ECONOMICS   EC

**Department of Economics
College of Social Science**

201   Introduction to Microeconomics
Fall, Spring, Summer. 3(3-0) Not open to students with credit in EC 251H.
Economic institutions, reasoning and analysis. Consumption, production, determination of price and quantity in different markets. Income distribution, market structure and normative analysis.

202   Introduction to Macroeconomics
Fall, Spring, Summer. 3(3-0) Not open to students with credit in EC 252H.
Determinants of Gross National Product, unemployment, inflation and economic growth. National income accounting and fiscal policy. Aggregate demand, supply management and monetary policy.

210   Economics Principles Using Calculus
Fall. 3(3-0) P: MTH 133 or MTH 153H or MTH 126 Not open to students with credit in EC 201 or EC 202.
A combined microeconomics and macroeconomics course. Emphasis on topics of interest in engineering and management, such as discounting, cost-benefit analysis, innovation, externalities, and the role of government regulation.

251H   Microeconomics and Public Policy
Fall, Spring. 4(4-0) Not open to students with credit in EC 301.
Theories of consumer behavior, production and cost. Output and price determination in competition and monopolies. Welfare economics, general equilibrium, externalities, and public goods.

252H   Macroeconomics and Public Policy
Fall, Spring. 3(3-0) P: (EC 201 and EC 301) or EC 251H Not open to students with credit in EC 302.
Theory of national income, unemployment, inflation and economic growth and its application to economic analysis and policy.

293   Cooperative Education for Business Students
Fall, Spring. 1(1-0) A student may earn a maximum of 3 credits in all enrollments for this course. Interdepartmental with Accounting and Finance and Hospitality Business and Management and Supply Chain Management. Administered by Supply Chain Management. R: Approval of department. SA: MSC 293
Integration of pre-professional educational employment experiences in industry and government with knowledge and processes taught in the student's academic program. Educational employment assignment approved by the Department of Supply Chain Management.

301   Intermediate Microeconomics
Fall, Spring, Summer. 3(3-0) P: EC 201 and (MTH 124 or MTH 132 or MTH 152H or LBS 118) RB: EC 202 Not open to students with credit in EC 251H.
Theories of consumer choice, production, cost, perfect competition, and monopoly. Welfare economics, general equilibrium, externalities, and public goods.

302   Intermediate Macroeconomics
Fall, Spring, Summer. 3(3-0) P: EC 201 and EC 202 Not open to students with credit in EC 252H.
National income accounting. Determination of aggregate output, employment, price level, and inflation rate. Policy implications.

306   Comparative Economic Systems
Fall. 3(3-0) P: (EC 201 or EC 251H) and (EC 202 or EC 252H)
Characteristics and functions of economic systems. Alternative patterns of economic control, planning, and market structure. Theories, philosophies, and experiences associated with capitalism, socialism, and mixed economies.

310   Economics of Developing Countries
Spring. 3(3-0) P: EC 201 or EC 251H
Overview of economic patterns and policy issues of developing countries such as modern economic growth and structural transformation, state controls versus markets, poverty and human welfare, investments in human resources, and trade and industrialization.

330   Money, Banking, and Financial Markets
Fall, Spring, Summer. 3(3-0) P: (EC 201 or EC 251H) and (EC 202 or EC 252H)
Money markets and financial intermediation. Money, the Federal Reserve System, and monetary policy. Regulation of money markets.

333   Governments and Markets: When Laissez-Faire Fails
Fall, Spring, Summer. 3 credits. P: EC 201 or EC 251H
Economic and philosophical underpinnings of governmental intervention in the economy. Critical analysis of governmental interventions as solutions to contemporary economic and social problems.

335   Taxes, Government Spending and Public Policy
Fall, Spring, Summer. 3(3-0) Interdepartmental with Environmental Economics and Policy. Administered by Economics. P: EC 201 or EC 251H SA: PRM 335 Not open to students with credit in EC 435 or EC 436.
Economics of the public sector. Public goods, externalities, design and incidence of the tax system. Equity and efficiency effects of government programs.

340   Survey of International Economics
Fall, Spring, Summer. 3(3-0) P: (EC 201 or EC 251H) and (EC 202 or EC 252H) Not open to students with credit in EC 440 or EC 441.
Comparative advantage. Costs and benefits of trade. International economic policies. Balance of payments. Foreign exchange markets. The international monetary system. Contemporary trade and international currency issues.

360   Private Enterprise and Public Policy
Fall, Spring, Summer. 3(3-0) P: EC 201 or EC 251H
Effects of antitrust, economic regulation, and other public policies on competition, monopoly, and other market problems in the United States economy.

380   Labor Relations and Labor Market Policy
Fall, Spring, Summer. 3(3-0) P: EC 201 or EC 251H
Development, functions, legal framework, and economic effects of unions and collective bargaining. Institutions and economic impacts of government programs. Minimum wages, workers' compensation, unemployment insurance, and antidiscrimination policies.

391   Special Topics in Economics
Fall, Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: (EC 201 or EC 251H) and (EC 202 or EC 252H) R: Approval of department.
Special topics supplementing regular course offerings.

401   Advanced Microeconomics
Fall, Spring. 3(3-0) P: EC 251H or EC 301
Economics of uncertainty and incomplete information. Game theory and theories of oligopoly. Transaction costs. Advanced topics in welfare economics, general equilibrium, externalities, and public goods.

402   Advanced Macroeconomics
Fall, Spring. 3(3-0) P: (EC 251H or EC 301) and (EC 252H or EC 302)
Consumption, investment, and monetary theories. The role of expectations. Theories of economic growth and cycles. Stabilization policies.

406   Economic Analysis of Russia and the Commonwealth of Independent States
Spring of even years. 3(3-0) P: (EC 202 or EC 252H) and (EC 251H or EC 301)
Analysis of structure and performance of planning, transition economy, and post-transition economy in Russia and the commonwealth of independent states (CIS) with focus on micro foundations of macroeconomic outcomes.

410   Issues in the Economics of Developing Countries
Fall. 3(3-0) P: (EC 202 or EC 252H) and (EC 251H or EC 301)
Topics in development economics, such as growth, technological change, structural transformation, poverty and inequality, investment in human resources, trade, international capital flows, and the political economy of policy formation and governance.

412   Economic Analysis of Latin America
Fall of even years. 3(3-0) P: (EC 202 or EC 252H) and (EC 251H or EC 301)
Population growth, agriculture, and urbanization. Dependence on primary exports and import protection. Inequality and populist-orthodox policy cycles. Hyper-inflation, international debt crises, and adjustments. United States policy interests and interventions.

413   Economic Analysis of Asia
Spring of odd years. 3(3-0) P: (EC 202 or EC 252H) and (EC 251H or EC 301)
Development of agriculture, industry, labor markets, and trade in some of the following: India and South Asia, China, the Pacific Rim countries, and Japan. Productivity, income distribution, finance, and planning.

Economics—EC

414 Economic Analysis of Sub-Saharan Africa
Fall of odd years. 3(3-0) P: (EC 202 or EC 252H) and (EC 251H or EC 301)
African economic development in historical perspective. Contemporary development issues including agricultural policies, industrial development, foreign trade and aid, human resource investments, AIDS, and the political economy of economic and political policies and reforms.

420 Introduction to Econometric Methods
Fall, Spring. 3(3-0) P: (EC 202 or EC 252H) and (EC 251H or EC 301) and (MTH 124 or MTH 132 or MTH 152H) and (STT 315 or STT 421 or STT 430 or STT 441)
Specification, estimation, and interpretation of econometric models. Evaluation of current quantitative work in economics.

421 Advanced Econometric Methods
Spring of even years. 3(3-0) P: (EC 420)
Panel data methods, instrumental variables, limited dependent variables, time series analysis, and other advanced topics.

425 Law and Economics
Fall. 3(3-0) Interdepartmental with Finance. Administered by Economics. P: EC 251H or EC 301
Application of economic analysis to the law. Property rights, takings, the Coase Theorem. The economics of regulation, crime and punishments, liability law, and public choice.

435 Public Expenditures
Fall. 3(3-0) P: EC 251H or EC 301
Expenditure theory. Objectives and rationale of government activity in the market system. Efficiency criteria in government decision-making. Public choice. Cost benefit analysis.

436 Public Revenues
Spring. 3(3-0) P: EC 251H or EC 301
Principles and theory of efficiency and the incidence of taxation. Income and sales taxes and other major revenue sources.

440 International Trade
Fall. 3(3-0) P: EC 251H or EC 301
Neoclassical and modern theories regarding trade patterns and commercial policies. Applications of theory to United States policy. Contemporary issues involving international trade of goods, services, and productive factors.

441 International Finance
Spring. 3(3-0) P: (EC 251H or EC 301) and (EC 252H or EC 302)
Neoclassical and modern theories pertaining to balance of payments and exchange rate determination. Macroeconomic performance under alternative exchange rate regimes. Contemporary issues involving international monetary arrangements.

460 American Industry: Structure and Behavior
Fall, Spring. 3(3-0) P: EC 251H or EC 301
Market structure and performance. Empirical analysis of market definition, concentration, product differentiation, vertical integration, innovativeness, collusion, and entry deterrence.

480 Analysis of Labor Markets
Fall, Spring. 3(3-0) P: EC 251H or EC 301
Labor supply and demand. Human capital, search, migration, and labor turnover. Analysis of unemployment and wage growth. Structure of wages, including economics of discrimination.

490 Independent Study
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. P: (EC 202 or EC 252H) and (EC 251H or EC 301) R: Approval of department.
Research and reading course for students interested in doing independent work in economics under faculty supervision.

491 Advanced Topics in Economics
Fall, Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: (EC 251H or EC 301) and (EC 252H or EC 302) and (MTH 124 or MTH 132 or MTH 152H) R: Approval of department.
Advanced work in specialized topics of economics.

495 Economics of Poverty and Income Distribution
Fall. 3(3-0) P: EC 251H or EC 301
Theory of the distribution of income and wealth. Concepts and measurement of welfare. Definitions of poverty. Effects of public and private programs on the poor.

498 Economics of Health Care
Fall of odd years. 3(3-0) P: EC 251H or EC 301
Economic factors in determining health care costs, utilization, quality, and efficiency. Demand and insurance. Comparative health care systems. Public policy issues.

499 Senior Seminar for Economics Majors (W)
Fall, Spring. 3(3-0) P: (EC 251H or EC 301) and (EC 252H or EC 302) and (EC 420 and completion of Tier I Writing requirement) R: Open only to seniors in the Department of Economics.
Capstone course for economics majors. Reading and discussion concerning selected economics topics. Preparation and presentation of student research project.

810 Institutional and Behavioral Economics
Fall. 3(3-0) Interdepartmental with Agricultural Economics. Administered by Agricultural Economics. RB: EC 301
Relationships among institutions, individual and collective actions, and economic performance. Public choice, property rights, and behavioral theories of firms and bureaucracies.

811A Mathematical Applications in Economics
Fall. 2(2-0) R: Open only to doctoral students in the Economics major or the Department of Agricultural Economics or the Business Administration major or approval of department. C: EC 812A concurrently.
Applications of mathematical tools in economic analysis for Ph.D. students. Matrix algebra, derivatives, partial derivatives, optimization, integration and linear differential equations.

811B The Structure of Economic Analysis
Spring. 2(2-0) P: EC 811A SA: EC 811 C: EC 813B concurrently.
Static and dynamic decision models in economics. Concepts of equilibrium, stability, comparative statics, and duality.

812A Microeconomics I
Fall. 3(3-0) R: Open to doctoral students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or in the Department of Agricultural, Food, and Resource Economics or in the Economics major or approval of department. C: EC 811A concurrently.
Consumption theory, including choice under uncertainty. Theory of production in perfectly competitive markets. General equilibrium in the presence of perfect competition. Efficiency properties of competitive equilibria.

812B Microeconomics II
Spring. 3(3-0) P: EC 812A
Introduction to social choice. Market failure, including externalities, public goods, imperfect information and market power.

813A Macroeconomics I
Fall. 3(3-0) R: Open only to doctoral students in the Economics major or the Department of Agricultural Economics or the Business Administration major or approval of department.
Static and dynamic macroeconomic models. Search asset pricing, new classical theories of business cycles and growth. Rational expectations and the government budget constraint.

813B Macroeconomics II
Spring. 3(3-0) P: EC 813A C: EC 811B concurrently.
New classical theories of business cycles and growth. Theories of price and wage rigidities, search, imperfect competition, and credit rationing in macroeconomic models. Asset pricing.

816 Economic Thought II
Spring. 3(3-0)
German and English economic historicism. Austrian and general equilibrium economics. Neoclassical economics. Institutionalism. Origins and development of Keynesian economics. History of economic thought in retrospect.

820A Econometrics IA
Fall. 3(3-0) Interdepartmental with Statistics and Probability. Administered by Economics. R: Open only to doctoral students in the Economics major or the Department of Agricultural Economics or the Business Administration major or approval of department.
Statistical tools for econometrics. Applications of statistical tools,including probability distributions, estimation, hypothesis testing, and maximum likelihood to econometric problems.

820B Econometrics IB
Spring. 3(3-0) P: EC 811A and EC 820A
The single equation regression model. Properties of least-squares estimators under various specifications. Multicollinearity, generalized least-squares, errors in variables, seemingly unrelated regressions. Identification and estimation in simultaneous equations models.

821A Cross Section and Panel Data Econometrics I
Fall. 3(3-0) Interdepartmental with Agricultural Economics and Finance and Statistics and Probability. Administered by Economics. P: EC 820B SA: EC 821
Analyses of systems of equations, panel data models, instrumental variables and generalized method of moments, M-estimation, quantile regression, maximum likelihood estimation, binary and multinomial response models, Tobit and two-part models, and other selected topics.

821B Cross Section and Panel Data Econometrics II
Spring. 3(3-0) Interdepartmental with Agricultural Economics and Finance and Statistics and Probability. Administered by Economics.
Analyses of quasi-maximum likelihood estimation, count data models, fractional response models, duration models, sample selection and attrition, stratified sampling, estimating treatment effects, stochastic frontier models, and other advanced topics.

822A Time Series Econometrics I
Fall. 3(3-0) Interdepartmental with Agricultural Economics and Finance and Statistics and Probability. Administered by Economics. P: EC 820B SA: EC 822
Analyses of time series regression, stationary time series analysis, ARMA models, Wold decomposition, spectral analysis, vector autoregressions, generalized method of moments, functional central limit theorem, nonstationary time series, unit root processes, cointegration, and other advanced topics.

822B Time Series Econometrics II
Spring. 3(3-0) Interdepartmental with Agricultural Economics and Finance and Statistics and Probability. Administered by Economics. P: EC 822A
Analyses of multivariate time series, time series volatility models, long memory, nonlinear time series models, and other advanced topics.

823 Applied Econometrics
Fall. 3(3-0) P: (EC 820A and EC 820B) or (STT 430 and EC 818)
Problems of estimating models and testing hypotheses from economic theory. Applications of various econometric models to economic problems and policy analysis.

824 Advanced Topics in Econometrics
Spring of even years. 3(3-0) P: EC 820A and EC 820B and EC 821 and EC 822 R: Open only to doctoral students in the Economics major or approval of department.
Advanced study in a specialized topic in econometrics.

829 The Economics of Environmental Resources
Spring. 3(3-0) Interdepartmental with Community, Agriculture, Recreation and Resource Studies and Agricultural Economics and Forestry and Fisheries and Wildlife. Administered by Agricultural Economics.
Economic principles related to environmental conflicts and public policy alternatives. Applications to water quality, land use, fish and wildlife, conservation, development, and global environmental issues.

830 Advanced Macroeconomics and Monetary Theory
Fall. 3(3-0) P: EC 812B and EC 813B
General equilibrium models of monetary economies. Money and growth. Monetary and financial models of the business cycle. Hyperinflation. Bubbles, sunspots, cycles, and multiple equilibria.

831 Problems in Monetary Theory and Policy
Spring. 3(3-0) P: EC 813A and EC 820A
Topics on macroeconomics with a strong applied emphasis.

835 Public Expenditures
Fall. 3(3-0) P: EC 812A
Allocative and distributional effects of public expenditure. Public goods and externalities. Selected topics in public expenditure analysis such as cost-benefit analysis, fiscal federalism, mechanism design, public choice, and general equilibrium models.

836 Public Revenues
Spring. 3(3-0) P: EC 812A
Theory of taxation. Allocative and distributional effects of taxation, user charges, and deficit finance. Positive and normative aspects. General equilibrium models. Dynamic models. Issues of fiscal federalism.

840 International Trade: Theory and Commercial Policy
Fall. 3(3-0) P: EC 812A
Commodity composition of trade. Welfare and distributional effects of measures such as tariffs, quotas, and export subsidies. International economic policy. Regional and multilateral trade policy.

841 Exchange Rates and Capital Flows
Spring. 3(3-0) P: EC 812A and EC 813A
The balance of payments statement. Mechanisms of balance of payments adjustment. Exchange rate determination. Domestic policies under alternative exchange rate regimes. Regional monetary integration. The international currency system.

843 Advanced Topics in International Trade
Spring. 3(3-0) P: EC 812A and EC 812B and EC 840
Selected topics in international trade.

844 Open Economy Macroeconomics
Fall. 3(3-0) P: EC 813A and EC 813B
Balance of payments. Dynamic models of the open economy. Effects of uncertainty on international financial markets. Global issues in economic growth. Money and exchange rates in models with sticky or flexible prices. Nominal price rigidities.

850 Growth, Development, and Human Resources
Fall. 3(3-0) P: EC 812A
Theoretical and empirical models of the microeconomics of development, focusing on household and individual behavior related to investment in human resources and its consequences.

851 Microeconomics Dynamics in Development
Spring. 3(3-0) P: EC 812A and EC 813A
Theoretical and empirical models of the microeconomics of development, focusing on land, labor, credit and insurance markets. Analysis of household and individual responses to risk, dynamic decisions with respect to savings, consumption and labor supply, and models of learning. EC 851 is designed to be a continuation of EC 850.

860 Market Structure and Behavior
Fall. 3(3-0) P: EC 812A
The consequences of concentration and entry conditions. Theory of the firm as it relates to size, scope, integration, and motivation. Static market behavior. Antitrust treatment of cartels and mergers.

861 Dynamic Market Behavior and Performance
Spring. 3(3-0) P: EC 812A
Theoretical and empirical treatments of dynamic aspects of industry behavior. Strategic behavior, predation, and antitrust treatment. Research, development, and innovation. Government controls. Public utilities and regulation.

880 Labor Economics I
Fall. 3(3-0) P: EC 812A and (EC 820B or EC 818)
Labor supply and measurement of the labor force. Labor demand. Mobility, turnover, and migration. Equalizing wage differentials. Trade union growth, goals, bargaining and effects.

881 Labor Economics II
Spring. 3(3-0) P: EC 812A and (EC 820B or EC 818)
Theories and empirical evidence of the human capital model and alternatives to the human capital model. Economics of discrimination and gender differences in labor markets. Employment and distributional effects of minimum wages.

895 Graduate Reading in Economics
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.
Faculty guided research projects.

911 Strategic Behavior in Economic Environments
Fall. 3(3-0) P: EC 812B
Topics in cooperative and non-cooperative game theory. Applications include: oligopoly and bargaining theories, strategic voting and principal agent models, endogenous coalition formation, signalling, strategic trade, and auctions theories.

912 Risk, Uncertainty and Information
Spring. 3(3-0) P: EC 812A and EC 812B RB: EC 812A
Effects of risk in economic environments. Topics include: expected utility theory, risk aversion, stochastic dominance, mean-variance models, state preference models, general equilibrium models with risk, information theory.

923 Advanced Environmental and Resource Economics
Fall. 3(3-0) Interdepartmental with Agricultural Economics and Forestry and Park, Recreation and Tourism Resources and Resource Development. Administered by Agricultural Economics. RB: AEC 829 and EC 812A
Advanced economic theory of environmental management and policy. Treatment of externalities and market and non-market approaches to environmental improvement. Topics in conservation and sustainable economic growth. Applications to research and policy.

925 Advanced Natural Resource Economics
Spring. 3(3-0) Interdepartmental with Agricultural Economics and Forestry. Administered by Agricultural Economics. RB: ((EC 812A) and EC 812A and AEC 829 and FOR 866) and (AEC 829 or FOR 866) SA: AEC 991H
Economic theory of managing nonrenewable and renewable resources, including optimal use, the incentives for use under decentralized markets, and public policy design. Analysis of the co-evolution of economic and ecological systems.

950 Research Seminars in Advanced Topics in Economics
Fall, Spring. 1(1-0) A student may earn a maximum of 2 credits in all enrollments for this course.
Current research topics in applied economics.

992   Advanced Topics in Economics
Fall of odd years. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: EC 811A and EC 811B and EC 812A and EC 812B and EC 813A and EC 813B and EC 820A and EC 820B R: Open only to doctoral students in the Economics major or approval of department.
Advanced work in a specialized topic in economics.

999   Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open to doctoral students.
Doctoral dissertation research.