

# ECONOMICS (ECON)

## Degrees Offered: M.S., Ph.D.

*These programs are offered in Durham.*

The Department of Economics at Paul College (hereafter the Department) offers two of the most distinctive graduate Economics programs in the country.

The M.S. in Economics is a STEM designated, one-year program that offers two tracks. The academic track is for students whose goal is to become a research economist and possibly earn a Ph.D. The industry track is for students who seek careers as consultants and analysts helping businesses make better decisions using big data.

The Ph. D in Economics is also a STEM designated program. Its unique dual-focus curriculum trains students to become impactful research economists and college teachers. Paul College's Economics faculty is internationally known for its research in International Macroeconomics, International Trade, , Health Economics, and Environmental Economics. It is also renowned for its contributions to the History of Economic Thought and Economic Methodology.

M.S. and Ph.D. students participate in the Department's weekly research seminar, which attracts leading economists and researchers from around the country.

### Admission Requirements

Beyond the Graduate School's requirements , applicants must submit current scores (within the past five years) from the general test of the Graduate Record Exam (GRE). Students' undergraduate and graduate experiences should show evidence of superior ability and, for the Ph.D. , the promise of independent scholarship. Undergraduate preparation should include undergraduate courses in intermediate economic theory, econometrics, calculus, and statistics.

<https://paulcollege.unh.edu/economics>

## Programs

- [Economics \(M.S.\)](#)
- [Economics \(Ph.D.\)](#)

## Courses

### Economics (ECON)

#### ECON 825 - Mathematical Economics

**Credits:** 0 or 4

Principal mathematical techniques and their application in economics.

Topics covered: matrix algebra, derivatives, unconstrained and constrained optimization, linear and nonlinear programming, game theory, elements of integral calculus.

**Grade Mode:** Letter Grading

#### ECON 871 - Macroeconomic Consulting

**Credits:** 3

Assess a macroeconomy's condition over the short-run and long-run.

Emphasis is given to the construction of data from the National Income and Product Accounts (NIPA), Bureau of Labor Statistics (BLS), the Federal Reserve System (FRS), and other sources. This course also considers the role and functioning of financial markets and how business decisions are impacted by short-run and long-run macroeconomic developments.

**Prerequisite(s):** ECON 611 with a minimum grade of D- or ADMN 970 with a minimum grade of D-.

**Grade Mode:** Letter Grading

#### ECON 875 - Strategy Analysis: Games and Auctions

**Credits:** 3

Game theory is the study of strategic interactions. It models conflict and cooperation between rational agents. Applications include, statistical decision theory, artificial intelligence, auctions, pricing, bargaining, etc. The focus of this course is on business strategy. Students formalize strategic situations as well-defined games, analyze and solve a wide variety of games and business applications, and develop optimal auctions given specific corporate requirements. On-line auctions will be emphasized.

**Prerequisite(s):** ECON 605 with a minimum grade of D- or ECON 606 with a minimum grade of D- or ADMN 970 with a minimum grade of B- or ADMN 510 with a minimum grade of D-.

**Grade Mode:** Letter Grading

#### ECON 890 - Analytical Economics in Practice

**Credits:** 3

The course gives students an opportunity to use their economics, analytics, and data analysis skills in a business or consulting setting. To this end, students undertake an internship and/or corporate project.

**Co-requisite:** ECON 927

**Prerequisite(s):** ECON 926 with a minimum grade of B- and ECON 976 with a minimum grade of B-.

**Grade Mode:** Letter Grading

#### ECON 908 - Environmental Economics: Theory and Policy

**Credits:** 4

Applies microeconomic tools to issues in environmental economics. Considers the role of government, externalities, public goods, property rights, and market failure. Identifies and compares different policy instruments such as administrative regulation, marketable permits, tax incentives, and direct subsidies, along with consideration of complicating factors such as information, uncertainty and risk. These tools are applied to various policy issues such as air pollution, solid waste management, and recycling.

**Prerequisite(s):** ECON 926 with a minimum grade of B- and ECON 976 with a minimum grade of B-.

**Grade Mode:** Letter Grading

**ECON 909 - Environmental Valuation****Credits:** 4

Focuses on the theory and methods for estimating the economic values of environmental resources and public goods (such as clean air and water, preservation of wetlands or coastal resources, etc.) many of which are not exchanged in established markets and therefore do not have prices associated with them. The valuation of environmental resources is an important component in benefit-cost analyses which are used in policy making. Provides a blend of theory and hands-on applications of methods and real data sets.

**Prerequisite(s):** ECON 926 with a minimum grade of B- and ECON 927 with a minimum grade of B- and ECON 976 with a minimum grade of B-.

**Grade Mode:** Letter Grading

**ECON 926 - Econometrics I****Credits:** 0 or 4

Application and theory of statistical and econometric methods to problems in economics. Topics: basic statistical theory, simple and multiple regression, violations of the basic assumptions, generalized least squares, and introduction to simultaneous equation models.

MATH 545 is strongly recommended prior to taking this course.

**Prerequisite(s):** ECON 726 with a minimum grade of D- and (MATH 424A with a minimum grade of D- or MATH 425 with a minimum grade of D-).

**Grade Mode:** Letter Grading

**ECON 927 - Econometrics II****Credits:** 4

Asymptotic theory, likelihood estimation, simultaneous equations, panel data analysis, binary and multiple choice models, count data analysis, selection models, survival analysis.

**Prerequisite(s):** ECON 926 with a minimum grade of B-.

**Grade Mode:** Letter Grading

**ECON 928 - Econometrics III, Time Series Econometrics****Credits:** 4

Basic and advanced time series models with up-to-date empirical techniques with emphasis on the application of econometric tools to economic issues. Selected topics include stationary ARMA models, unit roots and cointegration, VAR, ARCH dynamic panel data models, structural break models, and non-linear time series models.

**Prerequisite(s):** ECON 926 with a minimum grade of B- and ECON 927 with a minimum grade of B-.

**Grade Mode:** Letter Grading

**ECON 929 - Econometrics IV, Advanced Econometrics****Credits:** 4

Advanced nonlinear Econometrics and an introduction to the asymptotic theory of nonlinear regression. A summary of selected topics include nonlinear least squares (NLLS), generalized method of moments (GMM), numerical optimization, bootstrap, maximum likelihood (MLE), quasi-maximum likelihood (QMLE), nonparametric and semiparametric regression, cross-validation.

**Prerequisite(s):** ECON 926 with a minimum grade of B- and ECON 927 with a minimum grade of B-.

**Equivalent(s):** ECON 898

**Grade Mode:** Letter Grading

**ECON 941 - Empirical Analysis in Health Economics****Credits:** 4

Provides students with an understanding of key issues in the field of health economics from an empirical perspective. Topics (which align with those in ECON 942) include: production of health; health behaviors; supply of care by physicians, hospitals and nurses; cost-effectiveness and measuring quality of care; features of the U.S. health insurance system; and the effect of insurance on demand for care and health status.

**Prerequisite(s):** ECON 927 with a minimum grade of B- and ECON 977 with a minimum grade of B-.

**Grade Mode:** Letter Grading

**ECON 942 - Theoretical Analysis in Health Economics****Credits:** 4

Covers the seminal theoretical papers in the field of health economics. The first set of papers covered in the course focus on the determinants of health and demand for healthcare services; the second set of papers cover healthcare providers and their supply of healthcare services in competitive, monopolistic, and government-regulated markets; and the third set of papers cover private and public health insurance markets.

**Prerequisite(s):** ECON 977 with a minimum grade of B- and ECON 927 with a minimum grade of B-.

**Grade Mode:** Letter Grading

**ECON 945 - International Trade****Credits:** 4

Contemporary issues in international economic theory and policy. Analysis of trade theory, dynamics of world trade and exchange, and international commercial policy.

**Equivalent(s):** ECON 845

**Grade Mode:** Letter Grading

**ECON 946 - Open Economy Macroeconomics****Credits:** 4

This course introduces you to the frontier of research in open economy macroeconomics and builds on the tools currently used in modern macroeconomic analysis. This course first examines real business cycle fluctuations of small open economies, and then turns to considering monetary and fiscal policies. By the end of the course, students are expected to demonstrate the ability to formulate new theoretical models and be able to apply them to conduct policy analysis.

**Prerequisite(s):** ECON 973 with a minimum grade of B-.

**Grade Mode:** Letter Grading

**ECON 957 - History of Economic Thought****Credits:** 4

Traces the development of economic thought, with careful examination and critical appraisal of the contributions made by important figures and schools of thought.

**Grade Mode:** Letter Grading

**ECON #958 - Topics in Economic Thought and Methodology****Credits:** 4

Advanced seminar in a selected topic in economic thought or methodology.

**Grade Mode:** Letter Grading

**ECON 972 - Macroeconomics I****Credits:** 0 or 4

Development of the major macro models and approaches to macroeconomics: classical, Keynes' "General Theory," Keynesian, Monetarists, New Classical, and New Keynesian models and views. Introduction to open economy macro and growth models.

**Grade Mode:** Letter Grading

**ECON 973 - Macroeconomics II****Credits:** 0 or 4

Theory, empirical specification, and tests of macroeconomic functions. National econometric models. Theories and empirical models of the business cycle and economic growth. Use of models for policy analysis and forecasting.

**Prerequisite(s):** ECON 926 with a minimum grade of B- and ECON 972 with a minimum grade of B-.

**Grade Mode:** Letter Grading

**ECON 976 - Microeconomics I****Credits:** 0 or 4

Survey and applications of modern microeconomic theory. Analysis of households, firms, product and resource markets, and behavior under uncertainty.

**Grade Mode:** Letter Grading

**ECON 977 - Microeconomics II****Credits:** 0 or 4

Analysis of stability, cooperative and non-cooperative game theory, information economics, exhaustible resources, disequilibrium, public goods, public choice, and input-output analysis.

**Prerequisite(s):** ECON 976 with a minimum grade of B-.

**Grade Mode:** Letter Grading

**ECON 978 - Teaching Economics****Credits:** 4

This seminar-style course helps prepare graduate students to become effective teachers of economics at the college level. Emphasis is on teaching at the principles level. Students study and discuss key issues, including the learning process, the objectives of principles classes and of the economic major, heterogeneous learning styles, chalk and talk, vs. active learning, testing and the testing effect, homework, and the role of textbooks. Students also write teaching philosophies, lead discussion sessions, present research on teaching, and deliver short lectures to the class on specific topics at the principles level.

**Grade Mode:** Letter Grading

**ECON #979 - Research Skills****Credits:** 2

Aids students in completing a paper for which they conduct research on a particular economic problem or issue using the knowledge and skills they have gained from their other classes. Students meet regularly with their faculty advisor throughout the semester. They also present their work at various stages of completion. Presentations of students' topics and final papers are made to the faculty.

**Prerequisite(s):** ECON 926 with a minimum grade of D- and ECON 972 with a minimum grade of D- and ECON 976 with a minimum grade of D-.

**Grade Mode:** Letter Grading

**ECON 988 - Graduate Economics Seminar****Credits:** 0-4

Attend weekly graduate economics seminars; write reviews and critiques of seminar papers; participate in discussion at seminars. May be repeated up to a maximum of 4 credits for Masters students and up to 8 credits for Ph.D. students.

**Repeat Rule:** May be repeated for a maximum of 8 credits. May be repeated up to 4 times.

**Grade Mode:** Graduate Credit/Fail grading

**ECON 995 - Independent Study****Credits:** 1-6

Independent Study.

**Grade Mode:** Letter Grading

**ECON 996 - Research Workshop****Credits:** 2

Present research papers in the graduate economics seminar series; serve as a discussant for seminar presentations; write reviews and critiques of seminar papers; participate in discussion at seminars. May be repeated up to a maximum of 4 credits for Ph.D. students.

**Repeat Rule:** May be repeated for a maximum of 4 credits.

**Grade Mode:** Graduate Credit/Fail grading

**ECON 999 - Doctoral Research****Credits:** 0

Doctoral Research.

**Grade Mode:** Graduate Credit/Fail grading

**Special Fee:** Yes

## Faculty

See <https://paulcollege.unh.edu/directory/all> for faculty.