

ECONOMICS, PH.D.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (<http://guide.wisc.edu/graduate/#policiesandrequirements>), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

Face to Face	Evening/Weekend	Online	Hybrid	Accelerated
Yes	No	No	No	No

Mode of Instruction Definitions

Accelerated: Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

Evening/Weekend: Courses meet on the UW-Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

Face-to-Face: Courses typically meet during weekdays on the UW-Madison Campus.

Hybrid: These programs combine face-to-face and online learning formats. Contact the program for more specific information.

Online: These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

CURRICULAR REQUIREMENTS

Requirement Detail

Minimum Credit Requirement	51 credits
Minimum Residence Credit Requirement	32 credits
Minimum Graduate Coursework Requirement	26 credits must be graduate-level coursework. Details can be found in the Graduate School's Minimum Graduate Coursework (50%) policy (https://policy.wisc.edu/library/UW-1244).
Overall Graduate GPA Requirement	3.00 GPA required. This program follows the Graduate School's GPA Requirement policy (https://policy.wisc.edu/library/UW-1203).
Other Grade Requirements	n/a

Assessments and Examinations The micro and macro theory preliminary examinations must be taken in early summer following the first year of graduate study. Students who do not pass both exams on this first attempt retake the exam(s) they did not pass in late summer. A third attempt is granted only if the student has passed one exam after the second attempt. Students must earn a B average in the first year econometrics courses; retaking the applicable course (s) during the second year if the two-course GPA average is less than 3.0. To maintain satisfactory progress through the program, each student must have the field paper approved by the student's major field by December 15 of the third year of study and must complete a three-signature dissertation proposal by December 15 of the fourth year of study. Consult the department website (<https://econ.wisc.edu/doctoral/program-guidelines>) for additional information.

Language Requirements No language requirements.

Breadth Requirement All doctoral students are required to complete a doctoral minor or Graduate/Professional certificate. Students completing an Option B (Distributed) minor are recommended to complete four courses from inside and outside the Economics department. See the Economics department minor fields page (<https://econ.wisc.edu/doctoral/minor-requirements>) for details.

REQUIRED COURSES

Code	Title	Credits
M.S. Course Requirements		
<i>Core Economic Theory</i>		
ECON 711	Economic Theory-Microeconomics Sequence	3
ECON 712	Economic Theory-Macroeconomics Sequence	3
ECON 713	Economic Theory: Microeconomics Sequence	3
ECON 714	Economic Theory; Macroeconomics Sequence	3
<i>Mathematics Economics</i>		
ECON 703	Mathematical Economics I ¹	3
<i>Statistics</i>		
ECON 709	Economic Statistics and Econometrics I ¹	3
ECON 710	Economic Statistics and Econometrics II ¹	3
Ph.D. Course Requirements		
<i>Doctoral Minor or Graduate/Professional Certificate</i>		9-12
Most Option A (external) minors and graduate/professional certificates are 9 credits. Students completing an Option B (distributed) minor complete 12 credits. See table above for more details.		
<i>Major Field Coursework (see below)</i>		12
See specific required courses below. Other credits must be in ECON taken in consultation with advisor.		
<i>Additional Credits</i>		6-9

Students take a minimum of 6–9 additional credits 300+ to meet the minimum credit requirements. ECON 990 and ECON 999 may count toward these credits.

Total Credits

51

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Graduate students take these courses for 3 credits each.

ECONOMETRICS¹

Econometrics is concerned with the methods for empirical analysis in economics. The program provides strong preparation and training for students interested in econometric methods and theory, and as well as for students whose primary interest lies in applied economics.

All doctoral students in economics, regardless of field, take one year of econometrics (ECON 709 Economic Statistics and Econometrics I and ECON 710 Economic Statistics and Econometrics II, which has an enrollment of about 40–50). In their second year of study, students who choose econometrics as their major field, or who simply want more advanced training, will take ECON 715 Econometric Methods, which covers the core theory of nonlinear estimation and inference. They will also take one or more of ECON 716 Econometric Methods, ECON 718 Topics in Applied Econometrics or ECON 719 Economic Statistics and Econometrics III, which cover selected topics on the frontiers of theoretical and applied econometrics. These courses have enrollments of about 10–20 students.

The scope of econometrics at Wisconsin is suggested by a list of recent research projects by the econometrics faculty (often with the assistance of graduate students). These include the generalized method of moments, nonparametric likelihood, bootstrap methods, interactions-based models, macroeconometrics, nonlinear time series, and semiparametric estimation. In addition, studies conducted by other faculty members and students—in public economics, labor, industrial organization, macroeconomics, trade, and microeconomics—often draw on appropriately sophisticated econometric techniques.

The econometrics program can be augmented by course offerings in the statistics department.

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INDUSTRIAL ORGANIZATION¹

The standard graduate preparation in industrial organization consists of two courses. One course presents an overview of the field, focusing on topics where theoretical models have successfully been taken to data. These topics include: static oligopoly models of price/quantity competition in homogeneous and differentiated good markets, models of product search and advertising, bilateral oligopoly models with contracting, models of contracting with asymmetric information, auctions, models of price discrimination, static and dynamic models of entry and exit. The second course focuses more on the details of how to estimate these models and, in particular, on the treatment of unobservables. The course also covers recent developments in the field. The main goal of this course is to transition students from being consumers of research to producers of research in industrial organization.

The empirical approach of industrial organization has shifted from discovering robust empirical regularities that hold across a broad cross section of industries to the detailed study of individual markets based

on a theoretical model. This reflects the belief that market structure and firm behavior are sufficiently diverse across industries that they are best studied in the context of a well-defined product and geographical market. The methodology for studying markets at this level involve specifying an equilibrium model of firm behavior and applying this model to data by testing its predictions (reduced form) and/or by estimating its primitives (structural), which are typically consumer preferences and firm costs. Knowledge of model primitives is used to construct counterfactuals and conduct policy analysis. The main analytical tools are game theory, econometrics, and computational methods, and students would benefit from taking advanced courses in these subjects.

For students planning to write a dissertation in industrial organization, the field requirement is a paper to be completed during the summer of the second year. Upon completion of course work and the field requirement, students are expected to actively participate in the weekly industrial organization workshop and seminar. The workshop is dedicated to presentations by graduate students who are working on dissertations in industrial organization and by faculty members; the seminar is for invited speakers from other universities.

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INTERNATIONAL ECONOMICS¹

International economics is divided into the trade side and the macroeconomics side. The trade side considers the causes and consequences of international trade and of policies that alter trade patterns. A variety of both general equilibrium and partial equilibrium models featuring selected distortions to various competitive norms are used to explore these issues, and empirical evidence relating to the theories is also emphasized. Recent work analyzes theoretical and empirical investigations of trade and factor movements in the presence of firm-level heterogeneity, dynamics, uncertainty, endogenous government policy reaction, strategic interaction across governments and firms, and the design and purpose of international trade agreements. Economics 871 introduces students to the core of the real side of international economics.

The macroeconomics side of international economics puts special focus on the role of financial markets and monetary variables in open economies. It devotes attention to exchange rate determination and real and financial interaction among open economies. It treats traditional and current analytical approaches to understanding the macroeconomic consequences of monetary policy, fiscal policy, and policy coordination across borders; international capital mobility and default; economic growth; and, optimal portfolio choices. The role of credit frictions on international allocations and the causes and consequences of international financial crises and "sudden stops" are examined. ECON 872 Advanced International Economics is the macroeconomics analogue to the trade course ECON 871 Advanced International Economics.

ECON 899 Recent Advances in Economics covers advanced topics and treatments in international economics, and its specific content depends on the instructor teaching it.

The weekly international economics workshop, ECON 977 Workshop in International Economics/ECON 978 Workshop in International Economics, is an integral part of the program, in which both faculty and advanced graduate students actively participate.

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LABOR ECONOMICS¹

Labor economics has a long and distinguished history of scholarly research and the application of this research to policy issues. Wisconsin has traditionally been an important center for this work. Students majoring in this field are expected to (eventually) understand relevant institutional features of labor markets, sources of data and econometric techniques needed to draw inferences from these data, and the models of rational economic behavior needed to organize coherent economic thinking about labor markets.

The core material deals with labor supply decisions made by rational households, labor demand decisions made by profit-maximizing firms, and the equilibrium wage differentials and employment patterns implied by these decisions when markets are competitive. Applications include the analysis of wage differentials, life-cycle age-earnings profiles, and returns to human capital investments. Further topics, emphasizing deviations from the competitive ideal, include incentive schemes, discrimination, bargaining between workers and employers to divide monopoly rents, search and unemployment.

There are two required courses for the labor major, ECON 750 Labor Economics and ECON 751 Survey of Institutional Aspects of Labor Economics, usually taken in the second year of the program. Both theoretical and empirical research are emphasized in these courses, and students begin work on a research paper that will help lay the foundation for dissertation research. These courses are supplemented by an active workshop program featuring speakers from various universities and research centers (including Wisconsin).

Labor economics is complemented by several research institutes connected with the department. These institutes are often a source for research assistantship positions and support for dissertation research for labor majors.

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MACROECONOMICS AND MONETARY ECONOMICS¹

Macroeconomics and monetary economics at Wisconsin emphasizes research on dynamic stochastic environments, as these seem central to understanding private sector and policy determinants of growth, business cycles, income distribution and other central topics. The graduate program in macroeconomics and monetary economics equips students to conduct research in this lively and rapidly changing field through a variety of advanced courses. The course selection varies from year to year, but typically it includes at least one course emphasizing macroeconomic theory and one course emphasizing empirical methods in macroeconomics. In recent years, the field has offered courses in:

1. theory and econometrics of environments comprised of interacting agents, with a focus on inequality dynamics;

2. monetary and financial theory, providing conceptual foundations for understanding financial market equilibria as well as the effects of alternative macroprudential and monetary policies
3. methods of modeling and coping with uncertainty, imperfect information, and private information, and their implications for the design of economic policy;
4. computational or econometric methods, covering tools that have wide applicability in macroeconomics and other areas of economics;
5. topics in macroeconomics, including consumption, time use and the aggregate relevance of micro shocks.

In addition to the courses offered in the department (in general up to five per year), the field recognizes courses taken outside the department (e.g., mathematics courses for those interested in theory, probability and statistics, and courses for students planning to work on empirical topics) as well as other fields.

Students are required to participate in the weekly macro workshop. Students are encouraged to present their own research in this seminar. In addition, depending on demand, the field organizes a brown bag seminar designed to encourage students to present research at an early stage, and individual faculty members regularly form reading groups to discuss tightly focused bodies of state of the art research to help facilitate the development of dissertation ideas.

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MICROECONOMIC THEORY¹

Microeconomic theory is a broad area that examines foundational issues in economic modeling and provides tools for applied economic research. The field includes partial and general equilibrium theory, game theory, the economics of incentives and information, and decision theory. Students often find it helpful to take courses in the microeconomics field to acquire the technical skills required to do rigorous applied work. Advanced courses in microeconomics offered by the economics department change as the frontiers of the subject and the interests of the faculty evolve.

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PUBLIC ECONOMICS¹

Public economics is the study of the government's role in the economy, particularly through tax and expenditure policy. Wisconsin has a long and distinguished tradition of teaching and research in public economics. Scholars in public economics examine a wide range of issues. Research by members of the Wisconsin public economics faculty examines, for example, the behavioral effects of taxation social insurance, savings, altruism, anti-poverty policy, education, peer effects, income distribution, and issues in health economics.

There are two required courses for the public economics field, ECON 741 Theory of Public Finance and Fiscal Policy and an applied econometrics or field topics course. These courses examine theoretical and empirical methods in the field. Specific topics will vary across years, but the sequence will typically cover optimal taxation; the effects of taxation on

various aspects of household behavior, such as labor supply, consumption and saving, charitable giving, and household portfolio behavior; social insurance—insurance provided by the government for longevity risk, work-related injuries, unemployed, and disability; fiscal federalism, local public finance, and the provision of public goods; and the rationale and effectiveness of government efforts to ameliorate poverty. The two-course sequence will also typically address topics of active research interest in the field, in broad areas of education and health policy, for example. Like other fields of concentration at Wisconsin, in their second year, students begin work on a research paper. The public economics field also holds an active seminar series featuring invited guests from various universities and research centers (including Wisconsin).

There are many resources across campus that may be of interest to students writing dissertations in public economics. The Institute for Research on Poverty (IRP) has a graduate student fellows program where students receive interdisciplinary training in poverty-related research. Public faculty and students also participate in the Interdisciplinary Training Program in the Education Sciences (ITP).

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