ECONOMICS (ECON)

ECON 101 Introduction to Microeconomic Analysis (Units: 3)
Basic analysis of prices and markets; consumer behavior; behavior of the firm; factor markets.
Course Attributes:

- 4: Social/Behavioral Sciences
- D1: Social Sciences

ECON 102 Introduction to Macroeconomic Analysis (Units: 3)
Basic economic methodology, analysis, and policy; economic institutions, organizations, and industrial structure; the monetary system; measurement, determination, and stability of national income; monetary, fiscal, and balance of payments problems and policies.
Course Attributes:

- 4: Social/Behavioral Sciences
- D1: Social Sciences

ECON 212 Business Statistics (Units: 3)
Prerequisite: DS 110* or MATH 108* or MATH 110* or MATH 226*.

Statistical methods essential in solving business problems including probability distributions, estimation and tests of hypotheses, and regression analysis.
(This course is offered as DS 212 and ECON 212. Students may not repeat the course under an alternate prefix.)

ECON 301 Intermediate Microeconomic Theory (Units: 3)
Prerequisites: ECON 101, ECON 102, and either MATH 108 or MATH 110 or MATH 226 or DS 110; or Statistics majors with MATH 226.

Behavior of firms and households in the market economy; production of the firm; determination of costs and prices; income distribution; examination of alternative market structures.

ECON 302 Intermediate Macroeconomic Theory (Units: 3)
Prerequisites: ECON 101, ECON 102, and either MATH 108 or MATH 110 or MATH 226 or DS 110; or Statistics majors with MATH 226.

Determinants of important aggregate economic variables are discussed, including output, consumption, investment, prices level, unemployment, inflation, and interest rates. Analysis of the economy in the short run and in the long run is conducted using appropriate theoretical models. Sources of economic growth are examined. The consequences of macroeconomic policies are analyzed and evaluated. Institutions, such as the Federal Reserve Bank and the US Treasury are discussed.

ECON 312 Introduction to Econometrics (Units: 3)
Prerequisites: ECON 301, ECON 212/DS 212 or MATH 124 or equivalents, and either MATH 108 or MATH 110 or MATH 226 or DS 110; or Statistics majors with ECON 301 and MATH 440; or Business Analytics Certificate students; or permission of the instructor.

Applied regression and correlation analysis of variance, time series analysis, and forecasting, index numbers, experimental design and sampling methods, and computer applications using major economic data sources; interpretation of results.

ECON 400 Economic and Social History of the United States (Units: 3)
Prerequisite: ECON 102.

Economic and social development of the United States.

ECON 450 Health Economics (Units: 3)
Prerequisites: ECON 101 and ECON 102.

Economic analysis of the US health care system. Supply, demand, and price of health care; cost, access, and quality; regulation; health care reform and comparative health systems.

ECON 474 History of Labor in the United States (Units: 3)
Prerequisites: Upper-division standing; GE Areas A1*, A2*, A3*, and B4* all with grades of C- or better; or permission of the instructor.

Development of the workforce and organized labor in the U.S. with an emphasis on the social and economic characteristics of work and the workforce and characteristics of labor organizations at different times. (This course is offered as HIST 474, ECON 474, and LABR 474. Students may not repeat the course under an alternate prefix.)
Course Attributes:

- 4UD: Social/Behavioral Science
- UD-D: Social Sciences
- Am. Ethnic & Racial Minorities
- Social Justice

ECON 500 Money and Banking (Units: 3)
Prerequisite: ECON 302 or equivalent.

The roles of the Federal Reserve System, private commercial banks, and the public in the determination of the money supply. Analysis of the level and structure of interest rates. Methods, objectives, and actual consequences of monetary policy; international monetary problems.

ECON 505 Public Economics (Units: 3)
Prerequisites for ECON 805: Graduate standing or permission of the instructor.
Prerequisites for ECON 505: Upper-division standing; ECON 101, ECON 102, and ECON 301 or equivalents; GPA of 3.0 or higher; or permission of the instructor.

Economic analysis of the public sector and its impact on the allocation of resources and distribution of income. Emphasis on the economics of government inequality, education, spending, taxation, and social welfare programs.
(ECON 805/ECON 505 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 510 Labor Economics (Units: 3)
Prerequisite: ECON 101* or permission of the instructor.

Analysis of the operation of the labor market. Theories of wages, unemployment, unions, and income distribution.
(This course is offered as ECON 510 and LABR 510. Students may not repeat the course under an alternate prefix.)

ECON 511 Collective Bargaining (Units: 3)
Prerequisite: Upper-division standing or permission of the instructor.

Collective bargaining, legislation, and case studies in labor law.
(This course is offered as ECON 511 and LABR 511. Students may not repeat the course under an alternate prefix.)

ECON 520 Industrial Organization (Units: 3)
Prerequisites for ECON 820: Restricted to MS in Quantitative Economics students or permission of the instructor.
Prerequisites for ECON 520: Upper-division standing; ECON 301*; GPA of 3.0 or higher; or permission of the instructor.

Determinants and linkages between market structure, firm conduct, and industrial performance. Including market power, nonlinear pricing, product differentiation, quality and advertising, oligopoly and strategic behavior; firm organization, ownership and control, entry and exit mergers, and antitrust.
(ECON 820/ECON 520 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 540 Economics of Gender (Units: 3)
Prerequisite: ECON 101* or permission of the instructor.

Economic models to explain household decision-making regarding labor force participation, marriage, fertility, work sharing, and resource allocation. Discussion of current empirical evidence and policies to alleviate gender bias. Special focus on women and children in developing countries.
Course Attributes:

- Am. Ethnic & Racial Minorities
- Global Perspectives

ECON 541 Economics of LGBTQ Issues (Units: 3)
Prerequisites: ECON 101* and ECON 102*.

Examination of the economic welfare of LGBTQ people in the US and elsewhere. Introduction to the economic theory of discrimination and how concealable characteristics like sexuality and gender identity differ from other sources of discrimination such as sex and race. Empirical evidence on sexuality-based discrimination and intersectionality in economic inequality are also discussed. Topics include the wage gap, occupational sorting, assortative matching, and location choice.

ECON 550 Environmental Economics (Units: 3)
Prerequisites for ECON 850: Graduate standing; ECON 301; or permission of the instructor.
Prerequisites for ECON 550: Upper-division standing; ECON 301; GPA of 3.0 or higher; or permission of the instructor.

Economic causes and consequences of environmental problems. The role of regulatory instruments in mitigating environmental problems. Application of economic tools and non-market valuation techniques to analyze local and international environmental policies.
(ECON 850/ECON 550 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 605 Seminar: History of Economic Thought (Units: 3)
Prerequisites: ECON 301* and ECON 302*.

Development of economic thought. Reports and discussions based on the works of classical, neoclassical, and contemporary economics.

ECON 611 International Trade Theory and Policy (Units: 3)
Prerequisites for ECON 811: Graduate standing; ECON 301 and ECON 302; or permission of the instructor.
Prerequisites for ECON 611: Upper-division standing; ECON 301; GPA of 3.0 or higher; or permission of the instructor.

Basic models of trade including the Ricardian model, the Heckscher-Ohlin model, and newer theories. Policy applications, tariff, and non-tariff barriers, the WTO, and regional integration such as NAFTA and the EU.
(ECON 811/ECON 611 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 612 International Finance and Macroeconomics (Units: 3)
Prerequisites for ECON 812: Graduate standing; ECON 301 and ECON 302.

Prerequisites for ECON 612: Upper-division standing; ECON 302; GPA of 3.0 or higher; or consent of the instructor.

Theory and institutions involved in exchange rates and exchange rate regimes, open economy macroeconomics, debt crises, and international institutions such as the IMF and EMU.
(ECON 812/ECON 612 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)
Course Attributes:

- Global Perspectives

ECON 616 Experimental Economics and Game Theory (Units: 3)
Prerequisites: Upper-division standing; ECON 301 and either MATH 108 or MATH 110 or MATH 226 or DS 110; or permission of the instructor.

Introduction to the part of the economic theory that explores strategic interactions among economic agents. Game theory is used in the analysis of a number of socioeconomic situations.

ECON 618 Economic Inference: Methods and Applications (Units: 3)
Prerequisite for ECON 818: Graduate standing or permission of the instructor.
Prerequisites for ECON 618: Restricted to upper-division standing; ECON 101, ECON 102, and ECON 212/DS 212 or MATH 124 or equivalents.

Evaluation of causal relationships between economic factors using experimental data. Design and analysis of experiments. Causal inference using observational data. Non-experimental and quasi-experimental inference methods. Predictive and causal inference using other advanced data and simulation methods. Techniques and technologies for analysis of experimental data, observational data, predictions, and simulations.
(ECON 818/ECON 618 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 620 Economic Development (Units: 3)
Prerequisites: ECON 101* and ECON 102* or equivalents.

Comprehensive study of the economic problems, both domestic and international, facing less developed countries. Analysis of the roles of domestic, private, and public sectors as well as international institutions such as the World Bank, the United Nations, and multinational corporations.

ECON 635 Economics of Globalization (Units: 3)
Prerequisites: ECON 101 and ECON 102 or permission of the instructor.

Economic debate surrounding the process of globalization. Economic causes/consequences of market integration: domestic labor markets, international trade, and multinationalization production, and the integration of financial markets.
(This course is offered as ECON 635 and I R 635. Students may not repeat the course under an alternate prefix.)

ECON 640 Health Economics Analysis and Research (Units: 3)
Prerequisites for ECON 840: Restricted to graduate Quantitative Economics students or Nursing Administration students by permission of the instructor, and other graduate students by permission of the instructor.
Prerequisites for ECON 640: Restricted to upper-division standing; ECON 301*; ECON 212/DS 212* or MATH 124* or equivalents; GPA of 3.0 or higher; or permission of the instructor.

Introduction to health economics research methods. Analysis of the US healthcare market, global health, and health evaluation. (Plus-minus ABC/NC grading only) [CSL may be available]
(ECON 840/ECON 640 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)
Course Attributes:

- Global Perspectives
- Social Justice

ECON 651 Student Managed Fund in Environmental, Social and Governance (ESG) Investments (Units: 3)
Prerequisite: Sophomore standing or higher.

Introduction to the fundamental concepts and principles of Environmental, Social, and Governance (ESG) investments and their application to firm valuation and portfolio selection. Discussion of the topics of financial markets, financial statement analysis, time value of money, asset valuation, risk and return, and portfolio selection within the context of ESG. Survey of critical skills in implementing the ESG principles in investments with a blend of discussions, readings, cases, and presentations.
(This course is offered as FIN 651, ECON 651, and ENVS 651. Students may not repeat the course under an alternate prefix.)

ECON 675 Natural Resource Economics (Units: 3)
Prerequisite: ECON 301 or permission of the instructor.

Introduction to the economics of natural resources. Models of optimal depletion of nonrenewable resources and optimal use of renewable resources. Model application to energy, forests, fisheries, water, and climate change. Focus on computation solutions using Excel and Mathematica. Lecture, 2 units; activity, 1 unit.

ECON 680 Applied Economics and Data Analysis with R (Units: 3)
Prerequisite for ECON 880: Graduate standing or permission of the instructor.
Prerequisites for ECON 680: Upper-division standing; DS 212/ECON 212 or MATH 124 or equivalent; GPA of 3.0 or higher; or permission of the instructor.

Collect, clean, and analyze economic data using the programming language R to investigate real-world problems that economic/business analysts face in working with raw or unstructured data. Integrating diverse data sources and effectively communicating findings through written, oral, and visual formats.
(ECON 680/ECON 880 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 690GW Senior Seminar: Economic Inquiry and Analysis - GWAR (Units: 3)
Prerequisites: Upper-division standing; GE Area 1A/A2; ECON 301*, ECON 302*, and ECON 312*; or permission of the instructor.

Economic analytical methods applied to important economic issues confronting society. Application of theory and methods learned during previous courses. Assessment of the ability to employ economic reasoning in discussion, written exercises and reports, and in-class presentations. (ABC/NC grading only)
Course Attributes:

- Graduation Writing Assessment

ECON 699 Independent Study (Units: 1-3)
Prerequisite: Permission of the instructor, major adviser, and department chair.

Supervised study of a particular problem selected by the student.

ECON 701 Seminar: Microeconomic Theory (Units: 3)
Prerequisites: Graduate Economics students, ECON 715 (may be taken concurrently), or permission of the instructor.

Behavior of firms and households; determination of prices and resource allocation in a decentralized economy.

ECON 702 Seminar: Macroeconomic Theory (Units: 3)
Prerequisites: Graduate standing; ECON 701 and ECON 715; or permission of the instructor.

An in-depth look into contemporary macroeconomic concepts, and theoretical and quantitative analysis.

ECON 715 Mathematical Economics (Units: 3)
Prerequisites: Graduate Economics students or permission of the instructor.

Economics presented mathematically. Use of matrix algebra, calculus, difference equations, and differential equations in economic analysis.

ECON 731 Econometric Methods and Applications (Units: 3)
Prerequisites: Restricted to graduate Quantitative Economics students; graduate students in other programs permitted with the permission of the instructor.

Examine theories of estimation, illustrations of econometric research, forecasting with econometric models, and computer applications.

ECON 783 Economics for Managers (Units: 3)
Prerequisite: Restricted to graduate Accountancy, Business Administration, Business Analytics, and Graduate Certificate in Business Principles students; graduate students in other programs permitted with the permission of the Faculty Director of Graduate Programs.

Applications of intermediate-level economic theory to business operations and management decisions on a local, national, and multinational basis. Discussion of microeconomic theory of choice, production, and costs. Introduction to decision-making about pricing and production in various market structures. Application of concepts and models to study how decisions are made under uncertainty, asymmetric information, and government intervention in the market. (Plus-minus letter grade only) [Formerly BUS 783]

ECON 805 Public Economics (Units: 3)
Prerequisites for ECON 805: Graduate standing or permission of the instructor.
Prerequisites for ECON 505: Upper-division standing; ECON 101, ECON 102, and ECON 301 or equivalents; GPA of 3.0 or higher; or permission of the instructor.

Economic analysis of the public sector and its impact on the allocation of resources and distribution of income. Emphasis on the economics of government inequality, education, spending, taxation, and social welfare programs.
(ECON 805/ECON 505 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 811 International Trade Theory and Policy (Units: 3)
Prerequisites for ECON 811: Graduate standing; ECON 301 and ECON 302; or permission of the instructor.
Prerequisites for ECON 611: Upper-division standing; ECON 301; GPA of 3.0 or higher; or permission of the instructor.

Basic models of trade including the Ricardian model, the Heckscher-Ohlin model, and newer theories. Policy applications, tariff, and non-tariff barriers, the WTO, and regional integration such as NAFTA and the EU.
(ECON 811/ECON 611 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 812 International Finance and Macroeconomics (Units: 3)
Prerequisites for ECON 812: Graduate standing; ECON 301 and ECON 302.

Prerequisites for ECON 612: Upper-division standing; ECON 302; GPA of 3.0 or higher; or consent of the instructor.

Theory and institutions involved in exchange rates and exchange rate regimes, open economy macroeconomics, debt crises, and international institutions such as the IMF and EMU.
(ECON 812/ECON 612 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)
Course Attributes:

- Global Perspectives

ECON 818 Economic Inference: Methods and Applications (Units: 3)
Prerequisite for ECON 818: Graduate standing or permission of the instructor.
Prerequisites for ECON 618: Restricted to upper-division standing; ECON 101, ECON 102, and ECON 212/DS 212 or MATH 124 or equivalents.

Evaluation of causal relationships between economic factors using experimental data. Design and analysis of experiments. Causal inference using observational data. Non-experimental and quasi-experimental inference methods. Predictive and causal inference using other advanced data and simulation methods. Techniques and technologies for analysis of experimental data, observational data, predictions, and simulations. (ECON 818/ECON 618 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 820 Industrial Organization (Units: 3)
Prerequisites for ECON 820: Restricted to MS in Quantitative Economics students or permission of the instructor.
Prerequisites for ECON 520: Upper-division standing; ECON 301*; GPA of 3.0 or higher; or permission of the instructor.

Determinants and linkages between market structure, firm conduct, and industrial performance. Including market power, nonlinear pricing, product differentiation, quality and advertising, oligopoly and strategic behavior; firm organization, ownership and control, entry and exit mergers, and antitrust.
(ECON 820/ECON 520 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 825 Applied Time Series Forecasting for Economics and Business (Units: 3)
Prerequisite: Restricted to graduate Quantitative Economics students; ECON 731; graduate students in other programs permitted with the permission of the instructor.

Data-driven time-series forecasting and predictive modeling techniques for business and economic applications. Analyze, model, and forecast time series data. Topics include time-series decomposition, exponential smoothing, ARIMA and SARIMA modeling, VAR, and volatility forecasting. Introduction to modern machine-learning approaches for univariate and multivariate predictive analysis. Emphasis on data wrangling, exploratory data analysis, and computational implementation to develop practical forecasting skills for real-world business and economic contexts.

ECON 830 Advanced Econometric Methods and Applications (Units: 3)
Prerequisite: ECON 731 or permission of the instructor.

Advanced theories and applications of cross-sectional and panel data models of Econometrics.

ECON 840 Health Economics Analysis and Research (Units: 3)
Prerequisites for ECON 840: Restricted to graduate Quantitative Economics students or Nursing Administration students by permission of the instructor, and other graduate students by permission of the instructor.
Prerequisites for ECON 640: Restricted to upper-division standing; ECON 301*; ECON 212/DS 212* or MATH 124* or equivalents; GPA of 3.0 or higher; or permission of the instructor.

Introduction to health economics research methods. Analysis of the US healthcare market, global health, and health evaluation. (Plus-minus ABC/NC grading only) [CSL may be available]
(ECON 840/ECON 640 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)
Course Attributes:

- Global Perspectives
- Social Justice

ECON 850 Environmental Economics (Units: 3)
Prerequisites for ECON 850: Graduate standing; ECON 301; or permission of the instructor.
Prerequisites for ECON 550: Upper-division standing; ECON 301; GPA of 3.0 or higher; or permission of the instructor.

Economic causes and consequences of environmental problems. The role of regulatory instruments in mitigating environmental problems. Application of economic tools and non-market valuation techniques to analyze local and international environmental policies.
(ECON 850/ECON 550 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 880 Applied Economics and Data Analysis with R (Units: 3)
Prerequisite for ECON 880: Graduate standing or permission of the instructor.
Prerequisites for ECON 680: Upper-division standing; DS 212/ECON 212 or MATH 124 or equivalent; GPA of 3.0 or higher; or permission of the instructor.

Collect, clean, and analyze economic data using the programming language R to investigate real-world problems that economic/business analysts face in working with raw or unstructured data. Integrating diverse data sources and effectively communicating findings through written, oral, and visual formats.
(ECON 680/ECON 880 is a paired course offering. Students who complete the course at one level may not repeat the course at the other level.)

ECON 895 Research Project (Units: 3)
Prerequisites: Permission of instructor and approval of Proposal for Culminating Experience (PCE) and Advancement to Candidacy (ATC) forms by Graduate Studies before registration. Cumulative GPA of 3.5 or permission of instructor.

Independent and original research project in economics under faculty supervision leading to written project report and oral presentation. One of culminating experience options for graduate students in economics. Not for students enrolled in culminating experience courses ECON 896EXM or ECON 898. Guidelines are available through economics graduate program coordinator. (CR/NC, RP)

ECON 896EXM Culminating Experience Examination (Unit: 0)
Prerequisites: Permission of the instructor, committee chair, and approval of Advancement to Candidacy (ATC) and Culminating Experience (CE) forms by Graduate Studies before registration.

Required for students whose culminating experience consists of an examination only. Not for students enrolled in a culminating experience course numbered ECON 898 (or in some cases, course numbered ECON 890. See program's graduate advisor for further information). (CR/NC, RP)

ECON 898 Master's Thesis (Units: 6)
Prerequisites: Permission of the chair of the candidate's committee for the Master of Arts; permission of instructor and approval of Advancement to Candidacy (ATC) and Culminating Experience (CE) forms by Graduate Studies.

An investigation of a topic or problem in economics including developing the project, organizing and completing the written study, and defending the findings with the committee. Advancement to Candidacy (ATC) and Proposal for Culminating Experience Requirement forms must be approved by the Graduate Division before registration. (CR/NC grading only)

ECON 899 Independent Study (Units: 1-3)
Prerequisite: Open to graduate students who have demonstrated ability to do independent work. Enrollment by petition to the department.