DEPARTMENT OF ECONOMICS

Head: T. J. Gronberg
PhD Advisor: D. Jansen
MS Advisor: L. Gan

Graduate study in economics leads to the degrees of Master of Science and Doctor of Philosophy. The graduate program develops theoretical and quantitative skills and analyzes a broad range of contemporary policy issues in order to prepare students for careers in academe, business and government.

Both MS and PhD degrees are offered. It is not necessary to have a master's degree before beginning a doctoral program. To enter the doctoral program in economics, the student should present undergraduate credits in economics, although an undergraduate major in economics is not necessary. Additional preparation should include work in mathematics and statistics. The department has no foreign language requirement for a graduate degree in economics.

Faculty

An, Yonghong, Assistant Professor
Economics
PHD, Johns Hopkins University, 2011

Barr, Andrew C, Assistant Professor
Economics
PHD, University of Virginia, 2015

Bento, Pedro M, Assistant Professor
Economics
PHD, University of Toronto, 2013

Brown, Alexander L, Associate Professor
Economics
PHD, California Institute of Technology, 2008

Castillo, Marco, Associate Professor
Economics
PHD, University of Wisconsin - Madison, 2001

Eckel, Catherine C, Professor
Economics
PHD, University of Virginia, 1983

Edwardson, Jeffrey C, Senior Lecturer
Economics
PHD, Texas A&M University, 2000

Fragiadakis, Daniel, Assistant Professor
Economics
PHD, Stanford University, 2014

Gan, Li, Professor
Economics
PHD, University of California, Berkeley, 1998

Glass, Amy J, Associate Professor
Economics
PHD, University of Pennsylvania, 1993

Gronberg, Timothy J, Professor
Economics
PHD, Northwestern University, 1978

Hoekstra, Mark L, Associate Professor
Economics
PHD, University of Florida, 2006

Hwang, Haeshin, Professor
Economics
PHD, University of Minnesota, Twin Cities, 1976

Jansen, Dennis W, Professor
Economics
PHD, University of North Carolina at Chapel Hill, 1983

Krasteva, Silvana S, Associate Professor
Economics
PHD, Duke University, 2009

Li, Qi, Professor
Economics
PHD, Texas A&M University, 1991

Lindo, Jason M, Associate Professor
Economics
PHD, University of California, Davis, 2009

Luco Echeverria, Fernando A, Assistant Professor
Economics
PHD, Northwestern University, 2014

Maness, Robert S, Visiting Associate Professor
Economics
PHD, Texas A&M University, 1992

Manjunath, Vikram, Assistant Professor
Economics
PHD, University of Rochester, 2011

Meckel, Katherine, Assistant Professor
Economics
PHD, Columbia University, 2015

Meer, Jonathan, Associate Professor
Economics
PHD, Stanford University, 2009

Pakhotina, Nataliya V, Lecturer
Economics
PHD, University of Florida, 2010

Petrie, Ragan, Associate Professor
Economics
PHD, University of Wisconsin - Madison, 2002

Saving, Thomas R, Distinguished Professor
Economics
PHD, University of Chicago, 1960

Schulman, Craig T, Visiting Associate Professor
Economics
PHD, Texas A&M University, 1990
Sekhposyan, Tatevik, Assistant Professor
Economics
PHD, University of North Carolina at Chapel Hill, 2010

Tian, Guoqiang, Professor
Economics
PHD, University of Minnesota, Twin Cities, 1987

Ureta, Manuelita, Associate Professor
Economics
PHD, University of California, Los Angeles, 1987

Varghese, Adel, Instructional Associate Professor
Economics
PHD, University of Pennsylvania, 1996

Velez, Rodrigo A, Associate Professor
Economics
PHD, University of Rochester, 2009

Zhang, Yuzhe, Associate Professor
Economics
PHD, University of Minnesota, Twin Cities, 2006

Zheng, Fang, Assistant Professor
Economics
PHD, University of California, San Diego, 2015

Zubairy, Sarah, Assistant Professor
Economics
PHD, Duke University, 2010

Masters

• Master of Science in Economics (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/liberal-arts/economics/ms)

Doctoral

• Doctor of Philosophy in Economics (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/liberal-arts/economics/phd)

Courses

ECMT 660 Mathematical Economics I
Credits 3. 3 Lecture Hours.
Use of selected types of mathematical tools in economic theory.

ECMT 669 Fundamental Mathematics for Economists
Credits 2. 2 Lecture Hours.
Mathematics of nonlinear programming; applications to micro-theoretic models of demand and production; fundamental results from matrix theory and multivariate differential calculus; systems of differential equations and stability analysis and their economic applications.

ECMT 670 Econometric Analysis of Financial Data
Credits 3. 3 Lecture Hours.
Predictability of asset returns, test of random walk hypothesis, the microstructure of securities markets, event analysis, the CAPM and arbitrage pricing theory, the term structure of interest rates, dynamic models of economic equilibrium and nonlinear financial models; provides an accessible combination of theory and practice.
Prerequisites: Graduate classification; must be enrolled in the department of economics master’s program; approval of director of master’s program.

ECMT 673 Economic Analytics
Credits 3. 3 Lecture Hours.
Analysis of large household, corporate and financial data involving empirical modeling and SAS programming for prediction of economic decisions and outcomes; lecture, discussion and team project presentation format.
Prerequisites: Graduate classification and enrollment in the master’s program in economics.

ECMT 674 Economic Forecasting
Credits 3. 3 Lecture Hours.
Empirical application of econometric techniques to prediction in economics; model building and specification; examination of various modern forecasting techniques.
Prerequisites: Graduate classification; must be enrolled in the MS program in the department of economics; or approval of instructor.

ECMT 675 Econometrics I
Credits 3. 3 Lecture Hours.
Empirical distributions of economic variables; elementary discrete and continuous distributions expressing econometric hypotheses, distributions of estimators and test statistics.
Prerequisites: MATH 151 and MATH 152 or approval of instructor.

ECMT 676 Econometrics II
Credits 3. 3 Lecture Hours.
Use of statistics in economic theory as device for testing hypotheses, formulation of concepts and economic forecasting; regression analysis in economics problems, heteroskedasticity, autocorrelation, distributed lags, regressions with lagged dependent variable, dummy variables and in introduction to multi-equations economics models.
Prerequisite: ECMT 675 or equivalent.

ECMT 677 Applied Microeconometrics
Credits 3. 3 Lecture Hours.
Estimation methods applied to economic problems; techniques include single and simultaneous equations models; general linear model in matrix form; tests of linear restrictions; Wald, Likelihood Ratio and Lagrange Multiplier tests; seemingly unrelated regressions, simultaneous equations identification and estimation; missing observations, errors in variables and non-linear estimation in economics problems.
Prerequisites: ECMT 675 and ECMT 676; STAT 610 or approval of instructor.

ECMT 678 Nonparametric Econometrics
Credits 3. 3 Lecture Hours.
Continuation of ECMT 677. Estimation methods applied to economic problems; techniques include qualitative limited dependent variables; pooled time-series and cross-section data; instrumental variables in economics problems. May repeated for credit.
Prerequisite: ECMT 677.

ECMT 679 Time Series Econometrics
Credits 3. 3 Lecture Hours.
Advanced topics in time series econometrics, including ARMA models, unit roots and cointegration.
Prerequisite: ECMT 677.

ECMT 680 Financial Econometrics
Credits 3. 3 Lecture Hours.
Basic concepts of financial engineering and elementary theory of stochastic processes and continuous time models; selected topics related to current financial econometrics research.
ECON 603 Public Economics I  
Credits 3. 3 Lecture Hours.  
Economics of taxation and public spending; theoretical and empirical analysis of the shifting and incidence of income, commodity and property taxes; models of optimal taxation and public spending; analysis of taxation and spending in a federal system of government.  
Prerequisite: Approval of instructor.

ECON 604 Public Economics II  
Credits 3. 3 Lecture Hours.  
Economics of collective action; theoretical and empirical analysis of externalities; externalities and public policy; the demand and supply of public goods; economic analysis of alternative systems of public choice; models of bureaucratic behavior.  
Prerequisite: ECON 603 or approval of instructor.

ECON 607 Foundations of Microeconomic Theory  
Credits 3. 3 Lecture Hours.  
Examination of positive and normative analysis in economic theory; emphasis on policy applications of the theory.  
Prerequisites: MATH 131 or equivalent; ECON 323 or equivalent; or approval of instructor.

ECON 609 Labor Economics I  
Credits 3. 3 Lecture Hours.  
Valuation and allocation of human resources; labor supply of households; labor supply over the life-cycle; determination of wages; human capital; migration; education; labor markets; population; use of the testable implications of theory and of evidence to explain observed labor market behavior.  
Prerequisite: ECON 603 or equivalent.

ECON 610 Labor Economics II  
Credits 3. 3 Lecture Hours.  
Selected topics in labor markets; unemployment; earnings differentials; effects of occupational licensing; trade unions; income distribution; military manpower and the draft; effects of minimum wage and equal pay provisions; effects of welfare programs; the professional athlete’s labor market and others; developing and analyzing empirical problems.  
Prerequisite: ECON 609 or equivalent.

ECON 611 Foundations of Macroeconomic Theory  
Credits 3. 3 Lecture Hours.  
Development of modern static national income analysis from general equilibrium system; roles of fiscal and monetary policy in promoting economic stability.  
Prerequisites: ECON 323 and ECON 410; MATH 131 or equivalent.

ECON 612 Money, Banking and Financial Markets  
Credits 3. 3 Lecture Hours.  
Role of financial markets and institutions in the allocation of resources in the real economy; the financial regulatory and policy infrastructure underlying financial activity to promote efficiency in asset valuation, risk management and economic growth.  
Prerequisite: Graduate classification; enrolled in the department of economics master’s program or approval of director of master’s program.

ECON 614 Economics of Microfinance  
Credits 3. 3 Lecture Hours.  
Analysis of recent research in financial markets in developing countries with a primary emphasis on microfinance; micro-asymmetries involved in lending; financial impact studies; the macro-economic literature on financial development and growth.  
Prerequisites: ECON 607 or equivalent; graduate major in the Department of Economics’ master’s program or approval of director of master’s program.

ECON 616 Economics of the Multinational Firm  
Credits 3. 3 Lecture Hours.  
Economics of the multinational firm, taking a firm-level approach to the study of international investment; structured around recent papers from the frontier of international trade research; examination of trends in multinational activity and exploration of the reasons behind decisions to invest abroad including understanding different types of foreign direct investment; the impact of multinational firms and how government policies impact foreign direct investment (FDI), including an overview of transfer pricing and the arm’s length principle.  
Prerequisites: Graduate classification; enrolled in the department of economics master’s program.

ECON 618 Behavioral Financial Economics  
Credits 3. 3 Lecture Hours.  
Describes how individuals and firms make financial decisions that deviate from those predicted by traditional financial or economic theory; examines how the insights of behavioral finance complement the traditional finance paradigm.  
Prerequisites: Graduate classification; must be enrolled in the master’s program in the Department of Economics.

ECON 629 Microeconomic Theory I  
Credits 3. 3 Lecture Hours.  
Core ideas in theoretical microeconomics; theory of consumer and firm; theory of competitive output and factor markets.  
Prerequisite: Approval of instructor.

ECON 630 Microeconomic Theory II  
Credits 3. 3 Lecture Hours.  
Advanced treatment of consumer and production theory; game theory; general equilibrium and welfare analysis.  
Prerequisites: ECON 629; ECMT 660.

ECON 631 Microeconomic Theory III  
Credits 3. 3 Lecture Hours.  
Advanced theoretical microeconomics; comprehensive study of consumer and producer theory, general equilibrium and welfare, and failures of the competitive model.  
Prerequisites: ECON 629 and ECON 630.

ECON 632 Microeconomic Theory IV  
Credits 3. 3 Lecture Hours.  
Advanced topics in game theory; repeated games and reputation, strategic information transmission; learning and evolution; models of bargaining and networks.  
Prerequisites: Graduate classification; ECON 629 and ECON 630 or approval of instructor.

ECON 633 Energy Markets and Policy  
Credits 3. 3 Lecture Hours.  
Economics of energy markets and energy regulation with emphasis on implications for optimal energy policy; sectors include gasoline, oil, electricity, natural gas, renewables, nuclear; economic theory integrated with empirical applications from American and international experience; new energy markets, energy trading, and interaction with environmental policy.  
Prerequisite: Graduate classification.

ECON 635 Advanced Macroeconomics I  
Credits 3. 3 Lecture Hours.  
Traditional and modern theories of money; general equilibrium systems and role of money in determination of prices, interest rate, income and employment.  
Prerequisite: ECON 636.
ECON 636 Macroeconomic Theory I  
Credits 3.3 Lecture Hours.  
Theory of consumption, investment, money, interest, inflation and employment.  
**Prerequisite:** ECON 410 or ECON 611.

ECON 637 Advanced Macroeconomics II  
Credits 3.3 Lecture Hours.  
Effect of monetary policy on aggregate economic activity and distribution of resources; effectiveness of various policies; optimal policy in light of various institutional restrictions that exist.  
**Prerequisite:** ECON 635.

ECON 638 International Trade Theory  
Credits 3.3 Lecture Hours.  
Classical and neo-classical models of international trade. International price formation, patterns of trade and gains from exchange; specialization and comparative advantage; factor proportions, factor prices and the Heckscher-Ohlin theorem; foreign trade and growth; tariffs, customs unions and commercial policy.  
**Prerequisite:** ECON 630 or approval of instructor.

ECON 650 Industrial Organization II  
Credits 3.3 Lecture Hours.  
Behavior of markets operating under conditions of imperfect information; construction and scientific evaluation of models designed to explain industry performance.  
**Prerequisite:** ECON 649 or approval of instructor.

ECON 652 International Trade Theory  
Credits 3.3 Lecture Hours.  
Classical and neo-classical models of international trade. International price formation, patterns of trade and gains from exchange; specialization and comparative advantage; factor proportions, factor prices and the Heckscher-Ohlin theorem; foreign trade and growth; tariffs, customs unions and commercial policy.  
**Prerequisite:** ECON 630 or approval of instructor.

ECON 654 Behavioral Game Theory  
Credits 3.3 Lecture Hours.  
Static and dynamic games of complete and incomplete information and other advanced topics in game theory.  
**Prerequisite:** Approval of instructor.

ECON 656 Macroeconomic Theory II  
Credits 3.3 Lecture Hours.  
Dynamic models, open economies, disequilibrium analysis, unemployment and inflation; traditional macro models and recent developments in macro theory.  
**Prerequisite:** Approval of instructor.

ECON 663 International Transfer Pricing  
Credits 3.3 Lecture Hours.  
Valuation of cross-border transactions between units of a multinational enterprise; includes internal and external motivations for transfer pricing, managerial and economic approaches; estimates of transfer manipulation, arm’s length standard, U.S. and OECD rules and procedures, tax court cases and ethical dilemmas.  
**Prerequisite:** Graduate classification.  
**Cross Listing:** MGMT 663/INTA 663 and INTA 663/MGMT 663.

ECON 668 Decisions Under Risk and Uncertainty  
Credits 3.3 Lecture Hours.  
The mean-variance and expected utility decision models; the use of risk models in asset valuation, financial decision-making and economic analysis; portfolio choice, insurance demand, saving, investment and consumption decisions.  
**Prerequisites:** ECON 607 or equivalent; enrolled in the Department of Economics' master's program or approval of director of the master's program.

ECON 675 Capstone for Financial Economics/Financial Econometrics  
Credits 3.3 Lecture Hours.  
Integration of the knowledge gathered in coursework including micro- and macro-economics, financial economics, econometrics, forecasting, and other analytical tools; production of major group research paper utilizing professional literature, both printed and electronic, and published data.  
**Prerequisites:** Graduate classification; 2 year master's student enrolled in the master's program in the department of economics.

ECON 680 Financial Economics  
Credits 3.3 Lecture Hours.  
Advanced theory of dynamic asset pricing utilizing the Economics of risk and uncertainty within a general equilibrium framework; stochastic calculus applications to the analysis of asset markets; theoretical foundations and empirical testing.  
**Prerequisites:** ECON 630 and ECON 646.

ECON 681 Economic Growth I  
Credits 3.3 Lecture Hours.  
Classical and neoclassical growth theory; exogenous growth; endogenous growth; factor proportions, factor prices and the Heckscher-Ohlin theorem; foreign trade and growth; tariffs, customs unions and commercial policy.  
**Prerequisites:** Graduate classification; 2 year master's student enrolled in the master's program.

ECON 682 Economic Growth II  
Credits 3.3 Lecture Hours.  
Advanced theory of economic growth including growth models with and without capital; capital accumulation and the capital-labor ratio; human capital and the rate of return to education; international trade and economic growth; growth with population and technological change; production functions; economic growth models; productivity and economic growth; economic growth and the environment.  
**Prerequisites:** Graduate classification; 2 year master's student enrolled in the master's program. ECON 630 and ECON 646 or equivalent.

ECON 683 Professional Internship  
Credits 1 to 6. 1 to 6 Other Hours.  
Opportunities to put economics learned in the classroom into practice at government or industry facilities; design projects supervised by faculty coordinators and personnel at these locations; projects selected to match student’s area of specialization.  
**Prerequisites:** Graduate classification; 2 year master's student enrolled in the master's program in the department of economics.

ECON 684 Professional Internship  
Credits 1 to 6. 1 to 6 Other Hours.  
Directed individual instruction in selected problems in economics not related to thesis or dissertation.  
**Prerequisites:** Graduate major or minor in economics; approval of instructor.

ECON 685 Directed Studies  
Credits 1 to 6. 1 to 6 Other Hours.  
Directed individual instruction in selected problems in economics not related to thesis or dissertation.  
**Prerequisites:** Graduate major or minor in economics; approval of instructor.

ECON 686 Advanced Macroeconomics II  
Credits 3.3 Lecture Hours.  
Advanced theory of dynamic asset pricing utilizing the Economics of risk and uncertainty within a general equilibrium framework; stochastic calculus applications to the analysis of asset markets; theoretical foundations and empirical testing.  
**Prerequisites:** ECON 630 and ECON 646.

ECON 687 Industrial Organization I  
Credits 3.3 Lecture Hours.  
Industry structure, conduct and performance described and analyzed with tools of microeconomics.  
**Prerequisite:** Approval of instructor.

ECON 688 Behavioral Game Theory  
Credits 3.3 Lecture Hours.  
Static and dynamic games of complete and incomplete information and other advanced topics in game theory.  
**Prerequisite:** Approval of instructor.

ECON 689 Special Topics in...  
Credits 1 to 4. 1 to 4 Lecture Hours.  
Selected topics in an identified area of economics. May be repeated for credit.  
**Prerequisite:** Approval of department head.

ECON 690 Theory of Economic Research  
Credits 3.3 Lecture Hours.  
Design of research experiments in various subfields of economics, and evaluation of research results with the aid of examples taken from the current scientific literature.  
**Prerequisites:** ECON 630 or approval of department head.

ECON 691 Research  
Credits 1 to 23. 1 to 23 Other Hours.  
Thesis research.