

CR 525

Conflict Resolution Systems Design (4)

Acquaints the student with a systems approach to designing conflict resolution services. These services are designed for a wide variety of settings to handle conflicts effectively at the lowest cost. Students learn to diagnose and correct problems in an existing system, as well as create and implement a wholly new system.

CR 526

Intercultural Conflict Resolution (4)

Explores the ways in which cultural similarities or difference might influence the conflict resolution process. In this context, culture is defined broadly and will be considered as it plays a part in either the actuality or perceptions of our experience. In addition, issues of power and marginality as they relate to dynamics of culture will be explored.

Students explore and learn from other cultures and apply this learning in the evaluation and use of conflict resolution paradigms.

241 Cramer Hall
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B.A., B.S.
 Minor in Economics
 Minor in International Economics
 Minor in Political Economy
 Secondary Education Program—
 Social Science
 M.A., M.S.
 M.A.T. and M.S.T. (General Social
 Science)
 Ph.D. in Systems Science-Economics
 Ph.D.—Participating department in
 Urban Studies Doctoral Program
 The program in economics is designed to meet four major objectives: to provide a basic knowledge of economic analysis for the student intending to do undergraduate work in preparation for a professional career in business or government; to serve as the core of a liberal arts program for students planning to enter business or industry directly upon graduation; to provide courses preparing students for graduate work in economics; and to present courses that offer insight into the economic problems of the day.

Undergraduate programs

The major in economics is required to take 42 credits in economics courses, plus specified courses in mathematics and statistics. Many majors concentrate their electives so that they in effect establish a minor in business administration, engineering, mathematics, or one of the other fields in the social sciences.

Admission requirements

As soon as students decide to become economics majors, they should consult the department secretary for referral to the appropriate adviser. Economics majors who anticipate that they may do graduate work in economics should consult their adviser to develop a proper background program.

Admission to the department is based on general admission to the University. See "Admissions requirements" on page 37 for more information.

Economics

Degree requirements

Requirements for major. In addition to meeting the general University degree requirements, the major in economics must meet the following departmental requirements:

	Credits
Ec 201, 202 Principles of Economics.....	8
Ec 473 Macroeconomic Theory	4
Ec 474 Microeconomic Theory	4
Ec 469, 456, 457, 460 (any one course).....	4
A minimum total of 28 credits of 300 and 400-level coursework, including Ec 456, 457, 460, and 469 when not used to satisfy the 4-credit requirement immediately above. At least 16 of these credits must be in courses numbered above 410.....	
	28
Total in economics	
	48
Mth 251 Calculus I.....	4
Stat 243, 244 Introduction to Probability and Statistics	8
Total in other fields	
	12
Total	
	60

Majors must take a minimum of 16 credits of coursework in residence from this department and must maintain at least a 2.00 grade point average in work completed in this department.

All courses used to satisfy the departmental major requirements, whether taken in the department or elsewhere, must be graded C- or above.

Requirements for minor in economics.

To earn a minor in economics, a student must complete 28 credits (12 credits of which must be taken in residence at PSU), to include the following:

	Credits
Ec 201, 202 Principles of Economics.....	8
† Upper-division economics electives (No more than 8 credits of Ec 410, 469, 473, and 474 will be accepted for this minor. No omnibus courses other than 399 and 410 will be accepted)	20
Total	
	28

† Additional prerequisites may be required.

Courses taken under the undifferentiated grading option (pass/no pass) are not acceptable toward fulfilling department minor requirements.

Requirements for minor in international economics.

To earn a minor in international economics, a student must complete 28 credits (12 credits of which must be taken in residence at PSU), to include the following:

	Credits
Ec 201, 202 Principles of Economics.....	8

Ec 440 International Trade Theory and Policy	4
Ec 441 International Monetary Theory and Policy	4
Upper-division economics electives chosen from:	12
Ec 442 The Multinational Enterprise in the World Economy	4
Ec 445 Comparative Economic Systems	4
Ec 446 Economic Systems of East Asia	4
Ec 447 Economics of Transition	4
Ec 450 Third-World Economic Development	4
Total	
	28

Courses taken under the undifferentiated grading option (pass/no pass) are not acceptable toward filling department minor requirements.

Requirements for minor in political economy.

To earn a minor in political economy, a student must complete 28 credits (12 credits of which must be taken in residence at PSU), to include the following:

	Credits
Ec 201, 202 Principles of Economics.....	8
Ec 460 History of Economic Thought.....	4
Economics electives chosen from:.....	16
Ec 338 The Political Economy of Latin America	4
Ec 339 Political Economy of Japanese Development	4
Ec 345 Marxist Political Economy	4
Ec 348 The Globalization Debate	4
Ec 410 Women and Development	4
Ec 411 Cultural Economics	4
Ec 417 Women in the Economy	4
Ec 419 The Economics of Race and Ethnicity	4
Ec 445 Comparative Economic Systems	4
Ec 446 Institutional Economics	4
Ec 447 Economics of Transition	4
Ec 450 Third-World Economic Development	4
Ec 451 Small Businesses in Developing Areas	4
Total	
	28

Courses taken under the undifferentiated grading option (pass/no pass) are not acceptable toward fulfilling department minor requirements.

SECONDARY EDUCATION PROGRAM

Adviser: **M. King**
 (See Interdisciplinary Studies on page 158.)

Graduate programs

The Department of Economics offers graduate work leading to the Master of Arts and Master of Science degrees. The department also participates in the Urban Studies Doctoral Degree Program. Specialized theoretical and applied courses in economics, when combined with urban studies general seminars, partially fulfill the requirements

for the Ph.D in Urban Studies with an emphasis in economics. The Department of Economics participates in the Systems Science Ph.D. Program. Candidates for the Ph.D. in Systems Science-Economics are encouraged to enroll in advanced courses in economics, and may elect economics as a major or minor field of study within that program. For information relating to the Ph.D. programs, see pages 69 and 74.

Admission requirements

Master of Arts or Master of Science.

Admission to the master's program in the Department of Economics requires, in addition to the University admissions requirements:

1. A minimum of a 3.00 GPA in overall coursework and a minimum of a 3.00 GPA in economics coursework.
2. Completion of the core undergraduate courses in the Economics program at Portland State University, including theory, statistics, and econometrics, or present equivalent competence.
3. Have a cumulative GPA of 3.50 in all graduate credit earned at accredited institutions.
4. GRE scores of 1100 (quantitative and verbal combined) or higher; GMAT can be substituted for GRE.
5. Three (3) letters of recommendation.
6. Essay: Statement of Purpose.
Approximately 500 word essay on goals and aspirations for entering and completing the graduate program.

A working knowledge of mathematics and statistical methods is required for all students. This requirement may be fulfilled by examination or by the successful completion of courses in mathematics and statistics approved by the department. Differential calculus, integral calculus and linear algebra are highly recommended.

Degree requirements

Master of Arts or Master of Science.

Students must complete a nine-course core requirement, (36 credits) and 52 credits in total. Credit requirements beyond the core courses may be satisfied entirely with Economics elective courses, or partially with a maximum of 8 credits of Economics research. Students have two options for completing the Economics Electives and/or Research requirement: (Option 1) elect 16 credits of Economics Electives; or (Option 2) elect 8 (maximum 12) credits of economics elective courses and 8 (minimum 4) credits of research to be completed in any combination of Ec 501, Ec 596, and Ec 597. Economics elective courses may be substituted by graduate courses from other departments with Economics Department approval.

	Credits
Core economics courses.....	36
Ec 560 History of Economic Thought (4)	
Ec 576 Advanced Microeconomics (4)	
Ec 570 Econometrics (4)	
Ec 575 Advanced Macroeconomics (4)	
Ec 571 Advanced Econometrics (4)	
Ec 580 Mathematical Economics (4)	
Ec 590 Applications of Advanced Macroeconomic Theory (4)	
Ec 591 Applications of Advanced Microeconomic Theory (4)	
Ec 595 Applications of Advanced Econometrics (4)	
Economics electives and/or Economics Research	16
Option I: Economics Electives (16)	
Option II: Economic Electives (8-12) and Economics Research (4-8)	
Total	52

In addition to the general requirements for advancement to candidacy, the student must complete 12 credits in residence work for graduate credit in economics with a GPA of at least 3.00 and be recommended by the graduate committee of the department.

Any transferred graduate credits that satisfy University requirements may be applied toward major electives. Under no circumstances can the core requirements be waived or substituted for with coursework from other PSU departments or from other institutions. Students with questions concerning transferred credits should contact the departmental office for advising.

Doctor of Philosophy in systems sci-

ence—economics. The Department of Economics participates in the Systems Science Ph.D. Program. Students interested in seeking a Ph.D. in systems science—economics should contact the Department of Economics for further information. Elective fields include: international economics, urban-regional economics, mathematical economics, and economic development. Applicants must be admitted simultaneously to the economics graduate program and the Systems Science Ph.D. Program.

Courses

Courses with an asterisk () are not offered every year.*

Economics does not allow credit for Ec 201, 202 after credit has been earned in an upper-division economics class for which Ec 201, 202 is a recommended prerequisite.

*Ec 101

Contemporary Economic Issues (4)

Introduction to economists' approaches to some of the most pressing, current political and economic issues. Topics will vary depending upon the instructor, but are likely to include the sources of economic development and growth, what constitutes a desirable standard of living and quality of life, analyses of poverty and inequality, economic pressures on the family, and strategies for environmental sustainability.

Ec 201

Principles of Economics (4)

A study of the market system, involving the essentials of demand and supply analysis; competition and monopoly; labor public policy toward busi-

ness; the distribution of income; international trade and commercial policy; comparative advantage, tariffs, and quotas.

Ec 202

Principles of Economics (4)

A study of factors affecting the level of national income: the essentials of money and banking; the role of government expenditure and taxation in achieving economic stability, growth, and development; international monetary issues including exchange rates and the balance of payments.

Ec 314

Private and Public Investment Analysis (4)

Examines the tools required to analyze expenditures that yield benefits over time—investments. The use of accounting documents and a focus on the time value of money allows students to analyze choices in a variety of security, loan, and equipment investment decisions.

*Ec 315

Economics of Sports (4)

Investigates the application of economic theory to the particular arena of sports. Emphasis is placed on the theories of labor, industrial organization, and quantitative methods and their application to such topics as player compensation and movement, stadium financing, team relocation, and racial discrimination.

Ec 316

Introduction to Health Care Economics (4)

Provides an introduction to basic economic concepts that are most relevant to the study of the health care system. Examines the efficiency and equity implications of providing health care under the traditional fee-for-service system versus providing health care under the relatively new systems of health care delivery such as health maintenance organizations (HMOs), preferred provider organizations (PPOs), etc. Compares the American health care system to the systems employed in other developed countries. Special attention will be paid to the delivery of health care in Oregon.

Ec 332

Economics of Environmental Issues (4)

Examines several local, national and global environmental issues. Students will be introduced to some basic economic concepts and tools fundamental to understanding the social, economic and environmental impacts of current and proposed environmental policies.

Ec 338

The Political Economy of Latin American Development (4)

Provides students an opportunity to analyze the political and economic complexities of development in Latin America. Studies the social, political, and economic institutions that have shaped the development process in Latin America; reviews competing theoretical frameworks; and discusses current issues such as the foreign debt, privatization, trade liberalization, and recurrent financial crises.

EC 339

Political Economy of Japanese Development (4)

Key topics in the economic development of Japan in modern times. Investigation of political, social, and historical factors that enabled Japan to achieve its "miraculous" development since 1867 through the post-WWII era. Examination of aspects of Japan's experience that can be applicable to development issues of other countries.

Ec 340**International Economics (4)**

Examines trade and financial relations among countries with an emphasis on policy perspectives. Outlines international policy options and the principles that govern world trade and financial arrangements. Regional and international trade organizations and currency arrangements will be discussed.

Ec 345*Marxist Political Economy (4)**

An inquiry into the contribution to social and economic thought advanced by Karl Marx. Based on reading and interpreting primary sources. Considers the legacy of Marx's ideas on the course of history in the 20th century, and the potential influence in the 21st century.

Ec 348**The Globalization Debate:****Concept, History, and Theory (4)**

Works to clarify the meaning and conception of globalization. Analyzes its roots from a historical and evolutionary perspective dating from the nineteenth century, on to the present and future prospects. Applies an interdisciplinary methodology to present both the pros and cons of the globalization debate dealing with the World Trade Organization, environmental, third world development and labor concerns. Applies different economic theories to explain and analyze globalization in the context of the evolutionary dynamics of economic development.

Ec 380**Introduction to Mathematical Economics (4)**

Economic concepts are explored using mathematical methods. Applications are drawn from a wide range of fields in economics including microeconomics, macroeconomics, economic growth, international trade, international finance, labor and environmental economics, industrial organization and development economics. Mathematical methods utilized include equations, functions, sets total and partial differentiation, and linear algebra. Prerequisites: Mth 251, Ec 201, Ec 202.

Ec 399**Special Studies (Credit to be arranged.)****Ec 401/501****Research (Credit to be arranged.)**

Consent of instructor.

Ec 403**Honors Thesis (Credit to be arranged.)**

Consent of instructor.

Ec 404/504**Cooperative Education/internship**

(Credit to be arranged.)

Ec 405/505**Reading and Conference**

(Credit to be arranged.)

Consent of instructor.

Ec 407/507**Seminar (Credit to be arranged.)**

Consent of instructor.

Ec 409**Practicum (Credit to be arranged.)**

By prior arrangement with the department, economics majors may receive a maximum of 3 credits in their total undergraduate program for economics research done in the community in conjunction with guided reading and regular consultations with the practicum instructor. Recommended prerequisites: Ec 201, 202, and consent of instructor.

Ec 410/510**Selected Topics (Credit to be arranged.)****Ec 411/511****Cultural Economics (4)**

Focus is on a general theory of economic development and growth, in the conceptual framework of culture and its evolution. The economic process fed by the dynamics of technological change is analyzed in cultural and social terms in the tradition of institutional and/or evolutionary economics. This framework is relevant and will be applied to current issues such as: globalization, trade, jobs and the environment, sustainable development, corporate power, cultural lags and social justice.

Ec 417/517**Women in the Economy (4)**

Different economic theoretical perspectives are presented to account for women's particular economic roles currently and historically. Emphasis on women's responsibility for child rearing and housework; women's relatively low wages; occupational segregation by gender; economic differences among women due to ethnicity, generation, and class; and policy issues with particular importance for women's economic situation. Recommended prerequisite: Ec 201.

Ec 419/519*Economics of Race and Ethnicity (4)**

Survey of the economic history of ethnic groups in the United States, various economic theoretical perspectives advanced to account for past and current experience of people of color in the U.S. economy, and examination of selected economic policy issues. Recommended prerequisite: Ec 201.

Ec 420/520*Money And Banking (4)**

Functional and empirical definitions of money and interest rates. Characteristics and role of bank and non-bank financial institutions in determining the level of money and interest rates. History of the Federal Reserve System. Instruments of monetary control by the Federal Reserve. Alternative models of monetary influence on the economy. Recommended: Ec 201, 202.

Ec 425/525*Economics of Industrial Organization (4)**

Study based upon the application of microeconomic theory to the analysis of firms, markets, and industries. Search for economic explanations for the structure of markets and for the behavior of the firms which trade in them. Seeks also to explain the internal organization of firms and to assess the efficiency of the market in determining organization. Recommended: Ec 201; Ec 474 recommended.

Ec 426/526*Economics of Regulation (4)**

Study of government regulation designed to control—or at least to influence—the performance of the market in specific ways. Historical and economic analyses of three main forms of regulation: direct regulation of monopoly and competition, and social regulation to protect the environment and the individual. Recommended: Ec 201.

Ec 430/530**Resource and Environmental Economics (4)**

Overview of different approaches to economic analysis of resources and environment, and fundamental issues of economy/environment interactions, as well as the emerging subject of sustainability. Covers the basics of standard environmental and resource economics including the theory of externalities, resource allocation over time, common property resources, public goods and valuation. Includes an overview of the economic dimension of policies designed to protect and

improve environmental quality and protect and efficiently manage natural resources. Prerequisite: Ec 201.

Ec 431/531**Urban Economics (4)**

Functions of the urban economy: the market sector and the public sector. Economic analysis of issues such as land use, environmental quality, transportation, housing, income distribution, and the organization and financing of urban public services. Recommended: Ec 201, 202. This course is the same as USP 431/531; course may only be taken once for credit.

Ec 432/532**Environmental Economics (4)**

An examination of the alternative and sometimes conflicting evaluation and decision-making criteria of economics and physical sciences as they pertain to the material environment. An evaluation of policy alternatives. Recommended: Ec 201, 202.

Ec 433/533**Natural Resource Economics (4)**

An examination of the economic concepts and theories for analyzing natural resource use and related environmental pollution, including the economics of sustainability. Discussion of renewable and non-renewable natural resource issues in the Pacific Northwest and policy alternatives. Recommended: Ec 201.

Ec 434/534**Business Environmental Management Economics (4)**

Examines the economic costs and benefits that affect the decisions of business firms to develop integrated environmental management systems. Analysis of policy options to foster business environmental management for public goods. Case studies of selected firms. Recommended: Ec 201.

Ec 435/535**Public Spending and Debt Policy (4)**

Analysis of the role of the state in a competitive economy. Development of decision rules for state economic action. Includes a detailed study of the principles of voting, public budgeting including cost benefit analysis and PPBS, the theory of fiscal federalism and the theory and principles of public debts. Recommended: Ec 201, 202.

Ec 436/536**Taxation and Income Policies (4)**

Principles and problems of government financing. Critical analysis of alternative taxes as sources of public revenue with emphasis on theories of incidence and economic effect. Recommended: Ec 201, 202.

Ec 437/537**Public Utility Economics (4)**

Examines the rationale, economic principles, and institutions of historic economic regulation. Contemporary theory of the firm and microeconomic pricing are analyzed. Technological changes suggest that to achieve economic efficiency it may no longer be necessary or appropriate to subject energy and telecommunications firms to traditional utility regulation. There is academic enthusiasm for displacing economic regulation with competition. Deregulation and restructuring are explored with emphasis on contemporary issues in Oregon, the Pacific Northwest, and the nation. In particular, difficulties in transformation to the marketplace will be examined. Expert guest lecturers from the utility and regulatory communities will be scheduled, and contemporary scholarly literature will be reviewed. Recommended: Ec 201, 202.

Ec 440/540**International Trade Theory and Policy (4)**

Theories of international trade. Analysis of the normative aspects of trade including the gains from trade and the effect of trade on economic welfare. Examination of international trade policy and issues of economic integration, economic growth, and current trade problems. Recommended: Ec 201, 202; Ec 474 recommended.

Ec 441/541**International Monetary Theory and Policy (4)**

Balance of payments theory including balance of payments accounting and foreign exchange market; theoretical models of fixed and flexible exchange rate systems using both Neoclassical and Keynesian approaches. Historical evolution of the international monetary system. Current international monetary policies and problems. Recommended: Ec 201, 202; Ec 473 recommended.

Ec 442/542**The Multinational Enterprise in the World Economy (4)**

The study of the multinational (transnational) enterprise as a form of direct foreign investment. Analysis of theories of direct investment; the impact of the multinational enterprise on the national and international economy and the relationship of such firms to the concept of the nation-state. Recommended: Ec 201, 202.

Ec 443/543**Global Environmental Economics (4)**

An examination of economic forces and theories to understand the causes of global environmental problems and evaluate policy options. Primary emphasis is on developing countries and countries in transition, though linkages with developed countries also considered. Topics include poverty, population, economic development and the environment, global warming, biodiversity protection, sustainability, and pollution control.

Ec 444/544*Economics of Green Power (4)**

The economic feasibility and rationale of producing electricity using several alternative environmentally friendly technologies. The economic and environmental costs and benefits of employing these technologies are identified and compared to the dominant technologies (coal, oil, hydropower). Alternative policies that provide incentives for the adoption of green technologies are examined. Recommended: Ec 201.

Ec 445/545**Comparative Economic Systems (4)**

Introduces the evolutionary-institutional method of analysis, incorporating history, the legacy of ideas, and the dynamics of change over time. Using this method, we shall examine economic systems of Ancient Rome, Medieval Feudalism, the Laissez-Faire Market Economy, Fascist Command Economy, and others. Recommended: Ec 201, 202.

Ec 446/546**Institutional Economics (4)**

Considers the contributions of seminal thinkers to what is regarded as an alternate or heterodox school in economic science. Contribution of Thorstein Veblen, John R. Commons, Wesley Mitchell, Simon Kuznets, Clarence Ayres, Gunnar Myrdal, and John Kenneth Galbraith, as well as more contemporary thinkers will be explored. Institutional theory will be compared and con-

trasted with neoclassical economics, and shown as a viable theory posing a formidable challenge to the dominant paradigm of orthodoxy. Neo-institutionalist challenges will also be considered.

Ec 447/547**Economics of Transition (4)**

Examines the formation of the Soviet-type economic system in the 1920s and 30s and its dissemination after World War II to Eastern Europe, China, and other selected countries. Emphasis is placed on the history of ideas and the historical setting which gave rise to the Soviet model. Includes the examination of the internal contradictions of the model, the "unwinding" of planned socialism, and the prospects for the move toward mixed market economies. Recommended: Ec 201, 202.

Ec 450/550**Third-World Economic Development (4)**

Examines problems of post-colonial legacy: underdevelopment and persistent poverty. Rapid population growth, uneven development, capital flight, dual economy, brain drain. Industrialization strategies, foreign trade, education and human capital, population slowdown, microcredit institutions, role of women. Recommended prerequisites: Ec 201, 202.

Ec 451/551*Microenterprises in Developing Areas (4)**

Examines role of small businesses in promoting economic development in low income areas in Asia, Latin America, and Africa. Entrepreneurship as motor of economic growth and social transformation. Appraisal of institutions as constraints and advantages. Consideration of complex political environments affecting small business. Survival strategies of entrepreneurs. Recommended: Ec 201, 202.

Ec 453/553**Theory of Economic Growth (4)**

Introduction to the theory of economic growth. This course will emphasize the theoretical basis and the models developed to measure growth and change in modern industrial societies. Recommended: Ec 201, 202.

†Ec 456/556**American Economic History: the First Century (4)**

The economic background of the War of Independence and the seeds of the Civil War. Industrialization, urbanization, and development of the frontier. Rise of big business and organized labor. Laissez-faire, federalism, and the gradual emergence of the national government in economic policy. Changes in foreign trade and in the international position of the U.S. Recommended: Ec 201, 202.

† Also offered as Hst 438/538*

‡Ec 457/557**American Economic History: the 20th Century (4)**

Economic impact of U.S. involvement in World War I. Postwar structural changes. Waning of laissez-faire. Causes of the Great Depression. Economic policies of Hoover and Roosevelt administrations. The New Deal reforms. World War II and emergence of the administered system. Evolution of the mixed economy and growing role of the government. The industrial-military complex. Social imbalance. Recommended: Ec 201, 202.

‡ Also offered as Hst 439/539*

Ec 460/560**History of Economic Thought (4)**

Selections from the economic writings of various thinkers from antiquity through the Reformation. A survey of the work of the most important economic theorists of the 18th, 19th, and 20th centuries including Adam Smith, Ricardo, Marx, Marshall, Veblen, and Keynes. Readings include original writings and interpretations by later economists. Scholars will be studied in terms of their historical context and the contemporary relevance of the theories and policy recommendations. Recommended: Ec 201, 202.

Ec 465/565**Labor Economics and Industrial Relations (4)**

After a survey of the history of American labor market institutions including unions, this course investigates the big questions in labor economic theory including the sources of unemployment, wage determination, and the reasons demographic groups fare differently in the labor market. Also considered are appropriate policies for current developments in the labor market, such as increasing wage inequality, globalization, and the widespread use of new technologies.

Recommended: Ec 201.

EC 469/569**Introduction to Econometrics (4)**

General survey of empirical techniques useful for economic analysis. Focus on the applications of mathematical tools and regression analysis in economics. Quantitative topics will be introduced systematically with hands-on case studies and examples related to the fields of economics, public policy, and urban studies. This course will not be counted as credit for economics graduate students, but may be taken by graduate students in other programs. Prerequisites: Ec 201, 202, Mth 251, Stat 243 and 244.

Ec 472/572**Time Series Analysis and Forecasts (4)**

Time series analysis, emphasizing model identification, estimation, and forecasting. Non-stationary time series analysis includes unit root and cointegration tests. Techniques of moving average, differencing, and autocorrelation adjustment are introduced. Diagnostic checking following the model evaluation provides the base model for forecasting. Recommended: Ec 469 for 472, 570 for 572.

Ec 473/573**Macroeconomic Theory (4)**

Examines tools and models to analyze factors influencing the levels of output, employment, and prices. Fundamentals of the theory of Business cycles, economic growth, inflation. The role of government in dealing with these and related problems. This course cannot be counted as credit for economics graduate students, but may be taken by graduate students in other programs. Recommended prerequisite: Ec 202.

Ec 474/574**Microeconomic Theory (4)**

Theories of consumer behavior and demand, production and cost, the firm and market organization, strategic behavior, and functional income distribution. This course cannot be counted as credit for economics graduate students, but may be taken by graduate students in other programs. Recommended prerequisite: Ec 201.

Ec 480/580**Mathematical Economics (4)**

Mathematics for economists. Applications of differential calculus and matrix algebra to economics. Topics include consumer theory, production func-

tions, and applied general equilibrium models. Prerequisites Ec 473, 474, and 380 (or Mth 251, 252 in place of Ec 380).

Ec 485/585

Cost-benefit Analysis (4)

Main theory and empirical methodologies for assessing costs and benefits of projects with varying timeframes and levels of uncertainty. Focus on public projects, including environmental, infrastructure and social service activities.

Methodologies for valuation of nonmarketed goods, such as environmental services, also covered. Prerequisite: Ec 201.

Ec 486/586

Project Evaluation (4)

Cost and benefit evaluation. Choice of projects. Case studies related to water resources, transportation, and industrial projects. Recommended: Ec 474.

Ec 487/587

Economic Planning (4)

Aspects of the economic planning process including target setting, tests of feasibility, consistency, optimality, and plan implementation. Recommended: Ec 474.

Ec 503

Thesis (Credit to be arranged.)

Ec 522

Economics of Sustainability: Theory and Practice (4)

Economic concepts and theories for analyzing sustainable development, including the emerging field of ecological economics. Roles and practices of the business, government and nonprofit sectors in fostering sustainability.

Ec 570

Econometrics (4)

Covers the theory and application of statistical regression, hypothesis testing, and simulation of econometric models. Emphases are placed on model construction and efficient use of economic data. Problems of multicollinearity, heteroscedasticity, autocorrelation, and distributed lags are discussed. Some familiarity with calculus, matrix algebra, and computer applications are assumed. Recommended: Ec 469.

Ec 571

Advanced Econometrics (4)

Advanced econometrics topics including systems of linear equations, panel data, nonlinear models, nonparametric estimation and prediction, and applications in consumption and production models. Data resources available to the practicing economist will be covered. Recommended: Ec 570.

Ec 575

Advanced Macroeconomics (4)

Theories of national income, employment and price levels with special emphasis on recent developments in analytical techniques and empirical findings. Recommended: Ec 473.

Ec 576

Advanced Microeconomics (4)

Theory of consumer behavior and of the firm. Market and multimarket equilibrium and stability. Varieties of imperfect competition. Recommended: Ec 474.

Ec 583

Impact Assessment (4)

Empirical techniques employed in measuring the impacts associated with land use change. Topics: goals achievement matrix approaches to impact assessment; trade-offs between community and regional welfare; distance and times in urban analysis; estimating the social profitability of land development; cost-benefit analysis applied to free-way location techniques for valuation of non-priced resources; measuring municipal revenue and expenditure impacts; gravity models and transport demand estimation; economic base analysis for employment and population impact assessment; and estimating air and noise pollution associated with land development. Recommended: Ec 474.

Ec 590

Applications of Advanced Macroeconomic Theory (4)

Coverage includes current topics of interest in macroeconomics. The focus is on the applications of neoclassical and Keynesian theories of macroeconomic theory to a variety of real world problems. The various sub-disciplines of macroeconomics that may be covered include: financial economics, monetary economics, economic growth models, labor economics, public finance, international economics, and radical macroeconomic thought. Recommended: Ec 575.

Ec 591

Applications of Advanced Microeconomic Theory (4)

Applies theories of consumer and producer behavior to a variety of real world problems. Different sub-disciplines of microeconomics will be covered, which may include two or three of the following: information economics, environmental economics, economics of regulation, industrial organization, law and economics, natural resource economics, labor economics, regional economics, urban economics, and the economics of contracting. For each sub-discipline covered, the most important economic model will be discussed and a review of major research studies and techniques

will be undertaken. Recommended: Ec 576.

Ec 595

Applied Advanced Econometrics (4)

Covers advanced topics related to methodological issues in econometrics, with emphases on computation, simulation, and non-linear methods in econometrics. Nonlinear econometric models including Box-Cox variable transformation, autoregressive time series analysis, and qualitative choice models. Simulation-based econometrics covers topics of Monte Carlo experiments and bootstrapping methods. Recommended: Ec 570, 571.

Ec 596, 597

Research Project I, II (4, 4)

Intended for graduate students to complete the field project requirement. Course activities include: independent reading on researchable field-related topics; individual development of a research project, i.e., selection of a subject and plan of study; and periodic reporting of individual research projects progress. Recommended: Ec 595.

***Ec 675**

Advanced Macroeconomics II (4)

Extended analysis of macroeconomic theory covering static, deterministic models through recent dynamic and stochastic macro modeling. Analytic tools in both theoretic and empirical models are illustrated in the study of inflation, unemployment, growth and government policy. Recommended: Ec 575.

***Ec 676**

Advanced Microeconomics II (4)

Extended analysis of microeconomic theory covering individual and social choice issues. Selected topics of interest and significance include but are not limited to: rational choice behavior of consumers and producers, theory of the market, partial and general equilibrium analysis, welfare economics, and economics of inflation. Recommended: Ec 576.