

ECONOMICS, PHD

The doctoral program in economics offers a firm grounding in the theory and tools of economics as well as in a variety of fields of specialization. Facilities within the department include faculty and student offices, a library of core materials, and a computer center. The size of the department, the breadth of specialties represented among the faculty, the abundance of research workshops and research facilities, and the related programs of other university departments combine to provide an unusually supportive atmosphere for study and research. Students are encouraged to work together; study groups for course work and preliminary examinations are standard. The department currently has roughly 35 faculty members and approximately 140 graduate students. All doctoral students are assigned desk space. The department and students sponsor social events throughout the year. A graduate advisor is on staff to help students with problems and questions.

The first year of doctoral study concentrates on economic theory and statistics courses. In addition, the department holds seminars for first-year doctoral students that feature faculty presentations. The presentations provide first-year students the opportunity to meet the faculty and learn about research in each field. The department offers seven fields of concentration: econometrics, industrial organization, international economics, labor economics, macroeconomics, microeconomic theory, and public economics.

ADMISSIONS

ADMISSIONS

Please consult the table below for key information about this degree program's admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program's website.

Graduate admissions is a two-step process between academic programs and the Graduate School. **Applicants must meet the minimum requirements (<https://grad.wisc.edu/apply/requirements/>) of the Graduate School as well as the program(s).** Once you have researched the graduate program(s) you are interested in, apply online (<https://grad.wisc.edu/apply/>).

Requirements	Detail
Fall Deadline	December 5
Spring Deadline	The program does not admit in the spring.
Summer Deadline	The program does not admit in the summer.
GRE (Graduate Record Examinations)	Required.
English Proficiency Test	Every applicant whose native language is not English, or whose undergraduate instruction was not exclusively in English, must provide an English proficiency test score earned within two years of the anticipated term of enrollment. Refer to the Graduate School: Minimum Requirements for Admission policy: https://policy.wisc.edu/library/UW-1241 (https://policy.wisc.edu/library/UW-1241/).
Other Test(s) (e.g., GMAT, MCAT)	n/a

Letters of Recommendation Required 3

Applicants to the doctoral program receive full funding consideration if the application form is submitted and graduate school application fee is paid by the deadline for fall term admission.

Doctoral admission requirements include a bachelor's degree, plus three semesters of calculus, a semester of linear algebra, and a semester of mathematical statistics, which must be completed before entering the program. Mathematics preparation should include multivariate calculus, elementary probability, and regression analysis. Applicants must submit three letters of recommendation and Graduate Record Exam (GRE) scores. Additional information is available on the Department of Economics website (<https://econ.wisc.edu/doctoral/admissions/>).

FUNDING

FUNDING GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (<https://grad.wisc.edu/funding/>) is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

PROGRAM RESOURCES

Applicants to the doctoral program receive full funding consideration if the application form is submitted and graduate school application fee paid by December 5. The department offers a number of financial support packages for the first year of study to incoming doctoral students with outstanding records. These packages guarantee support for five years of study and take the form of fellowship, teaching assistantship, research assistantship, or a combination of the three. All continuing support is based on the condition that a student is making good progress in the program.

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. Refer to the Graduate School: Minimum Graduate Coursework (50%) Requirement policy: https://policy.wisc.edu/library/UW-1244 (https://policy.wisc.edu/library/UW-1244/).
Overall GPA Requirement	3.00 GPA required.
Graduate GPA Requirement	Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: https://policy.wisc.edu/library/UW-1203 (https://policy.wisc.edu/library/UW-1203/).
Other Grade Requirements	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.
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 must 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. 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 (https://econ.wisc.edu/doctoral/program-guidelines/)) for additional information.
Language Requirements	No language requirements.

Graduate School Breadth Requirement All doctoral students are required to complete a doctoral minor or graduate/professional certificate. Refer to the Graduate School: Breadth Requirement in Doctoral Training policy: <https://policy.wisc.edu/library/UW-1200> (<https://policy.wisc.edu/library/UW-1200/>).

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> (<https://econ.wisc.edu/doctoral/minor-requirements/>)) for details.

REQUIRED COURSES

Code	Title	Credits
MS 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
PhD Course Requirements		
<i>Breadth</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 numbered 300 or above to meet the minimum credit requirements. ECON 990 and ECON 999 may count toward these credits.		
Total Credits		51

¹ Graduate students take these courses for 3 credits each.

Econometrics ¹

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.

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 (STAT (<http://guide.wisc.edu/courses/stat/>)).

Code	Title	Credits
Students who choose econometrics as their major field, or who simply want more advanced training, will complete the following course.		
ECON 715	Econometric Methods	3
Students must complete one or more of the following courses.		
ECON 716	Econometric Methods	3
ECON 718	Topics in Applied Econometrics	3
ECON 719		3-4

¹ These pathways are internal to the program and represent different curricular paths a student can follow to earn this degree. Pathway names do not appear in the Graduate School admissions application, and they will not appear on the transcript.

Industrial Organization¹

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.

The standard graduate preparation in industrial organization consists of two courses.

1. 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.
2. 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.

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International Economics¹

International economics is divided into the trade side and the macroeconomics side.

1. 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. ECON 871 Advanced International Economics introduces students to the core of the real side of international economics.
2. 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.

Code	Title	Credits
The following course introduces students to the core of the real side of international economics.		
ECON 871	Advanced International Economics	3
Macroeconomics		
ECON 872	Advanced International Economics	3
Topics and Treatments in International Economics		
ECON 899	Recent Advances in Economics	1-3
Workshop		
These weekly workshops are an integral part of the program, in which both faculty and advanced graduate students actively participate.		
ECON 977	Workshop in International Economics	1-7

ECON 978	Workshop in International Economics	1-7
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Labor Economics ¹

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.

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.

Code	Title	Credits
ECON 750	Labor Economics	3
ECON 751	Survey of Institutional Aspects of Labor Economics	3

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Macroeconomics and Monetary Economics ¹

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 Theory ¹

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 Economics ¹

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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POLICIES

GRADUATE SCHOOL POLICIES

The Graduate School's Academic Policies and Procedures (<https://grad.wisc.edu/acadpolicy/>) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

MAJOR-SPECIFIC POLICIES

PRIOR COURSEWORK

Graduate Credits Earned at Other Institutions

Graduate coursework from other institutions will be evaluated on a case-by-case basis by the faculty graduate committee in the Department of Economics. With graduate committee approval, students are allowed to transfer no more than 15 credits of graduate coursework from other institutions. Credits earned ten years or more prior to admission to a doctoral degree are not allowed to satisfy requirements.

Undergraduate Credits Earned at Other Institutions or UW-Madison

On a case-by-case basis, this program refers to the Graduate School: Transfer Credits for Prior Coursework (<https://policy.wisc.edu/library/UW-1216/>) policy.

Credits Earned as a Professional Student at UW-Madison (Law, Medicine, Pharmacy, and Veterinary careers)

On a case-by-case basis, this program refers to the Graduate School: Transfer Credits for Prior Coursework (<https://policy.wisc.edu/library/UW-1216/>) policy.

Credits Earned as a University Special Student at UW-Madison

On a case-by-case basis, this program refers to the Graduate School: Transfer Credits for Prior Coursework (<https://policy.wisc.edu/library/UW-1216/>) policy.

PROBATION

Refer to the Graduate School: Probation (<https://policy.wisc.edu/library/UW-1217/>) policy.

ADVISOR / COMMITTEE

Refer to the Graduate School: Advisor (<https://policy.wisc.edu/library/UW-1232/>) and Graduate School: Committees (Doctoral/Master's/MFA) (<https://policy.wisc.edu/library/UW-1201/>) policies.

CREDITS PER TERM ALLOWED

15 credits

TIME LIMITS

Students must complete the final oral exam by May 15 of the seventh year of study.

Refer to the Graduate School: Time Limits (<https://policy.wisc.edu/library/UW-1221/>) policy.

GRIEVANCES AND APPEALS

These resources may be helpful in addressing your concerns:

- Bias or Hate Reporting (<https://doso.students.wisc.edu/bias-or-hate-reporting/>)
- Graduate Assistantship Policies and Procedures (<https://hr.wisc.edu/policies/gapp/#grievance-procedure>)
- Hostile and Intimidating Behavior Policies and Procedures (<https://hr.wisc.edu/hib/>)
 - Office of the Provost for Faculty and Staff Affairs (<https://facstaff.provost.wisc.edu/>)
- Employee Assistance (<http://www.eao.wisc.edu/>) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
- Employee Disability Resource Office (<https://employeeabilities.wisc.edu/>) (for qualified employees or applicants with disabilities to have equal employment opportunities)
- Graduate School (<https://grad.wisc.edu/>) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
- Office of Compliance (<https://compliance.wisc.edu/>) (for class harassment and discrimination, including sexual harassment and sexual violence)
- Office Student Assistance and Support (OSAS) (<https://osas.wisc.edu/>) (for all students to seek grievance assistance and support)

- Office of Student Conduct and Community Standards (<https://conduct.students.wisc.edu/>) (for conflicts involving students)
- Ombuds Office for Faculty and Staff (<http://www.ombuds.wisc.edu/>) (for employed graduate students and post-docs, as well as faculty and staff)
- Title IX (<https://compliance.wisc.edu/titleix/>) (for concerns about discrimination)

Students should contact the department chair or program director with questions about grievances. They may also contact the L&S Academic Divisional Associate Deans, the L&S Associate Dean for Teaching and Learning Administration, or the L&S Director of Human Resources.

OTHER

n/a

PROFESSIONAL DEVELOPMENT

PROFESSIONAL DEVELOPMENT GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School's professional development resources (<https://grad.wisc.edu/pd/>) to build skills, thrive academically, and launch your career.

PROGRAM RESOURCES

Placement

The department has a well-organized placement service. Each year a faculty member functions as the placement officer. He or she is assisted by the placement assistant who coordinates the sending of CVs and letters of recommendation, makes available job vacancy information, and provides resources and general guidance to ensure students are prepared for the job market. Each job market candidate gives a regular faculty research seminar on his or her primary research paper; these seminars are typically widely attended by faculty and students and provide a rigorous "test run" for the job market paper. To prepare for the job market interviews, all students participate in mock "job market interviews" with faculty members. Students also receive extensive help from their primary advisor. Students also benefit from the fact that several organizations actively recruit on campus. Finally, Wisconsin students typically self-organize additional presentations of job market papers, providing one another with additional opportunities for practice.

Many graduates accept research positions in academia, while others gain employment with international organizations, government, private consulting, or tech firms. Between 2010 and 2021, placements at U.S. universities have included positions as assistant professors at the University of California–San Diego, Washington University in St. Louis, University of Oregon, Carnegie Mellon University, University of Rochester, Ohio State University, University of Florida, and University of California–Santa Cruz. Placements at non-U.S. universities have included University College London, London School of Economics, McMaster University, National Taiwan University, University of Mannheim, University of Warwick, National University of Singapore, Peking University, and Tsinghua University. Students pursuing nonacademic employment have accepted positions at institutions including the Federal Reserve Board of Governors, the International Monetary Fund, U.S. Treasury Department, RAND Corporation, the Korea Development Institute, NERA Economics Consulting, Amazon, and Mathematica Policy Research Institute.

LEARNING OUTCOMES

LEARNING OUTCOMES

1. Establishes a firm grounding in economic theory.
2. Exhibits expert depth of knowledge in one of the fields of specialization in the Economics department.
3. Demonstrates command of the tools needed to conduct and assess empirical research in economics.
4. Creates and presents research that makes a substantive contribution to the field.
5. Follows ethical principles of the discipline in using sources in research.

PEOPLE

PEOPLE

Professors: Barwick, Chinn, Corbae, Deneckere, Engel, Fu, B. Hansen, Hendricks, Houde, Kennan, Lentz, Porter, Rostek, Ruhl, Seshadri, Shi, J. Smith, L. Smith, Sorensen, Taber, Weretka, West, Wright

Associate Professors: Aizawa, Gregory, Kang, Kirpalani, Quint, Swanson

Assistant Professors: Bernard, Boerma, Braxton, Camboni, Chiang, Coulibay, Cox, Gutierrez, Magnolfi, Mommaerts, O'Connell, Rojas-Ampuero, Sullivan, Yata

Affiliated Faculty: Chang, Chung, Montgomery, Sarada, Schechter, Smeeding

Instructional Staff: Alder (Faculty Associate), Chan (Lecturer), Eudey (Senior Lecturer), Flanagan (Lecturer), Friedman (Lecturer), Glawtschew (Lecturer), D. Hansen (Lecturer), K. Hansen (Senior Lecturer), Johnson (Senior Lecturer), McKelvey (Lecturer), Pac (Senior Lecturer), Rick (Senior Lecturer), Trost (lecturer)