

# ECO - ECONOMICS

## **ECO 1000 Survey of Economics Cr. 4**

**Satisfies General Education Requirement:** Social Inquiry, Social Sciences  
Scope of economics and the task of the economist in modern society; the market economy, its evolution and development; non-market economies; economic problems and prospects in the contemporary world. Not for ECO major or minor credit. Offered Every Term.

## **ECO 1400 Economic Inequality Cr. 4**

Provides students with a broad survey of economic inequality. Covers conceptual debates on inequality, starting with varying theories that explain inequality. A unit will focus on inequality in the United States and in industrially developed nations, and a unit will focus on the tension between global inequalities as well as the emerging global middle class. Examines the divergent outcomes for the middle and working class in industrially developed (wealthy) nations as well as the growing global middle class, especially from emerging nations such as China and India. Offered Fall, Winter.

## **ECO 1600 Introduction to Economic Thought Cr. 4**

Provides students with a broad historical survey of the field of economics, starting from the pre-industrial era. The course looks at economic ideas starting from the classical thinkers (Smith, Bentham, Malthus, Ricardo, Mill, and Marx) to the emergence of modern classical economics and institutional (Marshall and Veblen). It completes the survey by examining the development of macroeconomics of Keynes and his critics (Hayek, Schumpeter, and Friedman) and presents the modern contest of ideas, culminating with the economic consequences of the 2008 Financial Crisis. Offered Fall, Winter.

## **ECO 2010 Principles of Microeconomics Cr. 4**

**Satisfies General Education Requirement:** Social Inquiry, Social Sciences  
Supply, demand, price at the level of the firm and industry; business institutions and their operation; determinants of wage and salary levels, interest rates, rent, profits, income distribution; public policy in relation to business and labor. This course satisfies Society of Actuaries Validation by Educational Experience (VEE) in Economics when taken with ECO 2020 with a B- or better in each course. Offered Every Term.

## **ECO 2020 Principles of Macroeconomics Cr. 4**

**Satisfies General Education Requirement:** Social Inquiry, Social Sciences  
Determination of national income, consumption and saving, and investment; money, banking and the Federal Reserve; inflation and unemployment; monetary and fiscal policy; economic growth and productivity; the international sector. This course satisfies Society of Actuaries Validation by Educational Experience (VEE) in Economics when taken with ECO 2010 with a B- or better in each course. Offered Every Term.

## **ECO 2550 U.S. Health Care: Policy and Economics Cr. 4**

**Satisfies General Education Requirement:** Social Inquiry  
Provide students with a basic understanding of economics as applied to health, health care, and health policy. Covers economic factors relating to consumer, producer, and government behavior. Emphasis will be placed on analyzing issues currently affecting the U.S. health care system, using an international perspective to inform policy recommendations. Offered Fall, Winter.

## **ECO 3990 Directed Study Cr. 1**

For the student who shows evidence of ability and interest in economic study and who desires opportunity for advanced reading in a special field. Arrange with advisor. Offered Every Term.

**Prerequisites:** ECO 1000-ZZZZ with a minimum grade of B

**Restriction(s):** Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Economics or Economics Honors; enrollment is limited to students in the Department of Economics.

**Repeatable for 2 Credits**

## **ECO 4991 Research in Economics Cr. 3-12**

Economic research on an appropriate topic of the student's choice, conducted under faculty supervision. Does not count toward 32-credit requirement for the ECO major. Offered Every Term.

**Prerequisites:** ECO 1000-ZZZZ with a minimum grade of B

**Restriction(s):** Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Economics or Economics Honors; enrollment is limited to students in the Department of Economics.

**Repeatable for 12 Credits**

## **ECO 4997 Senior Honors Research Cr. 4**

Individually arranged meetings with faculty member to discuss research methodology and readings in areas of research selected by instructor. A senior honors essay of a length proportionate to the selected topic will be required. Offered Every Term.

**Restriction(s):** Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Economics Honors; enrollment is limited to Undergraduate level students; enrollment limited to students in a Bachelor of Arts degree; enrollment is limited to students in the Department of Economics.

## **ECO 5000 Intermediate Microeconomics Cr. 4**

Theory of the firm and consumer. Analysis of a price system as a means to efficient allocation of productive resources. Offered for undergraduate credit only. Offered Every Term.

**Prerequisites:** ECO 2010 with a minimum grade of C and (MAT 1800 with a minimum grade of C, MAT 2010-6999 with a minimum grade of C, MAT Permit to Reg ACT/SAT with a test score minimum of 4, or Math Permit to Reg - (L1-L4) with a test score minimum of 4)

## **ECO 5020 Fundamentals of Economic Analysis I Cr. 4**

This course assumes good knowledge of first semester calculus, and teaches additional mathematics necessary for Ph.D. study in economics, and (to a lesser extent) teaches some economic implications; course content includes: matrices, vectors and linear algebra; partial and total derivatives; scalar and vector functions; Jacobian derivative matrices and determinants; implicit function theorem; derivatives of implicit functions with one or more endogenous variables; unconstrained maximization with two or more variables; Lagrangians and constrained maximization; envelope theorem; differential and difference equations, and systems of differential and difference equations. Offered for undergraduate credit only. Offered Fall.

**Prerequisites:** ECO 5000 with a minimum grade of C and MAT 2010-6XXX with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

## **ECO 5030 Microeconomic Theory Cr. 4**

Theory of choice, theory of cost and production, theory of the competitive form. Price and output in non-competitive markets, general competitive equilibrium and welfare economics. Offered Yearly.

**Prerequisites:** (MAT 2010 with a minimum grade of C- or MAT 5010 with a minimum grade of C-), MAT 2020 with a minimum grade of C-, ECO 5000 with a minimum grade of C-, and ECO 5020 with a minimum grade of C-

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5050 Intermediate Macroeconomics Cr. 4**

Theory of national income determination. National output and income, saving and capital formation. Offered for undergraduate credit only. Offered Every Term.

**Prerequisites:** ECO 2020 with a minimum grade of C and (MAT 1800 with a minimum grade of C, MAT 2010-6999 with a minimum grade of C, MAT Permit to Reg ACT/SAT with a test score minimum of 4, or Math Permit to Reg - (L1-L4) with a test score minimum of 4)

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5100 Introductory Statistics and Econometrics Cr. 4**

Elementary probability theory, discrete and continuous probability distribution, sampling distribution, interval estimation, hypothesis testing, and estimation and inference in simple and multiple regression models. Offered for undergraduate credit only. Offered Every Term.

**Prerequisites:** ECO 2010 with a minimum grade of C, ECO 2020 with a minimum grade of C, and (MAT 1800 with a minimum grade of C, MAT 2010-6999 with a minimum grade of C, MAT Permit to Reg ACT/SAT with a test score minimum of 4, or Math Permit to Reg - (L1-L4) with a test score minimum of 4)

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5200 Regulation and Regulated Industries Cr. 4**

Transportation economics. Regulation of transportation as an example of public control of business; the rationale for having public regulation, and the analysis of its economic effects; reform of the scope and practice of regulation; public ownership; regulation of occupational and product safety standards and environmental standards. Offered for undergraduate credit only. Offered Yearly.

**Prerequisites:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5210 Market Power and Economic Welfare Cr. 4**

Monopoly, oligopoly, and competition in U.S. industry; sources of market power and their effect on prices, profits, and technological progress. Case studies. Selected topics in antitrust policy. Offered for undergraduate credit only. Offered Yearly.

**Prerequisites:** (MAT 1800 with a minimum grade of C, MAT 2010-6999 with a minimum grade of C, MAT Permit to Reg ACT/SAT with a test score minimum of 4, or Math Permit to Reg - (L1-L4) with a test score minimum of 4), ECO 2010 with a minimum grade of C, and ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5230 Environmental Economics Cr. 4**

Externalities as the cause of environmental degradation and climate change. Externality in turn results from the failure of the market to develop prices that reflect the full global cost of production and consumption. The course also pays attention to normative issues. The population over which the normative issues are defined may include animals, plants and inanimate objects. Behavioral economics, in particular, will be brought to bear on the discussion throughout the course. Offered Fall, Winter.

**Prerequisites:** ECO 1000 with a minimum grade of D- or ECO 2010 with a minimum grade of D-

**ECO 5250 Economic Analysis of Law Cr. 4**

Economic analysis of property rights, torts, contracts, criminal law, the law of business organizations and financial markets, and the law of taxation. Economic analysis of litigation; the use of economics and statistics in litigation. Offered for undergraduate credit only. Offered Yearly.

**Prerequisites:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5260 Economic Analysis of Law II: Applications of Statistics and Econometrics Cr. 4**

Examines applications of statistics and econometrics to legal issues that have been considered by the courts. Offered Winter.

**Prerequisites:** ((1 of (MAT 1800 with a minimum grade of C+, MAT 2010-6999 with a minimum grade of C+, MAT Permit to Reg ACT/SAT with a test score minimum of 4, or Math Permit to Reg - (L1-L4) with a test score minimum of 4) and ECO 2010 with a minimum grade of C+) or ECO 5100 with a minimum grade of C+)

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5270 Games of Strategy Cr. 4**

Game theory studies how individuals, groups and firms make their decisions strategically when their actions affect each other. Introductory course with emphasis on applications to firms and markets. Standard concepts such as games with sequential moves, simultaneous moves, pure and mixed strategies, uncertainty, and repetition. Special topics include bargaining, strategic innovation, cooperative pricing, contract designs, incentive mechanisms, bidding, and auctions. Students do not need to know calculus to follow the lectures. Offered for undergraduate credit only. Offered Yearly.

**Prerequisites:** MAT 1800 with a minimum grade of C, (MAT Permit to Reg ACT/SAT with a test score minimum of 4 and MAT 2010-6999 with a minimum grade of C), or MAT Permit to Reg ACT/SAT with a test score minimum of 4

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5300 International Trade Cr. 4**

Factors in international relations; patterns of international specialization; balance of international payments; foreign exchange; commercial policy of United States and other countries; foreign investment and economic development; international economic cooperation. Offered for undergraduate credit only. Offered Fall.

**Prerequisites:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5310 International Finance Cr. 4**

Major policy issues in the field of international finance with emphasis on open economy macroeconomics. Topics include the balance of payments and the foreign exchange market; monetary and fiscal policies in open economies; the floating exchange rate system; international financial markets; and European monetary integration. Offered for undergraduate credit only. Offered Winter.

**Prerequisites:** (MAT 1800 with a minimum grade of C, MAT Permit to Reg ACT/SAT with a test score minimum of 4, or Math Permit to Reg - (L1-L4) with a test score minimum of 4), ECO 2020 with a minimum grade of C, and ECO 5050 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5400 Labor Economics Cr. 4**

Economics of labor markets. Determinants of earnings and methods of compensation, labor supply and demand, effects of taxes and subsidies on labor supply, choices of occupation and level of schooling, promotion and turnover, employment discrimination, economics of crime and punishment, regulation of professions, unions. Offered for undergraduate credit only. Offered Fall, Winter.

**Prerequisites:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Labor Studies; enrollment is limited to Undergraduate level students.

**ECO 5410 Economics of Race and Gender Cr. 4**

Theory and empirical evidence of race and gender differentials in the labor market. Topics include the difference in occupations and earnings, discrimination, poverty, and public policies. Offered for undergraduate credit only. Offered Fall.

**Prerequisites:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5480 Economics of Work Cr. 3**

Theoretical and empirical treatment of: labor market characteristics; labor demand and supply; issues of race, gender, and age; compensation and pay; issues of health and productivity; bargaining processes and the effects of unions; unemployment and job search; globalization. No economics major or minor credit. Offered Yearly.

**Prerequisites:** ECO 2010 with a minimum grade of C, ECO 2020 with a minimum grade of C, or ECO 1000 with a minimum grade of C

**Restriction(s):** Enrollment limited to students in the BA in Labor Studies program; enrollment is limited to Undergraduate level students.

**ECO 5490 American Labor History Cr. 4**

Development of the American labor movement; its behavior in the contemporary scene. Labor's experiments with social, political, legal, and economic institutions. Comparisons with foreign labor movements. Offered for undergraduate credit only. Offered Every Other Year.

**Prerequisites:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**Equivalent:** HIS 5290

**ECO 5500 Public Finance Cr. 4**

Role of government in a market economy: sources of market failure; public goods and externalities; principles of taxation and expenditures; tax incidence; federal tax structure; selected government expenditure programs. Offered for undergraduate credit only. Offered Fall, Spring/Summer.

**Prerequisites:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5520 State and Local Public Finance Cr. 4**

Theory and practice of state and local government taxation and expenditure. Attention devoted to State of Michigan and municipalities in Detroit metropolitan area. Topics include: government organization, voting and mobility models, property and sales taxes, user charges, grants, education expenditure, and economic development. Offered for undergraduate credit only. Offered Yearly.

**Prerequisites:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5550 Economics of Health Care Cr. 4**

Allocation of health care resources, with respect to demand and supply of health care. Role of hospitals, physicians, and health insurance; market imperfections and their role in the economics of health care. Offered for undergraduate credit only. Offered Yearly.

**Prerequisites:** ECO 5000 with a minimum grade of C (may be taken concurrently)

**ECO 5560 Pharmaceutical Economics Cr. 4**

Introduces students to cost-effectiveness analysis and related economic tools used to determine the value of pharmaceuticals to society, tools which are increasingly being used by insurance programs to regulate access to drugs by patients. It will also cover the institutional landscape of the markets for development and sale of pharmaceuticals, with a focus on the features that have made pharmaceutical prices in the United States among the highest in the world, and policy options that are being considered to reduce these prices and that have become highly politically salient in recent years. Offered Yearly.

**Prerequisite:** ECO 5100 with a minimum grade of C or PH 3200 with a minimum grade of C or PH 3300 with a minimum grade of C or BA 2300 with a minimum grade of C or BA 3400 with a minimum grade of C or BA 6090 with a minimum grade of C or BIO 5040 with a minimum grade of C or STA 2210 with a minimum grade of C or PSY 2030 with a minimum grade of C or PSY 5100 with a minimum grade of C or SOC 3220 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5600 Introduction to Development Economics Cr. 4**

National poverty and economic growth viewed from a historical and theoretical perspective; particular emphasis on national and international policies. Offered for undergraduate credit only. Offered Yearly.

**Prerequisites:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5700 Money and Banking Cr. 4**

Role of the Federal Reserve System, the commercial banks, and the non-bank public (including financial intermediaries) in determining the money supply; central banking and techniques of monetary control; indicators and targets of monetary policy; and how money affects economic activity. Offered Fall, Winter.

**Prerequisites:** (MAT 1800 with a minimum grade of C, MAT Permit to Reg ACT/SAT with a test score minimum of 4, or Math Permit to Reg - (L1-L4) with a test score minimum of 4), ECO 2020 with a minimum grade of C, and ECO 5050 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5720 Financial Economics Cr. 4**

Fundamentals of investments: investment and financial markets, theoretical models of investment theory including efficient market hypothesis (EMH) and capital asset pricing model (CAPM); characteristics and analysis of stocks, bonds, and portfolios; equity evaluation through financial statements, industry analysis, and macroeconomic analysis; and advanced topics in either derivative assets (futures and options) or international investments. Offered for undergraduate credit only. Offered Winter.

**Prerequisites:** ECO 2010 with a minimum grade of C, ECO 2020 with a minimum grade of C, ECO 5050 with a minimum grade of C, and (MAT 1800 with a minimum grade of C, MAT 2010-6999 with a minimum grade of C, MAT Permit to Reg ACT/SAT with a test score minimum of 4, or Math Permit to Reg - (L1-L4) with a test score minimum of 4)

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 5800 Urban and Regional Economics Cr. 4**

Introduction to the economic foundations of urban problems; land use, housing, poverty, transportation, local public finance; regional industry mix, income, growth and development; the national system of cities and location of firms. Offered for undergraduate credit only. Offered Yearly.

**Prerequisites:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**Equivalent:** UP 5820

**ECO 5993 Writing Intensive Course in Economics Cr. 0**

**Satisfies General Education Requirement:** Writing Intensive Competency Disciplinary writing assignments under the direction of a faculty member. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.

**Prerequisites:** ECO 5000-9999 with a minimum grade of C- (may be taken concurrently)

**Restriction(s):** Enrollment is limited to Undergraduate level students.

**ECO 6000 Price and Allocation Theory Cr. 4**

Introduction to the theory of consumer choice and the theory of production, and other selected topics. Primarily for M.A. students and for Ph.D. students who want to review. Offered Fall.

**Prerequisite:** ECO 5000 with a minimum grade of C and MAT 2010 with a minimum grade of C

**ECO 6020 Causal Inference and Research Practice Cr. 4**

This course has two parts: causal inference and research methods. Most questions in social and biomedical sciences are causal in nature: what would happen to individuals or groups if part of their environment were changed? The course will survey a range of statistical methods for answering such questions, and show how to implement them using statistical programming software. We will draw on research in the applied econometrics literature, though these methods also apply to topics in health, education, criminal justice, law, and political science. This second part of this course will introduce students to a set of productivity-boosting software tools for research, and engage students in a discussion on setting research agendas and choosing topics that will enable students to make rigorous causal claims for their findings and embark on fulfilling research careers. The course will also provide practical tips on research workflow, writing papers, and grantwriting. Offered Yearly.

**Prerequisite:** ECO 6100 with a minimum grade of C or ECO 7100 with a minimum grade of C

**ECO 6050 Macroeconomics Cr. 4**

Determination of national income, unemployment and interest rates; theories of inflation; effectiveness of macroeconomic public policies. Primarily for M.A. students and for Ph.D. students who want to review. No credit after ECO 7050. Offered Winter.

**Prerequisite:** ECO 5050 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6100 Introduction to Econometrics Cr. 4**

Basic statistics, basic probability, hypothesis testing, and bivariate and multivariate regression analysis. Estimators studied are least squares, maximum likelihood and generalized least squares. Various model specification issues addressed: omitted variables, extraneous variables, category variables, multicollinearity, heteroscedasticity, and autocorrelation. Offered Fall.

**Prerequisite:** ECO 5100 and MAT 2010

**Restriction(s):** Enrollment is limited to Graduate or Undergraduate level students.

**ECO 6200 Advanced Regulation and Regulated Industries Cr. 4**

Transportation economics. Regulation of transportation as an example of public control of business; the rationale for having public regulation, and the analysis of its economic effects; reform of the scope and practice of regulation; public ownership; regulation of occupational and product safety standards and environmental standards. No credit after ECO 5200. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6210 Advanced Market Power and Economic Welfare Cr. 4**

Monopoly, oligopoly, and competition in U.S. industry; sources of market power and their effect on prices, profits, and technological progress. Case studies. Selected topics in antitrust policy. No credit after ECO 5210. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6250 Advanced Economic Analysis of Law Cr. 4**

Economic analysis of property rights, torts, contracts, criminal law, the law of business organizations and financial markets, and the law of taxation. Economic analysis of litigation; the use of economics and statistics in litigation. Advanced mathematical analysis of selected topics. No credit after ECO 5250. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6260 Economic Analysis of Law II: Applications of Statistics and Econometrics Cr. 4**

Examines applications of statistics and econometrics to legal issues that have been considered by the courts. Offered Winter.

**Prerequisites:** (ECO 2010 with a minimum grade of C+ and MAT 1800-ZZZZ with a minimum grade of C+) or ECO 5100 with a minimum grade of C+

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6270 Advanced Games of Strategy Cr. 4**

Game theory offers a tool for strategic thinking. It can be thought of as the art of maximizing your interest while competing with others when your and others' decisions affect with one another. Over the last few decades, game theory has been developed for the purpose of understanding social phenomena. It has become the major tool used by social scientists to understand, predict and regulate strategic interaction among agents who have conflicting interests. This course consists of a fairly comprehensive introduction to the game theory, and it will cover the standard game theory with introducing the principles and the equilibrium concepts to students. Offered Yearly.

**Prerequisites:** MAT 1800 with a minimum grade of C or MAT 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6300 Advanced International Trade Cr. 4**

Factors in international relations; patterns of international specialization; balance of international payments; foreign exchange; commercial policy of United States and other countries; foreign investment and economic development; international economic cooperation. Advanced mathematical analysis of selected topics. No credit after ECO 5300. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6310 Advanced International Finance Cr. 4**

Major policy issues in the field of international finance with emphasis on open economy macroeconomics. Topics include the balance of payments and the foreign exchange market; monetary and fiscal policies in open economies; the floating exchange rate system; international financial markets; and European monetary integration. Advanced mathematical analysis of selected topics. No credit after ECO 5310. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C and ECO 5050 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6400 Advanced Labor Economics Cr. 4**

Economics of labor markets. Determinants of earnings and methods of compensation, labor supply and demand, effects of taxes and subsidies on labor supply, choices of occupation and level of schooling, promotion and turnover, employment discrimination, economics of crime and punishment, regulation of professions, unions. Advanced mathematical analysis of selected topics. No credit after ECO 5400. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6415 Advanced Economics of Race and Gender Cr. 4**

Theory and empirical evidence of race and gender differentials in the labor market. Topics include the difference in occupations and earnings, discrimination, poverty, and public policies. Advanced mathematical analysis of selected topics. No credit after ECO 5410. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.



**ECO 6420 Labor Relations and Public Policy Cr. 3**

Overview of labor force trends; U.S. unionism; management of labor relations; collective bargaining: procedure and substance; bargaining power in the private and public sectors. Comparative trends and principles in industrial relations systems of other societies also examined. Offered for graduate credit only. Offered Fall, Spring/Summer.

**Prerequisite:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6480 Advanced Economics of Work Cr. 3**

Theoretical and empirical treatment of: labor market characteristics; labor demand and supply; issues of race, gender, and age; compensation and pay; issues of health and productivity; bargaining processes and the effects of unions; unemployment and job search; globalization. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 2010 with a minimum grade of C

**Restriction(s):** Enrollment limited to students in the MA in Employ & Labor Relations program.

**ECO 6510 Advanced Public Finance Cr. 4**

Role of government in a market economy: sources of market failure—public goods and externalities; principles of taxation and expenditures; tax incidence; federal tax structure; selected government expenditure programs. Advanced mathematical analysis of selected topics. No credit after ECO 5500. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6520 Advanced State and Local Public Finance Cr. 4**

Theory and practice of state and local government taxation and expenditure. Attention devoted to State of Michigan and municipalities in Detroit metropolitan area. Topics include: government organization, voting and mobility models, property and sales taxes, user charges, grants, education expenditure, and economic development. Advanced mathematical analysis of selected topics. No credit after ECO 5520. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**Equivalent:** UP 6750

**ECO 6550 Advanced Economics of Health Care Cr. 4**

Allocation of health care resources, with respect to demand and supply of health care. Roles of hospitals, physicians, and health insurance; market imperfections and their role in the economics of health care. Advanced mathematical analysis of selected topics. No credit after ECO 5550. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6560 Pharmaceutical Economics Cr. 4**

Introduces students to cost-effectiveness analysis and related economic tools used to determine the value of pharmaceuticals to society, tools which are increasingly being used by insurance programs to regulate access to drugs by patients. It will also cover the institutional landscape of the markets for development and sale of pharmaceuticals, with a focus on the features that have made pharmaceutical prices in the United States among the highest in the world, and policy options that are being considered to reduce these prices and that have become highly politically salient in recent years. Graduate students should have some coursework in statistics. Offered Yearly.

**Restriction(s):** Enrollment is limited to Graduate or Professional level students.

**ECO 6600 Advanced Development Economics Cr. 4**

National poverty and economic growth viewed from a historical and theoretical perspective; particular emphasis on national and international policies. Advanced mathematical analysis of selected topics. No credit after ECO 5600. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6650 Regional, State, and Urban Economic Development: Policy and Administration Cr. 3**

Examination of regional, state, and local economic development theory, analysis, policy and administration. Offered for graduate credit only. Offered Every Other Year.

**Restriction(s):** Enrollment is limited to Graduate level students.

**Equivalent:** PS 6440, UP 6550

**ECO 6700 Advanced Money and Banking Cr. 4**

Role of the Federal Reserve System, the commercial banks, and the non-bank public (including financial intermediaries) in determining the money supply; central banking and techniques of monetary control; indicators and targets of monetary policy; and how money affects economic activity. Advanced mathematical analysis of selected topics. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 2020 with a minimum grade of C and ECO 5050 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 6800 Advanced Urban and Regional Economics Cr. 4**

Introduction to the economic foundations of urban problems; land use, housing, poverty, transportation, local public finance; regional industry mix, income, growth and development; the national system of cities and location of firms. Advanced mathematical analysis of selected topics. No credit after ECO 5800. Offered for graduate credit only. Offered Yearly.

**Prerequisite:** ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 7000 Microeconomic Theory I Cr. 4**

Theory of choice; theory of cost and production; theory of the competitive firm. Price and output in non-competitive markets. General competitive equilibrium and welfare economics. Offered Winter.

**Prerequisite:** ECO 5000 with a minimum grade of C and ECO 7020 with a minimum grade of C and MAT 2010 with a minimum grade of C and MAT 2020 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7010 Microeconomic Theory II Cr. 4**

Continuation of ECO 7000. Includes general equilibrium analysis and game theory. Offered Fall.

**Prerequisite:** ECO 7000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7020 Fundamentals of Economic Analysis I Cr. 4**

This course assumes sound knowledge of first and second semester calculus, and teaches additional mathematics necessary for Ph.D. study in economics, and covers additional mathematics necessary for Ph.D. study in mathematics, and to a lesser extent some economic implications. Course content includes: matrices, vectors and linear algebra; partial and total derivatives; scalar and vector functions; Jacobian derivative matrices and determinants; implicit function theorem; derivatives of implicit functions with one or more endogenous variables; unconstrained maximization with two or more variables; Lagrangians and constrained maximization; envelope theorem; differential and difference equations, and systems of differential and difference equations. Offered for graduate credit only. Offered Fall.

**Prerequisite:** MAT 2010 with a minimum grade of C and ECO 5000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7021 Fundamentals of Economic Analysis II Cr. 4**

Mathematical methods specific to macroeconomics and econometrics. Applications of matrix operations, distribution functions, estimation methods, difference equations, differential equations, inter-temporal optimization, calculus of variations, control theory. Offered Fall.

**Prerequisite:** MAT 2020 with a minimum grade of C and ECO 5000 with a minimum grade of C

**Corequisite:** ECO 7020

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7050 Macroeconomic Theory I Cr. 4**

Determination of national income, employment, interest rates and the price level; static and dynamic models; cycle and growth models; classic, Keynesian and neo-Keynesian models. Offered Winter.

**Prerequisite:** ECO 5050 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7060 Macroeconomic Theory II Cr. 4**

Mathematical and statistical methods: differential and difference analysis. Intertemporal economic theory: the household, the firm, and economic growth. Overlapping generations models and the Ricardian theory of government finance. Theories of the business cycle: real business cycle models, Keynesian and New Classical theories of the business cycle. Offered Fall.

**Prerequisite:** ECO 7050 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7100 Econometrics I Cr. 4**

Probability and statistics: moment generating functions, common families of statistical distributions, multiple random variables and properties of a random sample. Estimation and hypothesis testing: method of moments, generalized method of moments, maximum likelihood estimators, instrumental variable estimators, Bayes estimators, likelihood ratio tests, finite sample properties and asymptotic properties of OLS. Offered Fall.

**Prerequisite:** ECO 6100 with a minimum grade of C and ECO 7020 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7110 Econometrics II Cr. 4**

Modeling and estimation: generalized least squares, panel data models (fixed effects and random effects), system of equations (endogeneity, identification), models with discrete dependent variables (probit, logit), models with limited dependent variables (truncation, censoring), stationary time-series (ARMA), vector-autoregression (VAR, VMA), non-stationary time-series (unit roots, cointegration). Offered Winter.

**Prerequisite:** ECO 7100 with a minimum grade of C or ECO 6020 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7120 Econometrics III Cr. 4**

Advanced economic techniques in microeconomics and macroeconomics. In the first half of the course, emphasis on specification, estimation, interpretation, and testing of microeconomic models. The second half will cover statistical models for the analysis of economic time series data, with applications in macroeconomics and finance. Offered Yearly.

**Prerequisite:** ECO 7100 with a minimum grade of C and ECO 7110 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7200 Industrial Organization I Cr. 4**

Theories of competition and market power. Topics include concentration, scale economies, product differentiation, entry barriers, collusion, mergers, price discrimination, information, and advertising. Offered Every Other Year.

**Prerequisite:** ECO 6000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7210 Industrial Organization II Cr. 4**

Economic analysis of antitrust policy and public regulation of industry. Rationale for regulation and mandates of various regulatory agencies. Problems in public utility rate-making. Misallocations induced by regulation. Role of competition in regulated industries. Offered Every Other Year.

**Prerequisite:** ECO 6000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7400 Labor Economics and Human Resources Cr. 4**

Labor force participation and composition; factors affecting wage levels (money and real) and wage structure. Theoretical and empirical analyses of occupational choice, labor mobility, promotion, turnover, unemployment, the effects of taxation, retirement and income inequality. Offered Every Other Year.

**Prerequisite:** ECO 6000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7410 Economics of Human Resources Cr. 4**

Theoretical and empirical analyses of labor supply and family allocation of time; the return to education; role of general and firm-specific human capital and job mobility in wage growth over a career; race and gender differences in the labor market; intergenerational transfers and mobility. Offered Every Other Year.

**Prerequisite:** ECO 6000 with a minimum grade of C and ECO 6100 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7550 Economics of Health Care I Cr. 4**

Basic introduction to health care economics including allocation of health care resources, economics of information, and the role of advertising. No credit after ECO 5550. Offered Every Other Winter.

**Prerequisite:** ECO 6000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7560 Economics of Health Care II Cr. 4**

Particular roles of hospitals, physicians, and health insurance in the economy. Analysis of government policies. No credit after ECO 5550. Offered Every Other Year.

**Prerequisite:** ECO 6000 with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**ECO 7996 Research in Economics Cr. 1-8**

Open to qualified students who desire opportunity for research and directed study. May be conducted as seminar. Offered Every Term.

**Restriction(s):** Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students.

**Repeatable for 16 Credits**

**ECO 9990 Pre-Doctoral Candidacy Research Cr. 1-8**

Research in preparation for doctoral dissertation. Offered Every Term.

**Restriction(s):** Enrollment is limited to Graduate level students.

**Repeatable for 12 Credits**

**ECO 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5**

Offered Every Term.

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5**

Offered Every Term.

**Prerequisite:** ECO 9991 with a minimum grade of S

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5**

Offered Every Term.

**Prerequisite:** ECO 9992 with a minimum grade of S

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5**

Offered Every Term.

**Prerequisite:** ECO 9993 with a minimum grade of S

**Restriction(s):** Enrollment is limited to Graduate level students.

**ECO 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0**

Offered Every Term.

**Restriction(s):** Enrollment is limited to Graduate level students.

**Course Material Fees:** \$416.08

**Repeatable for 0 Credits**