

Semester Graduate Courses

COURSE NAME	DESCRIPTION	CREDIT HOURS	PREREQUISITES
MATHEMATICS AND STATISTICS FOR ECONOMISTS			
6700 Survey of Mathematical Methods in Economics	Core analytical methods and techniques routinely used in the first-year graduate courses in economic theory; topics include basic real analysis, convexity, constrained optimization, envelope theorems and their economics applications.	3	Prereq: 4001.01, 4001.02, 4001.03, or 501A and graduate mathematics courses in vector calculus and elementary linear algebra. Not open to students with credit for 704, or 705
6701 Survey of Statistical Methods in Economics	Probability and statistical methods frequently used in economic analysis; topics include random variables, moment generating functions, limit theorems, expectations, multiple correlations, tests of significance and their economic applications.	3	Prereq: Math 1152 (153), or equiv; or permission of instructor and economics director of graduate studies. Not open to students with credit for Stat 5201 (520), or 6801 (620), or 640, or 720.
7700 Mathematics for Economics I	Mathematical concepts and techniques used in advanced economic research; real analysis; metric spaces; topology; measure and integration; convexity; separation theorems; contraction mapping; fixed point theorems; applications.	3	Prereq: Permission of instructor and economics director of grad studies; primarily for PhD students in economics and related disciplines. Not open to students with credit for 700.
7701 Mathematics for Economics II	Dynamic optimization methods and recursive methods that are frequently used in dynamic economic analysis.	3	Prereq: Permission of instructor and economics director of graduate studies; primarily for PhD students in economics and related disciplines. Not open to students with credit for 701.
Grad Minor			
6711 Survey of Microeconomics	Methodology and scope of the neo-classical microeconomics paradigm; topics include the theory of competitive firms and consumers, general equilibrium, Pareto optimum, welfare theorems, non-competitive markets, uncertainty and asymmetric information.	4	Prereq: 4001.01 or 501A, or equiv, and permission of economics director of graduate studies. Not open to students with credit for 8711 (804), 8712 (805), 704, or 705.
6721 Survey of Macroeconomics	Survey of macroeconomics fluctuations, business cycles and economic growth, including Keynesian, monetarist and real business cycle models; topics also include money and banking, unemployment, inflation and endogenous economic growth.	4	Prereq: 4002.01 (502) or equiv with permission of instructor and economics director of graduate studies. Not open to students with credit for 8721 (806), or 8722 (807) or 706, or 707.
6731 Survey of Econometric Methods I	Survey of fundamental methods and applications of econometrics with an emphasis on linear regression and its applications to a range of economic topics taken from various microeconomic fields.	3	Prereq: Stat 2450 (245), and Math 2168.02, or 571, or equiv with permission of instructor and economics director of grad studies. Not open to students with credit for 8731 (740), or 8732 (741), or 8733 (742), or 702.
6732 Survey of Econometric Methods II	Survey of econometric methods in time series and panel data with an emphasis on empirical examples in micro and macro economics; topics include GMM, time series models, VAR, cointegration, fixed and random effects and duration models.	3	Prereq: 6731 (702), or equiv with permission of instructor and economics director of grad studies. Not open to students with credit for 8731 (740), or 8732 (741), or 8733 (742), or 703.
Core Micro			
8711 Microeconomic Theory IA	Rigorous survey of the neoclassical paradigm dealing with individual economic agents, firms and markets; covers core concepts and methods such as equilibrium, optimality, duality, comparative statics and envelope theorems.	3	Prereq: Grad standing in Econ, or related discipline with permission of Economics Director of Grad Studies. Not open to students with credit for 804.
8712 Microeconomic Theory IB	Continuation and extension of Microeconomic Theory 1A to study competitive general equilibrium, optimality and welfare theorems; includes analysis of individual agents' behavior under uncertainty and markets subject to asymmetric information.	3	Prereq: 8711 (804), or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 805.
8713 Microeconomic Theory IIA	Rigorous introduction to game theoretic methods and concepts and their applications to study strategic interactions in economic organizations, including imperfectly competitive markets and economies with public goods and externalities.	3	Prereq: 8711 (804), or 8712 (805), or equiv with permission of economics director of grad studies. Not open to students with credit for 808.
8714 Microeconomic Theory IIB	A theoretical treatment of information economics and mechanism design; topics include implementation, dominant strategy mechanism, Bayesian mechanism design, adverse selection, moral hazard, social choice and auctions.	3	Prereq: 8713 (805), or equiv, and permission of Economics Director of Graduate Studies. Not open to students with credit for 808.
Core Macro			
8721 Macroeconomic Theory IA	A rigorous introduction to modern macroeconomic analysis and models of economic growth with emphasis on dynamic competitive equilibrium analysis: topics include dynamic programming applied to stochastic environments.	3	Prereq: Grad standing, and permission of Economics Director of Grad Studies. Not open to students with credit for 806.

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8722 Macroeconomic Theory IB	Continuation of 8721 with recent developments in macro and monetary economics; topics include business cycles, endogenous growth, equilibrium unemployment and risk sharing in incomplete markets.	3	Prereq: 8721 (806), or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 807.
8723 Macroeconomic Theory IIA	Continuation of Macroeconomic Theory IA-IB with emphasis on dynamic general equilibrium models with shocks and frictions and their empirical assessment.	3	Prereq: 8722 (806), or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 807 or 809.
8724 Macroeconomic Theory IIB	Micro foundations of aggregate demand from the perspective of dynamic optimization; topics also include permanent income, lifetime portfolio choice, Q-theory of investment, consumption CAPM, term structure and long term risk.	3	Prereq: 8723, or 806 and 807, or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 809.
Core Econometrics			
8731 Econometrics I	Probability; random variables; sampling distributions; limit theorems; point and interval estimation; statistical hypothesis testing; multiple regression analysis in the linear model including finite-sample and asymptotic statistical properties.	4	Prereq: 670 (640), or Stat 5201 (521), or equiv with permission of economics director of grad studies. Not open to students with credit for 640, 740, 741, or 742.
8732 Econometrics II	Generalized least squares; specification tests; generalized method of moments; endogenous regressors and simultaneous equation systems; panel data; nonlinear estimation; discrete and limited dependent variable models; and basic time-series analysis.	4	Prereq: 8731 (740, 741) or equiv with permission of economics director of grad studies. Not open to students with credit for 640, 740, 741, and 742.
8733 Econometrics III	Continuation of Economics 8731 and 8732 with an emphasis on applications of econometric theory and methods, including the use of advanced econometric software to various fields of economics.	3	Prereq: Econ 8731 and 8732, or equiv with permission of instructor. Not open to students with credit for 640, 740, 741, and 742.
Field: Econometrics			
8830 Advanced Econometrics I	Fundamental elements of time series methods and recently developed techniques for the analysis of economic time series.	3	Prereq: 8732 (742), or equiv with permission of instructor. Not open to students with credit for 840.
8831 Advanced Econometrics II	Selected advanced topics in econometrics - such as nonparametric and semiparametric estimation, numerical optimization, simulation methods - including Markov chain Monte Carlo methods and duration models used in economics.	3	Prereq: 8732 (742) or equiv with permission of instructor. Not open to students with credit for 841.
8832 Advanced Econometrics III	Theory and applications of advanced econometric methods with emphasis on parameter estimation and testing in nonlinear models. Topics include: large sample theory, extremum estimators, likelihood approach, and the GMM framework.	3	Prereq: 8732 (742) or equiv with permission of instructor. Not open to students with credit for 842.
8833 Micro Econometrics	Recent advances in micro econometrics, covering both theoretical and applied areas, with emphasis varying with instructor's research interest such as spatial econometrics and social interaction models.	3	Prereq: Econ 8732 (742), Econ 8831 (841), and Econ 8832 (842), or equiv, or permission of instructor. Not open to students with credit for 843. Repeatable to a maximum of 12 cr hrs.
8834 Advanced Time Series Econometrics	Rigorous treatment of time-series analysis using recent techniques and concepts. Major topics: stationary and nonstationary time series, cointegration and their economic applications. Course topics will vary with instructor's research interest. 8830 (840) is recommended.	3	Prereq: 732, or 734, or equiv with permission of instructor. Not open to students with credit for 844. Repeatable to a maximum of 12 cr hrs.
Field: Macro Money			
8821 Advanced Macroeconomics I	Recent contributions to macro-monetary economics in theoretical, empirical and policy areas; topics include computational methods, econometric techniques, dynamic modeling and empirical assessment.	3	Prereq: 8724 (809), or permission of instructor. Not open to students with credit for 810.
8822 Advanced Macroeconomics II	Studies roles of preferences, technology, endowments, and market structures to determine the behavior of aggregate variables. Topics include: dynamic stochastic general equilibrium, rational expectations, business cycles, and propagation mechanisms.	3	Prereq: 8732 (742), or 8724 (809), or permission of instructor. Not open to students with credit for 811.

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8823 Advanced Macroeconomics III	Studies the macroeconomic implications of discrete decisions by heterogeneous agents and assesses quantitative DSGE models. Topics include: lumpy adjustments, non-convex adjustment costs, and the interactions of real and financial frictions.	3	Prereq: 724, or 809, or permission of instructor. Not open to students with credit for 820.
8824 Monetary Economics	Develops monetary economics as a research field and covers a range of topics in the theoretical, empirical, and policy aspects of money, credit, and banking. S/U grade option available only with permission of Grad studies director for Econ.	3	Prereq: 724 or 809, or permission of instructor. Not open to students with credit for 821.
8825 Advanced Macroeconomic Methods	Develops numerical methods for dynamic stochastic general equilibrium models with heterogeneity and non-convexities. Applications include: models of households with uninsurable risk and borrowing constraints, and firms with adjustment costs.	3	Prereq: 724 or 809, or permission of instructor. Not open to students with credit for 816.
Field: International Economics			
8861 International Economics I	Theory and empirics of the determinants of trade, analysis of comparative advantage, trade patterns, gains from trade, commercial policies on resource allocations, income distribution and growth.	3	Prereq: 8712 (804, 805). Not open to students with credit for 861.
8862 International Economics II	Theory and empirics of international macroeconomics. Topics include: open-economy business cycles, determinants of exchange rates, international capital flows and resource allocations, financial constraints, and computational and estimation methods.	3	Prereq: 8712 (804, 805) 8722 (806, 807); and 8861 (861) recommended. Not open to students with credit for 862.
8863 International Economics III	Evolution of world economy from theoretical and empirical perspectives; trade; growth and development; international capital markets; financial crises and sovereign default; international business cycle transmissions.	3	Prereq: 8712 (804, 805), and 8722 (806, 807); and 8862 (862) recommended. Not open to students with credit for 863.
Field: Labor Economics			
8851 Labor Economics I	Theoretical and empirical methods used to understand life-cycles and interpersonal variations in earnings. Topics include: human capital, job-market signaling, matching, schooling, and mobility.	3	Prereq: 8712 (804, 805), and 8731 (741), or equiv with permission of instructor. Not open to students with credit for 883.
8852 Labor Economics II	Theories and empirical analysis of the demand for labor and changes in the wage structure over time; the determinants of youth outcomes and behaviors including the effect of family and peer groups.	3	Prereq: 8712 (804, 805) , and 8731 (741), or equiv with permission of instructor; 8851 (883) recommended. Not open to students with credit for 884.
8853 Labor Economics III	An examination of models and methods used to study household labor supply behavior. Topics include: retirement, the determinants of child outcomes, and demographic behavior. 8852 (884) is recommended.	3	Prereq: 8851 (883). Not open to students with credit for 981.
Field: Industrial Organization			
8871 Industrial Organization I	A survey of theoretical concepts used to analyze industry structure, firm conduct, market performance and related issues of public policy; topics include recent developments in the theory of the firm as well as models of competition and rivalry.	3	Prereq: 8713 (805, 808). Not open to students with credit for 871.
8872 Industrial Organization II	A survey of empirical methods used to analyze industry structure, firm conduct, market performance and related issues of public policy.	3	Prereq: 8871 (871), and 8732 (742); or permission of instructor. Not open to students with credit for 872.
8873 Industrial Organization III: Economic Analysis of Auctions	A survey of auction theory, experiments, and empirics; topics include private and common value auctions, multi-unit demand auctions, sequential and simultaneous auctions, and related research material.	3	Prereq: 8714 (808), or equiv, and permission of instructor.
Field: Urban and Public Economics			
8841 Public Economics I	Normative and positive theories of the economic functions of government, covering resource allocation, distributional equity and methods of public demand and supply.	3	Prereq: 8712 (804, 805), or permission of instructor. Not open to students with credit for 830.

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8842 Public Economics II	Theory of taxation and the analysis of tax structures in terms of efficiency, incentives, and distributional consequences. Topics include: social welfare functions, optimal taxation, incentive compatibility and tax avoidance, evasion and incidence. 8841 (830) is recommended.	3	Prereq: 8712 (804, 805). Not open to students with credit for 832.
7790 Urban Economics	Application of economic theory to analyze urban economies--their spatial structure and issues such as residential segregation, government organization, public-good, transportation, sprawl, poverty, and housing.	3	Prereq: 6711 (704, 705), or equiv. Not open to students with credit for 790.
Field: Economic Theory			
8816 Advanced Economic Theory I	A topic-driven course in advanced microeconomic theory, game theory and decision theory, and their theoretical applications with emphasis on important recent results.	3	Prereq: 8714 (808), or equiv with permission of instructor. Not open to students with credit for 815.
8817 Advanced Economic Theory II	Thorough treatment of major developments in game theory and a survey of major applied game theory topics such as mechanism design, bargaining, and oligopoly.	3	Prereq: 8714 (808) or equiv with permission of instructor. Not open to students with credit for 817.
8818 Advanced Economic Theory III	Theoretical approaches to economics of information; how information affects individual behavior and market equilibrium; moral hazard; adverse selection; incomplete contracts; rational expectations; and principal-agency models.	3	Prereq: 8714 (808), or equiv with permission of instructor. Not open to students with credit for 818.
8819 Economics of Uncertainty	Classical and modern approaches to decision-making and economic behavior under uncertainty; classical expected utility; subjective probability; behavioral theory of economic choice under uncertainty. S/U option available only with permission of Grad studies director for Econ.	3	Prereq: 8714 (808) or equiv, or permission of instructor. Not open to students with credit for 819.
Field: Economic History			
5140 Economic History of the United States	General survey from discovery of America to present; European economic background; westward movement and its effects; development of economic institutions in the United States.	4	Prereq: 4400 (444), 5410 (641), 4001.01 (501.01), 4001.02 (502.02), 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03, or Stat 2450 (245), or equiv; or Grad standing. Not open to students with credit for 613.
5130 Economic History of Western Europe	Survey of economic development of Europe from pre-industrialization to current globalization. Emphasis on critical analysis of long-run factors in economic growth.	4	Prereq: 2450 (245), 4400 (444), or 5410 (641), and 4001.01 (501.01), 4001.02 (501.02), or 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03, or equiv; or Grad standing. Not
5150 Economic Transitions in the 20th Century	General survey of economic aspects of developing economies. Transitions from central planning to markets and from underdevelopment to industrialization in the twentieth century are emphasized.	4	Prereq: 4400 (444), 5410 (641), or Stat 2450 (245), and 4001.01 (501.01), or 4001.02 (501.02), or 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03 or equiv; or permission of instructor. Not open to students with credit for
Individual and Group Studies			
6193 Individual Studies	Supervised and individually designed studies for pre-qualifier graduate students in economics or graduate students in non-economics graduate programs.	1-4	Prereq: Permission of instructor. Not open to students with credit for 893. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U. Letter Grade option
7193 Individual Studies	Supervised and individually designed readings in economics for postqualifier students in economics or graduate students in noneconomic graduate programs.	1-4	Prereq: Open to students who completed the first-year graduate PhD core course curriculum and with permission of instructor. Not open to students with credit for 893. Repeatable to a maximum of 2 cr hrs or 5 completions. This course is graded S/U. Letter Grade option available only with
8193 Individual Studies	Supervised and individually specialized studies for PhD students who have finished regular course work in their economics PhD program. Letter grade option available only with approval of economics director of graduate studies.	1-4	Prereq: Permission of instructor. Repeatable to a maximum of 44 cr hrs. This course is graded S/U.
8194 Group Studies	Advanced new course material in economics offered to complement existing PhD courses.	1-4	Prereq: Grad standing in Econ or related field, and permission of instructor and Grad studies director for Econ. Not open to students with credit for 894. Repeatable to a maximum of 44
8999 Dissertation Research	Dissertation research in economics.	1-3	Prereq: Doctoral candidate in Economics. Repeatable to a maximum of 60 cr hrs or 20 completions. This course is
Seminars, Workshops and Colloquia			
8891.01 Economic Theory Seminar	Latest developments in advanced research in general economic theory, game theory and related fields.	1-3	Prereq: 8714 (808), and permission of instructor. Not open to students with credit for 915. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

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COURSE NAME	DESCRIPTION	CREDIT HOURS	PREREQUISITES
8891.02 Workshop in Economic Theory	Forum to report and discuss the latest research results by graduate students, faculty members, and outside speakers in general economic and game theory.	1-2	Prereq: 8714 (808), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded S/U.
8891.03 Colloquium in Economic Theory	A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in advanced theory and related fields. Open to students who have completed PhD field courses approved by economics director of graduate studies.	1-3	Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 16 cr hrs or 8 completions.
8892.01 Macroeconomics Seminar	Latest developments in advanced research in macro-monetary economics and related fields.	1-3	Prereq: 8724 (809), and permission of instructor. Not open to students with credit for 920. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.
8892.02 Workshop in Macroeconomics	Forum to report and discuss the latest research results by graduate students, faculty members and outside speakers in macro-monetary economics and related fields.	1-2	Prereq: Econ 8724 (809), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded S/U.
8892.03 Colloquium in Macroeconomics	A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in macroeconomics and related fields. Open to students who have completed PhD field courses approved by economics director of graduate studies.	1-3	Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 16 cr hrs or 8 completions.
8893.01 Econometrics Seminar	Latest developments in advanced research in econometrics and related fields.	1-3	Prereq: 8732 (741 and 742), and permission of instructor. Not open to students with credit for 940. Repeatable to a maximum of 36 cr hrs or 12 completions.
8893.02 Workshop in Econometrics	Forum to report and discuss the latest research results by graduate students, faculty members and outside speakers in econometrics and related fields.	1-2	Prereq: 8732 (741 and 742), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded S/U.
8893.03 Colloquium in Econometrics	A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in econometrics. Open to students who have completed PhD field courses approved by economics director of graduate studies.	1-3	Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 16 cr hrs or 8 completions.
8894.01 Applied Microeconomics Seminar	Latest developments in advanced research in applied microeconomics fields.	1-3	Prereq: 8714 or 808, and permission of instructor. Not open to students with credit for 970 or 981. Repeatable to a maximum of 36 cr hrs or 12 completions.
8894.02 Workshop in Applied Microeconomics	Forum to report and discuss the latest research results by graduate students, faculty members and outside speakers in applied microeconomics fields.	1-2	Prereq: 8714 (808), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded S/U.
8894.03 Colloquium in Applied Microeconomics	A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in applied microeconomics and related fields. Open to students who have completed PhD field courses approved by economics director of graduate studies.	1-3	Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 16 cr hrs or 8 completions.