Economics, Ph.D.

COLLEGE OF LIBERAL ARTS

About the Program

This program is not accepting applications for the 2020-2021 academic year.

Courses

**ECON 5001. Managerial Economics. 3 Credit Hours.**
This course examines the applications of economic theory to problems confronting managers, including pricing under different market structures, cost and technology, strategic decision making, theory of demand, and the economics of less than perfect information.

*Level Registration Restrictions:* Must be enrolled in one of the following Levels: Graduate.

*Repeatability:* This course may not be repeated for additional credits.

**ECON 5102. Economic Decisions and Public Policy. 3 Credit Hours.**
The purpose of this course is to give Master of Public Policy students a working understanding of basic economic theory and how it applies to public policy analysis and decision making.

*Level Registration Restrictions:* Must be enrolled in one of the following Levels: Graduate.

*Repeatability:* This course may not be repeated for additional credits.

**ECON 5182. Independent Study. 1 to 6 Credit Hour.**
Supervised individual reading and research projects for master's and Ph.D. students. Depending on the type of project, work experience or curricular practical training may be required. No more than six semester hours of independent study may be counted toward degree requirements.

*Level Registration Restrictions:* Must be enrolled in one of the following Levels: Graduate.

*Repeatability:* This course may be repeated for additional credit.

**ECON 5190. Special Topics in Economics. 3 Credit Hours.**
A one-semester course on a topic in a particular field of economics.

*Level Registration Restrictions:* Must be enrolled in one of the following Levels: Graduate.

*Repeatability:* This course may be repeated for additional credit.

**ECON 5501. Survey of Internatl Econ. 3 Credit Hours.**

*Level Registration Restrictions:* Must be enrolled in one of the following Levels: Graduate.

*Repeatability:* This course may not be repeated for additional credits.

**ECON 5801. The Economic Environment. 3 Credit Hours.**
The student's proficiency and confidence in solving real-world business problems increase as a deeper understanding of micro- and macroeconomic issues is developed. This course examines foundations of the economic behavior of enterprises and consumers in different market environments, such as open market, monopoly, and oligopoly. Also analyzed is the impact of government fiscal, monetary, and trade policies on business decisions and on economic measures such as GNP, employment, interest rates, and exchange rates.

*Level Registration Restrictions:* Must be enrolled in one of the following Levels: Graduate.

*Repeatability:* This course may not be repeated for additional credits.

**ECON 8001. Microeconomic Analysis. 3 Credit Hours.**
Microeconomic theory for graduate students with little preparation in economics. This course offers detailed analysis of the behavior of households and firms in a variety of market settings.

*Level Registration Restrictions:* Must be enrolled in one of the following Levels: Graduate.

*Repeatability:* This course may not be repeated for additional credits.
ECON 8002. Macroeconomic Analysis. 3 Credit Hours.
Macroeconomic theory for graduate students with little preparation in economics. This course is a survey of theories and evidence bearing on growth and cycles in output, employment, interest rates, and prices. The course includes sector details and considers the scope for control of cycles.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8003. Mathematics for Economics I. 3 Credit Hours.
An overview of elementary calculus, linear algebra, and the theory of Lagrange multipliers for graduate students in economics and related fields.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8005. Microeconomic Theory I. 3 Credit Hours.
This course covers demand analysis; the theory of the firm; the theory of markets; and theories of wages, rent, interest, and profits.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8001|Minimum Grade of B-|May not be taken concurrently
AND ECON 8003|Minimum Grade of B-|May not be taken concurrently)

ECON 8007. Macroeconomic Theory I. 3 Credit Hours.
This course covers macroeconomic concepts relating to the determination of output, employment, and price level.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8001|Minimum Grade of B-|May not be taken concurrently
AND ECON 8002|Minimum Grade of B-|May not be taken concurrently
AND ECON 8003|Minimum Grade of B-|May not be taken concurrently)

ECON 8009. Econometrics I. 3 Credit Hours.
This course is the first in a two-semester sequence. The materials begin with the classical linear regression model, including hypothesis testing. Such traditional topics as multicollinearity, heteroscedasticity, and autocorrelation are included. Problems of pooled data and simultaneous equations are also considered.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8104. Labor Economics. 3 Credit Hours.
This course provides a theoretical framework for analyzing the operation of the labor market. The role of the labor market in the determination of employment, wages, prices, and production is central to this analysis. Labor supply, labor demand, human capital, labor unions, migration, and discrimination are among the topics discussed. Particular attention is paid to the role of public policy and to the design of theoretical and empirical models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECON 5001|Minimum Grade of B-|May not be taken concurrently.
ECON 8105. Regulations and Antitrust Policy. 3 Credit Hours.
The focus is on analysis of the impact of regulatory processes, including antitrust, upon industry. Special emphasis is given to public policy toward monopoly, resource utilization, and pricing processes.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECON 5001|Minimum Grade of B-|May not be taken concurrently.

ECON 8106. Microeconomic Theory II. 3 Credit Hours.
Topics covered include general equilibrium analysis, game theory, introduction to public choice and welfare economics, and imperfect information analysis.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8005|Minimum Grade of B-|May not be taken concurrently
AND ECON 9101|Minimum Grade of B-|May not be taken concurrently)

ECON 8108. Macroeconomic Theory II. 3 Credit Hours.
This course presents advanced topics in macroeconomics and empirical testing of national income components, mainly in a dynamic setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8007|Minimum Grade of B-|May not be taken concurrently
AND ECON 8009|Minimum Grade of B-|May not be taken concurrently
AND ECON 9101|Minimum Grade of B-|May not be taken concurrently)

ECON 8109. Theory of Economic Development. 3 Credit Hours.
The major part is an introduction to applied theory of economic growth. The roles of human capital, investment, and natural resources are analyzed. Issues of sectoral development, policies of the public sector, finance, and international trade are discussed. Practical projections of economic growth and ease studies are stressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8007|Minimum Grade of B-|May not be taken concurrently
AND ECON 8009|Minimum Grade of B-|May not be taken concurrently)

ECON 8114. Advanced Labor Economics. 3 Credit Hours.
This course examines the microeconomic foundations of macroeconomic phenomena in the labor market. Questions surrounding the nature of employment and its causes are explored. This course includes economic models of unions, contracting and agency models, efficiency wages, insider/outsider models, implicit contracts, and job searches. Specific articles in these areas form the basis of the material covered. Particular attention is paid to the mathematics behind many of the theoretical models covered in the course.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8005|Minimum Grade of B-|May not be taken concurrently
AND ECON 8009|Minimum Grade of B-|May not be taken concurrently
AND ECON 8104|Minimum Grade of B-|May not be taken concurrently)
ECON 8115. Theory of Industrial Organizations. 3 Credit Hours.
The course offers a microeconomic analysis of the relationship between the structure of industry markets and the conduct and performance of business enterprise. Emphasis is on the modern theory of oligopoly, including dynamic pricing, contestable markets, and game theory. Specific dimensions of firm conduct include pricing, product differentiation, mergers, and research and development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECON 8005|Minimum Grade of B-|May not be taken concurrently.

ECON 8116. Mathematical Economics. 3 Credit Hours.
This course covers mathematical techniques and theorems of current importance in economic theory, with applications. Topics include game theory, social choice, general equilibrium analysis, and dynamic economics. The course concentrates on one of these topics, as warranted by developments in contemporary economic theory.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8005|Minimum Grade of B-|May not be taken concurrently
AND ECON 8007|Minimum Grade of B-|May not be taken concurrently
AND ECON 9101|Minimum Grade of B-|May not be taken concurrently)

ECON 8119. Econometrics II. 3 Credit Hours.
This is the second in a two-semester sequence of courses. The topics include nonlinear regression, the analysis of economic time series, and models with discrete or limited dependent variables.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
ECON 8009|Minimum Grade of B-|May not be taken concurrently.

ECON 8121. Development of Less Developed Economies. 3 Credit Hours.
Examination of development efforts of less developed economies is undertaken. Selected domestic and international issues, policies, institutions, and reform are targeted.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8122. Economics of the Public Sector. 3 Credit Hours.
Analysis of the economics of the public sector is covered. Topics include theories of public goods and optimal taxation, revenues, public expenditures, and incidence problems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8123. Economics of Sports. 3 Credit Hours.
This course covers the application to professional and amateur sports of theory of industrial organization; anti-trust issues; public finance involving the relationship between cities and franchises; and labor issues of reward systems, unions, and discrimination.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8009|Minimum Grade of B-|May not be taken concurrently
AND ECON 8114|Minimum Grade of B-|May not be taken concurrently)
ECON 8124. International Trade: Theory and Policy. 3 Credit Hours.
This course offers an intensive study of pure theory of international trade, welfare impacts of international trade, the theory and practice of commercial policy, and international factor movements. Special topics include the transfer problem; trade under uncertainty; and the relations between trade, growth, and development.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8009|Minimum Grade of B-|May not be taken concurrently)
AND (ECON 8106|Minimum Grade of B-|May not be taken concurrently)
AND (ECON 9101|Minimum Grade of B-|May not be taken concurrently)

ECON 8125. Theory of Public Finance. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8129. Time Series Econometrics. 3 Credit Hours.
This course is designed to teach students advanced econometric techniques necessary to conduct original empirical research in macroeconomics. The course focuses on techniques appropriate for the analysis of time-series data. Students will learn the theoretical underpinnings of such topics as stationarity, ARMA processes, and vector autoregression (VAR) models and how to apply this theory to economic data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8009|Minimum Grade of B-|May not be taken concurrently)
AND (ECON 8119|Minimum Grade of B-|May not be taken concurrently)

ECON 8134. Intern Monetary Econ. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

ECON 8139. Panel Data Econometrics. 3 Credit Hours.
This course is designed to teach students advanced econometric techniques necessary to conduct original empirical research using micro-level data. The course focuses on techniques appropriate for the analysis of cross-section and panel data. Students will learn the theoretical underpinnings of such topics as instrumental variables, selection bias, and regression discontinuity, and quantile regression. We will pay particular attention to how to apply these techniques to economic data.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(ECON 8009|Minimum Grade of B-|May not be taken concurrently)
AND (ECON 8119|Minimum Grade of B-|May not be taken concurrently)

ECON 8190. Special Topics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
ECON 8204. Health Economics. 3 Credit Hours.
This course is designed to teach students advanced econometric techniques necessary to conduct original empirical research using micro-level data. The course focuses on techniques appropriate for the analysis of cross-section and panel data. Students will learn the theoretical underpinnings of such topics as instrumental variables, selection bias, and regression discontinuity, and quantile regression. We will pay particular attention to how to apply these techniques to economic data.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
(ECON 8009|Minimum Grade of B-|May not be taken concurrently)
AND (ECON 8119|Minimum Grade of B-|May not be taken concurrently)

ECON 9001. Foundations in Managerial Economics. 3 Credit Hours.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

ECON 9101. Mathematics for Economists II. 3 Credit Hours.
Mathematical techniques and theorems are presented and used in economic applications. Proofs are presented in formal mathematical language to introduce the students to the vernacular of current economics research papers. Topics covered include advanced topics in linear algebra; the implicit function theorem in multivariate calculus and its application to comparative statistics; the Karush-Kuhn-Tucker theorem and applications to linear and nonlinear optimization theory; and differential and difference equations with elements of stability analysis.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**
ECON 8003|Minimum Grade of B-|May not be taken concurrently.

ECON 9183. Directed Study. 1 to 6 Credit Hour.
This course is designed for doctoral students who need specialization in topics related to their dissertation work.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ECON 9994. Field Examination/Dissertation Proposal Research. 1 to 6 Credit Hour.
This course is designed for students who have finished required coursework and are preparing a master's thesis or for preliminary and qualifying examinations.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ECON 9996. Master of Arts Thesis. 1 to 6 Credit Hour.
**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

ECON 9998. Dissertation Proposal Research. 1 to 6 Credit Hour.
This course is designed for students who have passed the theory preliminary and qualifying examinations but do not have an accepted proposal. The course may be taken for up to 3 semester hours.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.
ECON 9999. Doctoral Thesis Research. 1 to 6 Credit Hour.

This course is designed for students who have an accepted proposal and are in the research/writing stage of the thesis. Students living in the Philadelphia metropolitan area are required to attend the seminar and fulfill its requirements. Those living outside the area are required to fulfill its written requirements each semester and to make at least one presentation of their doctoral research in the seminar or elsewhere during the period they are working on their dissertation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Student Attribute Restrictions:** Must be enrolled in one of the following Student Attributes: Dissertation Writing Student.

**Repeatability:** This course may be repeated for additional credit.