a minimum grade of D-

ECON 3440. Public Finance. (4 Hours)
Presents an overview of the economics of government and the role of public policy. Develops guidelines to determine which economic activities are best performed by government and which are not. Also examines the impact of tax policies on efficiency, economic growth, and equity. Topics include market failures, public choice, the personal income tax, the corporate tax, sales tax, and taxation of capital and wealth, and options for reform of the tax structure. Major spending programs such as social security and education and healthcare are analyzed.

Prerequisite(s): ECON 1116 with a minimum grade of D-

ECON 3442. Money and Banking. (4 Hours)
Covers the nature and functions of money, credit, and financial markets in the modern international economy. Analyzes financial markets and institutions, central banking, and the effects of interest and foreign exchange rates on the real economy.

Prerequisite(s): ECON 1115 with a minimum grade of D-

ECON 3460. Managerial Economics. (4 Hours)
Explores the application of economic principles to the solution of managerial decision-making problems in areas such as demand estimation, cost estimation and control, pricing and marketing strategies, employee incentives, financing of capital investments, and responses to government regulation and taxation. Case studies and simulation models are typically used as pedagogical tools.

Prerequisite(s): ECON 1116 with a minimum grade of D-

ECON 3462. Bubbles, Busts, and Bailouts: Market and Regulatory Failures in the Financial Crisis. (4 Hours)
Investigates economic and financial bubbles together with the busts and bailouts that usually follow. Analyzes how and why bubbles form in markets such as housing and stocks, emphasizing the financial crisis of 2007–2008 but covers others as well. Also examines the lasting effects on markets and the economy from the collapse of such bubbles and the need for bailouts and other policies that are often used. Applies a range of perspectives to identify the market failures and regulatory failures that can cause bubbles—failures of assumptions about information, about incentives, and about oversight. Includes perspectives from microeconomics, behavioral economics, finance, and public policy.

Prerequisite(s): ECON 1116 with a minimum grade of D-
Attribute(s): NUpath Societies/Institutions

ECON 3470. American Economic History. (4 Hours)
Covers the economic history of the United States from the colonial period to the present. Includes studies of the development of major economic institutions and the effects of technological change. Examines economic reasons for the spread of an industrial market economy in the nineteenth century and the successes and failures of this economy in the twentieth century.

Prerequisite(s): ECON 1115 with a minimum grade of D- ; (ENGW 1111 with a minimum grade of C or ENGW 1102 with a minimum grade of C or ENGW 1113 with a minimum grade of C or ENGW 1114 with a minimum grade of C or ENGL 1111 with a minimum grade of C or ENGL 1102 with a minimum grade of C)
Attribute(s): NUpath Societies/Institutions, NUpath Writing Intensive

ECON 3481. Economics of Sports. (4 Hours)
Investigates what economics has to say about sports as an economic activity: what tools of economic analysis apply to sports, whether sports require different economic tools, what the evidence has to say about key questions. Focuses on professional team sports, although some attention is paid to college sports and to individual professional sports.

Prerequisite(s): ECON 1116 with a minimum grade of D-

ECON 3490. Public Choice Economics. (4 Hours)
Studies public choice economics—the scientific analysis of government behavior—and is divided into two parts: institutional political economy and social choice theory. Public choice economics applies this neoclassical economic analysis to political issues such as rent seeking, tax reform, logrolling, voting behavior, the function of government, the intersection between public and private interests, and federalism. The point of departure from political science is that economists have based this analysis on the assumption that utility functions do not change once a person enters the realm of public service and that the argument of their utility functions is still their own self-interest and not the interest of the social system in which they operate.

Prerequisite(s): ECON 1115 with a minimum grade of D- ; ECON 1116 with a minimum grade of D-
Attribute(s): NUpath Societies/Institutions

ECON 3520. History of Economic Thought. (4 Hours)
Traces the evolution of Western economic thought. Covers several important periods and schools of economic thought including mercantilism, physiocracy, classical, Marxist, neoclassical, and Keynesian. Emphasizes the relationship between historical changes in society and economic thought, focusing on changes in the types of questions economists ask and the analytical tools they use.

Prerequisite(s): ECON 1115 with a minimum grade of D- ; ECON 1116 with a minimum grade of D- ; (ENGL 1102 with a minimum grade of C or ENGL 1111 with a minimum grade of C or ENGW 1102 with a minimum grade of C or ENGW 1111 with a minimum grade of C or ENGW 1113 with a minimum grade of C or ENGW 1114 with a minimum grade of C)
Attribute(s): NUpath Writing Intensive

ECON 3635. International Economics. (4 Hours)
Covers Ricardian and neoclassical theories of trade; trade policies; tariffs, quotas, voluntary export restraints, and customs union; global trade regime; GATT (General Agreement on Tariffs and Trade) and WTO (World Trade Organization); balance-of-payments accounts; foreign exchange markets; monetary and portfolio balance approaches to external balance; fixed or flexible exchange rates; and international monetary system.

Prerequisite(s): ECON 1115 with a minimum grade of D- ; ECON 1116 with a minimum grade of D-

ECON 3711. Economics of Race. (4 Hours)
Addresses economic issues related to race, including the persistence of racial discrimination. Studies the social construction of race and the use of this construction to legitimize exploitation. Covers the economic modeling of discrimination and segregation, as well as the effect of these societal attributes on economic outcomes, and the complexity of racial equity and equality specific to reparations. Course materials rely on published research, film, and other media.

Prerequisite(s): ECON 1116 with a minimum grade of D-

ECON 3915. Intermediate Selected Topics in Macroeconomics. (4 Hours)
Covers selected topic matter in the field of macroeconomics. The specific topic is chosen by the instructor. May be repeated up to five times.

Prerequisite(s): ECON 1115 with a minimum grade of D-

ECON 3916. Intermediate Selected Topics in Microeconomics. (4 Hours)
Covers selected topic matter in the field of microeconomics. The specific topic is chosen by the instructor. May be repeated up to five times.

Prerequisite(s): ECON 1116 with a minimum grade of D-

ECON 3990. Elective. (1-4 Hours)
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

Prerequisite(s): ECON 2315 with a minimum grade of D- ; ECON 2316 with a minimum grade of D-

ECON 4637. Monetary and Fiscal Policy. (4 Hours)
Examines how government policies affect the macroeconomy both in theory and practice. Explores the trade-offs governments face when fiscal policy is used to smooth business cycles and address issues of equity. Covers models of monetary policy and how they are utilized by central banks to address business cycles. Key topics include fiscal and money multipliers, transmission mechanisms, nominal anchors, policy rules, and the role of expectations. While the central focus is on the United States, offers students an opportunity to examine fiscal and monetary policies of other nations.

Prerequisite(s): ECON 2315 with a minimum grade of D-

ECON 4640. Financial Economics. (4 Hours)
Introduces students to the theory of investments, including the principles of risk and return, the theory of portfolio selection, asset pricing models such as the capital asset pricing model (CAPM) and arbitrage pricing theory (APT), valuation of stocks, bond pricing and the term structure of interest rates, and options (what they are and how to use them). Geared toward nonbusiness majors who are interested in a rigorous course in finance.

Prerequisite(s): (ECON 2315 with a minimum grade of D- or ECON 2316 with a minimum grade of D-); (ECON 2350 with a minimum grade of D- or MATH 2280 with a minimum grade of D- or MATH 3081 with a minimum grade of D- or MGSC 2301 with a minimum grade of D- or POLS 2400 with a minimum grade of D- or PSYC 2320 with a minimum grade of D-)

ECON 4680. Competition Policy and Regulation. (4 Hours)
Presents an analytic framework and empirical study of how the structure of industries and the conduct of sellers affect performance. Includes examples and case studies from both the “old economy” and the “new economy.” Examines antitrust as a public policy designed to promote better market performance.

Prerequisite(s): ECON 2316 with a minimum grade of D-

ECON 4681. Information Economics and Game Theory. (4 Hours)
Offers an advanced course on the economics of information, including moral hazard and adverse selection; game theory; and mechanism design. Formally considers alternative solution concepts, such as Nash equilibrium and rationalizability for simultaneous move and sequential move games under complete information about payoffs and preferences, as well as solution concepts, such as Bayesian-Nash equilibrium to analyze selection, screening, and incentives in games of incomplete or asymmetric information. Covers optimal incentives or mechanism design, including the optimal design of contracts, auctions, and other mechanisms. Prior exposure to game theory recommended.

Prerequisite(s): ECON 2316 with a minimum grade of D- ; (ECON 2350 with a minimum grade of D- or MATH 2280 with a minimum grade of D- or MATH 3081 with a minimum grade of D- or MGSC 2301 with a minimum grade of D- or POLS 2400 with a minimum grade of D- or PSYC 2320 with a minimum grade of D-)
Attribute(s): NUpath Formal/Quant Reasoning, NUpath Societies/Institutions

ECON 4692. Senior Economics Seminar. (4 Hours)
Incorporates aspects of real-world and academic experiences of students into an analytical context, enabling students to demonstrate their ability to apply economic concepts, methodology, and data to economic issues and problems of personal and philosophical significance.

Prerequisite(s): ECON 2315 with a minimum grade of D- ; ECON 2316 with a minimum grade of D- ; (ECON 2350 with a minimum grade of D- or MATH 2280 with a minimum grade of D- or MATH 3081 with a minimum grade of D- or MGSC 2301 with a minimum grade of D- or POLS 2400 with a minimum grade of D- or PSYC 2320 with a minimum grade of D-)
Attribute(s): NUpath Capstone Experience, NUpath Writing Intensive

ECON 4916. Advanced Selected Topics in Microeconomics. (4 Hours)
Covers selected topic matter in the field of microeconomics. The specific topic is chosen by the instructor. May be repeated up to four times.

Prerequisite(s): ECON 2316 with a minimum grade of D-

ECON 4965. Undergraduate Teaching Experience. (4 Hours)
Offers an opportunity for qualified undergraduate students to serve as undergraduate teaching assistants. Requires various assignments closely directed by the assigned course instructor. These may include holding office hours, light grading, maintaining the records for the course, proctoring—but not solely administering—exams and quizzes, holding recitation/tutorial sessions, and (very) limited lecturing or leading class discussions. Requires minimum overall GPA of 3.333 and grade of A– or better in course assignment; permission to enroll is further subject to the availability of an appropriate course assignment and instructor.

ECON 4970. Junior/Senior Honors Project 1. (4 Hours)
Focuses on in-depth project in which a student conducts research or produces a product related to the student's major field. Combined with Junior/Senior Project 2 or college-defined equivalent for 8 credit honors project. May be repeated without limit.

Prerequisite(s): ECON 2315 with a minimum grade of D- ; ECON 2316 with a minimum grade of D- ; (ECON 2350 with a minimum grade of D- or MATH 2280 with a minimum grade of D- or MATH 3081 with a minimum grade of D- or MGSC 2301 with a minimum grade of D- or POLS 2400 with a minimum grade of D- or PSYC 2320 with a minimum grade of D-)

ECON 4971. Junior/Senior Honors Project 2. (4 Hours)
Focuses on second semester of in-depth project in which a student conducts research or produces a product related to the student's major field. May be repeated without limit.

Prerequisite(s): ECON 4970 with a minimum grade of D-

ECON 4990. Elective. (1-4 Hours)
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

ECON 4991. Research. (4 Hours)
Offers an opportunity to conduct research under faculty supervision.

Attribute(s): NUpath Integration Experience

ECON 4992. Directed Study. (1-4 Hours)
Offers independent work under the direction of members of the department on a chosen topic. Course content depends on instructor. May not be substituted for requirements leading to a BA or BS in economics. Requires approval of department chair. May be repeated without limit.

ECON 4994. Internship. (4 Hours)
Offers students an opportunity for internship work. May be repeated without limit.

Attribute(s): NUpath Integration Experience

ECON 4996. Experiential Education Directed Study. (4 Hours)
Draws upon the student's approved experiential activity and integrates it with study in the academic major. Restricted to those students who are using the course to fulfill their experiential education requirement. May be repeated without limit.

Attribute(s): NUpath Integration Experience

ECON 4997. Senior Economics Thesis. (4 Hours)
Offers students an opportunity to write and present a research project on a topic within the discipline of economics. Students identify a question derived from economic theory and conduct a review of relevant literature in economics and related fields, analyzing the question through a well-defined research methodology.

Prerequisite(s): ECON 2315 with a minimum grade of D- ; ECON 2316 with a minimum grade of D- ; ECON 2560 with a minimum grade of D-
Attribute(s): NUpath Capstone Experience, NUpath Writing Intensive

ECON 5105. Math and Statistics for Economists. (4 Hours)
Offers an intensive study of the statistical methods and techniques and mathematical fundamentals necessary for quantitative economics. Statistical topics include descriptive statistics, probability theory, fundamentals of estimation and hypothesis testing, and regression and correlation analysis. Mathematical topics include linear algebra and differential and integral calculus. Computer applications are an integral part of the course.

ECON 5110. Microeconomic Theory. (4 Hours)
Presents a survey of microeconomic theory at the beginning graduate level. Topics include theories of the consumer, firm, and market (including input and output markets), welfare economics, and market failures. Includes applications of theory to public policy questions in such fields as industrial organization and public finance. Requires knowledge of undergraduate microeconomic theory.

ECON 5120. Macroeconomic Theory. (4 Hours)
Examines theories of the short-run determination of output, employment, and prices, and long-run economic growth. Presents alternative macroeconomic models. Also consists of applied case study analysis of the theoretical models presented in class.

ECON 5140. Applied Econometrics. (4 Hours)
Offers an intensive study of econometric techniques applied to cross-section, time-series, and panel data. Applies the fundamentals of econometrics to analyzing structural economic models, forecasting, and policy analysis. Computer applications and an empirical research project are an integral part of the course.

Prerequisite(s): ECON 5105 with a minimum grade of C- or ECON 6105 with a minimum grade of C-

ECON 5200. Topics in Applied Economics. (4 Hours)
Presents an application of microeconomic and macroeconomic theory, as well as quantitative methods, to a variety of social issues, both domestic and international. May be repeated without limit where topics are unique.

ECON 5210. Machine Learning in Economics. (4 Hours)
Offers an in-depth introduction to a broad range of machine learning concepts and methods. Addresses the growing importance of machine learning in fostering the development of new research topics. Uses algorithms to discover and explore data patterns and applies machine learning techniques to uncover variables to help answer economic questions. Covers assumptions that underlie machine learning methods and how they can be validated with economic data. Identifies appropriate and optimal machine learning models for economic datasets and compares machine learning methods with traditional economic models. Offers students an opportunity to develop practical machine learning skills from an economic perspective. Emphasizes practical and innovative empirical applications in research and business.

Prerequisite(s): ECON 5105 with a minimum grade of C- or ECON 5105 with a minimum grade of C- or ECON 6105 with a minimum grade of C-

ECON 5220. Computational Finance and Financial Econometrics. (4 Hours)
Covers many aspects of the contemporary quantitative finance toolkit. Uses standard econometrics to address empirical finance questions such as estimating stock betas and efficient market tests. Includes advanced econometrics for non-stationary data and limited dependent variables, with cointegration/statistical arbitrage applications and bankruptcy modeling; quantitative research and portfolio management techniques like factor portfolio sorts (including machine learning and Big Data); and quantitative techniques, such as Monte Carlo simulations, to value derivatives and for pricing exotic options.

Prerequisite(s): ECON 2560 with a minimum grade of C- or graduate program admission

ECON 5291. Applied Development. (4 Hours)
Focuses on major macroeconomics policy questions for developing countries in an open economy context. Approaches these policy issues from a political economy perspective on macroeconomics. Combines theoretical foundations with institutional analysis and empirical evidence. Begins by developing a macroeconomic framework to analyze short-term macroeconomic adjustment and concludes with long-term growth, emphasizing the effects of financial integration and capital account regulations on macroeconomic performance in developing countries. Empirical data and country experiences help assess the validity of theoretical propositions and explain the complexity of development trajectories. Requires previous coursework in macroeconomic theory.

ECON 5292. Gender and Development Economics. (4 Hours)
Examines topics at the intersection of women’s empowerment and economic development from an economic perspective. Introduces potential explanations for the gender inequalities in the context of developing countries as well as the role of public policy in addressing such disparities. Studies microeconomics topics such as education gaps, fertility, family planning, HIV/AIDS, marriage dynamics and intrahousehold allocation of resources, female labor outcomes and migration, as well as conflict and domestic violence. Offers students an opportunity to apply basic economic theory associated with each topic as well as the research methodologies used in recent empirical papers. Students with an econometrics background have a better understanding of the empirical papers. Requires previous course work in microeconomic theory and in statistics.

ECON 5293. Agriculture and Development Policy. (4 Hours)
Reviews main theories and empirical facts on the role of agriculture in economic development. Topics include population dynamics, agricultural productivity and growth, poverty alleviation, and future issues in agricultural development. Focuses on the analysis and application of policy solutions. Designed to help develop practical professional skills for application in the global development policy arena.

Prerequisite(s): ((ECON 2315 with a minimum grade of B or ECON 2316 with a minimum grade of B); ECON 2560 with a minimum grade of D-) or graduate program admission

ECON 5650. Economic Growth and Applications. (4 Hours)
Offers an in-depth analysis of models of economic growth and their empirical applications. Analyzes the process and mechanics of economic growth, technological change, and sources of income and growth differences across countries. Includes the role of technology, population dynamics, institutions, geography, and culture. Discusses alternative growth strategies in the context of income inequality and natural resource constraints. Requires previous coursework in macroeconomic theory.

Prerequisite(s): (ECON 2315 with a minimum grade of D- ; (ECON 2560 with a minimum grade of D- or ECON 3560 with a minimum grade of D-)) or graduate program admission

ECON 6105. Advanced Mathematics and Statistics for Economists. (4 Hours)
Covers the fundamental quantitative methods in economics. The first part of the course focuses on the role of mathematical models in economics, the applications of linear algebra, multivariate calculus, and static optimization theory. Studies statistics in the second part of the course, and offers students an opportunity to learn how to apply proper methods of empirical testing in economics. Additionally, introduces the statistical language R to equip students to complete most of the assignments in statistics. This is an advanced graduate course.

ECON 6110. Advanced Microeconomic Theory. (4 Hours)
Discusses consumer choice, classical demand theory, production, choice under uncertainty, competitive markets, and market power, which provide the theoretical foundation of more advanced topics that can be used as the basis to design empirical applications. Requires a strong background in linear algebra, multivariate calculus, and optimization theory for success in the course. A good undergraduate intermediate-level microeconomic theory course is also helpful. This is the first advanced graduate-level course on microeconomic theory for graduate students.

ECON 6120. Advanced Macroeconomic Theory. (4 Hours)
Develops basic models used by macroeconomists to study long-run economic growth with exogenous savings and endogenous saving decisions by optimizing households. Studies models incorporating endogenous technology improvements, including the model of increasing product variety and the model of Schumpeterian growth. In the second part of the course, basic models used by macroeconomist are developed to explain short-term fluctuations in aggregate economic variables. Develops a simple real business cycle model, which is subsequently enriched by relaxing assumptions of perfect competition on the production side and monetary neutrality. This is the first advanced graduate-level course introducing modern theories of the aggregate economy.

ECON 6140. Advanced Applied Econometrics. (4 Hours)
Offers students an opportunity to obtain the theoretical tools, computer skills, and experience using econometrics needed to appreciate and do high-quality applied research in economics. Emphasizes understanding how the properties of estimators can be found and their implications for applied research. Introduces the programming language Python, which is integrated into the course. Focuses on methods that are most useful in microeconomic analysis, including classical linear regressions, Gauss-Markov theorem and hypothesis testing, endogeneity, instrumental variable estimation and causality analysis, heteroskedasticity and serial correlations, nonlinearity, panel data methods, difference-in-difference, and regression discontinuity. This is the first advanced graduate-level course on econometrics.

Prerequisite(s): ECON 5105 with a minimum grade of C- or ECON 5105 with a minimum grade of C- or ECON 6105 with a minimum grade of C-

ECON 6232. Designing Global Economic and Social Policy. (4 Hours)
Examines economic challenges facing developing nations including poverty, inequality, low productivity, and limited access to human capital. Presents insights into theories like neoclassical growth models and dependency theory on spurring development. Explores policy options to promote growth such as increasing access to safety nets, human capital, and labor force participation. Offers students an opportunity to analyze data; evaluate policies to systematically understand developing world economic issues; and identify evidence-based, sustainable solutions tailored to individual countries' challenges.

ECON 6954. Co-op Work Experience - Half-Time. (0 Hours)
Provides eligible students with an opportunity for work experience. May be repeated without limit.

ECON 6955. Co-op Work Experience Abroad - Half-Time. (0 Hours)
Provides eligible students with an opportunity for work experience. May be repeated without limit.

ECON 6962. Elective. (1-4 Hours)
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

ECON 6964. Co-op Work Experience. (0 Hours)
Provides eligible students with an opportunity for work experience. May be repeated twice.

ECON 6965. Co-op Work Experience Abroad. (0 Hours)
Provides eligible students with an opportunity for work experience abroad. May be repeated without limit.

ECON 7200. Topics in Applied Economics. (4 Hours)
Presents an application of microeconomic and macroeconomic theory, as well as quantitative methods, to a variety of social issues, both domestic and international. May be repeated without limit.

ECON 7240. Workshop in Applied Econometrics. (4 Hours)
Presents an intensive, hands-on application of econometrics to research problems in economics, using current econometric software packages. Uses both cross-section and time-series techniques and applies them to different areas of economics such as global economics, labor economics, urban economics, public finance, policy evaluation, and so on. Expects students to complete a written applied econometrics project and present the results to the class.

Prerequisite(s): ECON 5140 with a minimum grade of C- or ECON 5140 with a minimum grade of C- or ECON 6140 with a minimum grade of C-

ECON 7250. International Economic Development. (4 Hours)
Covers leading research topics in development economics, with a particular focus on patterns of global inequality and globalization, effects of trade policy on labor market adjustment, gender and development, education and health, long-term effects of institutions, commodity price dynamics, and Dutch disease. Course objectives include exploring the cutting-edge literature emerging on these topics and improving understanding of the most recent empirical methods used in the literature. Offers students an opportunity to learn how to apply econometric techniques to particular research questions while evaluating advantages and disadvantages of using different approaches and to demonstrate understanding of difference-in-differences analysis, instrumental variables, randomized evaluation, regression discontinuity, and structural vector autoregressive models. Students critically assess the limitations of these methods.

ECON 7251. International Finance. (4 Hours)
Introduces students to international finance and equips them with tools and methods to study and analyze international economic issues and problems. Topics include the foreign exchange market, balance of payments, international investment and banking, monetary and fiscal policy in an open economy, economic integration and monetary unification, the international monetary system, and optimum currency areas. Each student is required to write a short paper on a current problem in international finance.

ECON 7266. Economics of Government. (4 Hours)
Presents an overview of the economics of government and the role of public policy. Develops guidelines to determine which economic activities are best performed by government and which are not. Topics include public choice, public goods, externalities, public enterprise, and efficiency and equity effects of alternative tax systems.

Prerequisite(s): ECON 5110 with a minimum grade of C- or ECON 5110 with a minimum grade of C- or ECON 6110 with a minimum grade of C-

ECON 7710. Microeconomic Theory 2. (4 Hours)
Continues ECON 6110, building on its theories. Topics include game theory, economics of information, incentive theory, welfare economics, general equilibrium, and social choice theory.

Prerequisite(s): ECON 6110 with a minimum grade of B- or ECON 6110 with a minimum grade of B-

ECON 7720. Macroeconomic Theory 2. (4 Hours)
Continues ECON 6120. Offers an advanced course in macroeconomic analysis where economic theory and econometric evidence are brought together to explain economic events and changes at the macro level including economic growth, changes in unemployment and inflation rates, and business cycles. Topics include the Solow growth model, overlapping-generations models, research and development models of growth, real-business-cycle theory, Keynesian theories of economic fluctuations, microfoundations, consumption, investment, unemployment, inflation and monetary theory, and budget deficits and fiscal policy.

Prerequisite(s): ECON 6120 with a minimum grade of B- or ECON 6120 with a minimum grade of B-

ECON 7740. Applied Econometrics 2. (4 Hours)
Continues ECON 6140. Extends students' understanding of econometrics beyond the topics covered in the earlier course. Students develop and complete an econometric research project using methods covered. Topics include models with multiple equations, nonlinear regression models, asymptotic theory, maximum likelihood, discrete choice models, limited dependent variables and duration models, panel data, regression models for time-series data, and unit roots and cointegration.

Prerequisite(s): ECON 6140 with a minimum grade of B- or ECON 6140 with a minimum grade of B-

ECON 7751. Development Economics. (4 Hours)
Focuses on contemporary research questions and econometric methods in development economics. Includes a rigorous introduction to core microeconomic issues in economic development, focusing on both key theoretical contributions and empirical applications, to understand why some countries are poor and how markets function differently in poor economies. Examines and utilizes detailed survey data of the world's poor and scientifically evaluates policies and their effectiveness. Requires a solid understanding of how to read and interpret statistics. Topics include poverty and poverty traps, behavioral economics, savings, health, credit, networks, social norms, and the role of the public sector. Covers both seminal and leading contemporary economic research.

Prerequisite(s): ECON 5110 with a minimum grade of B or ECON 6110 with a minimum grade of B or PPUA 6502 with a minimum grade of B

ECON 7763. Labor Market Analysis. (4 Hours)
Offers a theoretical and methodological survey of the field of neoclassical labor market analysis at the PhD level. Topics include the supply of labor from the perspective of the individual and the family, human capital, the demand for labor, market equilibrium, and the determination and distribution of wages and earnings. Other topics that may be included are unions, unemployment, labor mobility, alternative models of labor markets, labor productivity and growth, and income distribution and poverty.

Prerequisite(s): ECON 7710 with a minimum grade of C- ; ECON 7740 (may be taken concurrently) with a minimum grade of C-

ECON 7764. Topics in Labor Economics. (4 Hours)
Covers the theoretical and empirical issues surrounding current topics in the area of labor economics. Topics may vary each time the course is offered and may include discrimination, efficiency wage theory, labor legislation, life cycle analysis, and the use of microdata (panel studies, search behavior, intergenerational earnings mobility, and employment and training policies).

Prerequisite(s): ECON 7763 with a minimum grade of C-

ECON 7771. Framework of Industrial Organization. (4 Hours)
Sets out the analytical framework of industrial organization economics-the basis and method for evaluating the performance of markets and firms and for prescribing policies for improvement. Topics include size and structure of firms, market concentration, pricing in oligopoly and other markets, entry and entry deterrence strategies, and advertising and product strategies. Each of these topics is examined using a range of tools including microeconomic theory, game theory, and statistical analysis.

Prerequisite(s): ECON 7710 with a minimum grade of B- ; ECON 7740 with a minimum grade of B-

ECON 7772. Public Policy Toward Business. (4 Hours)
Covers the three major facets of public policy toward business: antitrust, regulation, and privatization. Demonstrates how economic theory and evidence are brought to bear on practical questions of market failure and policies to remedy such failure. Topics include mergers, collusion and facilitating practices, predatory conduct, cost of service regulation, price caps and incentive regulation, deregulation, and public enterprise vs. privatization. Policies are analyzed for their rationale, techniques for implementation, and effects as measure in the context of actual experience in the United States and other countries.

Prerequisite(s): ECON 7771 with a minimum grade of C-

ECON 7962. Elective. (1-4 Hours)
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

ECON 7976. Directed Study. (1-4 Hours)
Offers independent work under the direction of members of the department on a chosen topic. Course content depends on instructor. May not be substituted for requirements leading to a BA or BS in economics. May be repeated without limit.

ECON 7990. Thesis. (1-4 Hours)
Provides thesis supervision by members of the department. May be repeated without limit.

ECON 8550. Internship In Economics. (1-4 Hours)
Comprises academic credit for internship work in economics. May be repeated without limit.

ECON 8960. Exam Preparation—Doctoral. (0 Hours)
Provides students with the opportunity to prepare for the qualifying exam during the semester in which they are registered for this course. Registration in this course constitutes full-time status. May be repeated three times.

ECON 8986. Research. (0 Hours)
Offers an opportunity to conduct full-time research under faculty supervision. May be repeated without limit.

ECON 9000. PhD Candidacy Achieved. (0 Hours)
Indicates successful completion of the doctoral comprehensive exam.

ECON 9986. Research. (0 Hours)
Offers an opportunity to conduct full-time research under faculty supervision. May be repeated without limit.

ECON 9990. Dissertation Term 1. (0 Hours)
First of two consecutive semesters to meet the residency requirement of the doctoral program.

Prerequisite(s): ECON 9000 with a minimum grade of S

ECON 9991. Dissertation Term 2. (0 Hours)
Offers dissertation supervision by members of the department.

Prerequisite(s): ECON 9990 with a minimum grade of S

ECON 9996. Dissertation Continuation. (0 Hours)
Requires registration for those students who have completed the doctoral program's residency requirement, but who have not yet completed the dissertation.

Prerequisite(s): ECON 9991 with a minimum grade of S or Dissertation Check with a score of REQ