

## ECONOMICS

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### COLLEGE OF LIBERAL ARTS

**Becsi, Zsolt**, Assistant Professor, Ph.D., University of Wisconsin-Madison, 1991; 2003. Public Finance, macroeconomics.

**Dibooglu, Selahattin**, Associate Professor, Ph.D., Iowa State University, 1993; 1993. International economics.

**Ellis, Robert J., Jr.**, Associate Professor, *Emeritus*, Ph.D., University of Virginia, 1966; 1962.

**Edelman, Milton**, Professor, *Emeritus*, Ph.D., University of Illinois, 1951; 1950.

**Färe, Rolf**, Professor, *Emeritus*, Docent, University of Lund, Sweden, 1976; 1978.

**Gilbert, Scott**, Assistant Professor, Ph.D., University of California-San Diego, 1996; 1999. Econometrics, applied macroeconomics.

**Grabowski, Richard**, Professor and *Chair*, Ph.D., University of Utah, 1977; 1979. Economic development, international economics.

**Lahiri, Sajal**, Professor and Vandever Chair of Economics, Ph.D., Indian Statistical Institute, 1976; 2002. International trade, developmental economics, environmental economics.

**Laumas, G. S.**, Professor, *Emeritus*, Ph.D., Wayne State University, 1966; 1990.

**Layer, Robert G.**, Professor, *Emeritus*, Ph.D., Harvard University, 1952; 1955.

**Mitchell, Thomas M.**, Associate Professor, Ph.D., Brown University, 1985; 1983. Microeconomic theory; international trade.

**Myers, John G.**, Professor, *Emeritus*, Ph.D., Columbia University, 1961; 1977.

**Primont, Daniel**, Professor, Ph.D., University of California, Santa Barbara, 1970; 1978. Microeconomic theory, mathematical economics, econometrics.

**Sharma, Subhash C.**, Professor, Ph.D., University of Kentucky, 1983; 1983. Econometrics, statistics.

**Sylwester, Kevin**, Associate Professor, Ph.D., University of Wisconsin-Madison, 1997; 1998. Macroeconomics, economic development.

**Trescott, Paul B.**, Professor, *Emeritus*, Ph.D., Princeton University, 1954; 1976.

**Watts, Alison**, Associate Professor, Ph.D., Duke University, 1993; 2001. Microeconomics, game theory, industrial organization, law and economics.

The Department of Economics offers graduate programs that lead to both master's and doctoral degrees. The master's degree is designed to be a twelve- to sixteen-month program in which the student takes courses in theory as well as an applied specialization. The doctoral program is built around a core of courses in microeconomics and macroeconomics and allows the student to specialize in two fields. The coursework towards the doctoral degree is expected to take three years and the writing of a dissertation one year.

### Admission

The overall scholastic record and potential of the applicant for admission is more important than prior preparation in specific areas of economics. While undergraduate specialization in economics is desirable, the program is open to students whose undergraduate specialization has been in other fields. However, if the student has not had intermediate level microeconomics, macroeconomics, and statistics, remedial work may be required before admission to the department.

Application forms must be submitted to the Department of Economics. Application materials, as well as additional information, may be obtained from: Director of Graduate Studies, Department of Economics, Southern Illinois University Carbondale, Carbondale, IL 62901-4515. Phone 618-536-7746.

A non-refundable application fee of \$25.00 must be submitted with either the pre-application or the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application or pre-application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

All applicants should take the aptitude portion of the Graduate Record Examination. Information on testing dates and places may be obtained by writing to Educational Testing Service, Princeton, New Jersey 08540. Scores should be sent to Southern Illinois University Carbondale marked "Attention: Department of Economics." All exam scores must be received before admission.

Evaluations of applicants by the department are based on information from the application form, GRE scores, transcripts, and other information.

Applicants not admitted to the Department of Economics who meet the Graduate School requirements may register for remedial courses as nondeclared students. Such persons may be considered for admission to the Department of Economics at a later date, based on their performance in such remedial courses. This option is not available for international students.

Foreign applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL). The Department of Economics requires that the applicant achieve a 550 paper score or 220 computer score or above for admission to the graduate program. The TOEFL must be taken no more than 24 months prior to the date when admission is sought. For information concerning TOEFL testing dates and locations, write to Educational Testing Service, Princeton, New Jersey 08540.

*Entry into Ph.D. Program.* A student with a master's degree must meet Graduate School admission requirements with a graduate grade point average of 3.25 (A = 4.0) or better. A student with a bachelor's degree must meet Graduate School admission requirements with an undergraduate grade point average of 2.7 or better. After meeting these

requirements the bachelor's degree student will be initially admitted as a master's student. Upon passing the qualifying exam, taken after the first year of graduate study, the student will be given entry into the doctoral program. Application for entry should be made to the director of graduate studies in the Department of Economics.

*Entry into the Master's Degree Program.* The master's degree program is intended to serve as a terminal degree. A student with a bachelor's degree must meet Graduate School admissions requirements with a grade point average of 2.7. Application materials are available from the director of graduate studies in the Department of Economics.

### **Requirements for the Master's Degree**

The master's degree prepares students for positions in government and business and for teaching at the junior college level. The general requirements for the Master's degree may be conveniently classed under two broad headings, course and hour requirements and research requirements.

*Course and Hour Requirements.* Those students who plan to receive the Master's degree as a terminal degree are required to have the following courses:

Economics 465 Mathematical Economics I

Economics 463 Applied Econometrics

Economics 540a Microeconomic Theory I

Economics 541a Macroeconomic Theory I

Each master's student must take at least one graduate director-approved, two-course specialization. In addition, each master's student must accumulate a minimum total of 30 graduate-level semester hours approved by the director of graduate studies. Of this minimum, 21 hours must be in Economics courses, excluding Economics 408, 440, 441, 443, 507, and 590, and 15 must be in 500-level courses.

Any student who earns six semester hours of C or below in Economics courses taken for graduate credit is subject to dismissal from the graduate program in economics. A 3.0 GPA in 400- and 500-level economics courses excluding Economics 408, 436, 440, 441, 501, 502, 510, 525, and 598. Only 400- and 500-level courses may count toward the master's degree. Graduate students in economics cannot take Economics 408, 440, 441, or 443 for credit toward a degree in economics.

### *Research Requirements*

A Master of Arts degree will be awarded upon completion of a Master's thesis, and the course and hour requirements. The thesis shall be supervised by a committee of at least three members of the graduate faculty and may be counted for 6 semester hours of credit as Economics 599. (Thus the thesis constitutes 6 of the required 30 semester hours.) Two copies of the approved thesis must be presented to the Graduate School at least three weeks prior to the date of graduation, to be bound and shelved in the library. One copy of the thesis is to be submitted to the Department of Economics.

A Master of Science degree will be awarded upon completion of a research paper and the course and hour requirements. The research paper is counted as three hours of credit as Economics 598. One copy is to be submitted to the Graduate School at least three weeks prior to the date of graduation, and one copy is to be submitted to the Department of Economics. Under this option, the student must take an additional graduate-level course for 3 semester hours.

### **Doctor of Philosophy Degree**

The Ph.D. degree prepares students for teaching and research positions in the academic world, for positions such as senior economist in private industry and consulting firms, and for government positions requiring advanced economic training.

*Course Requirements and Qualifying Exam.* In the student's first year of graduate work he/she will be required to take the following courses:

Economics 541a Macroeconomic Theory I

Economics 541b Macroeconomic Theory II

Economics 540a Microeconomic Theory I

Economics 540b Microeconomic Theory II

Economics 465 Mathematical Economics I

Economics 511 Mathematical Economics II

At the end of the first year (June) the student will take a qualifying examination in microeconomic and macroeconomic theory. The student will be allowed at most two attempts at passing the qualifying exam.

*Fields of Specialization.* The student is required to take two specialized fields in economics. In addition, the student is required to pass a written examination (after completion of the appropriate course work for credit) in one specialized field at the end of the second year. The Department of Economics offers the following fields of specialization: economic development, international economics, monetary theory and policy, applied microeconomics, advanced economic theory, and finance. The student will be allowed to take a field exam at most two times.

*Other Required Courses.* Students are required to pass the following courses:

Economics 540c Microeconomic Theory III

Economics 541c Macroeconomic Theory III

Economics 567a Econometrics I

Economics 567b Econometrics II

Economics 567c Econometrics III

### Dissertation

Upon completion of the coursework and passing of the exams discussed above, the student will then be admitted to candidacy for the Ph.D. This will normally occur after the third year of work. Following this, the candidate, in consultation with his/her dissertation chairperson, will form a dissertation committee and develop a proposal. After the proposal is approved, the student must complete a dissertation based on original research and successfully defend the dissertation before the faculty.

### Courses (ECON)

**408-3 Economics and Business Statistics II.** A continuation of 308 which includes the construction, interpretation and use of economic data. Topics include correlation, regression, decisionmaking, index numbers, time series analysis, forecasting and other statistical techniques used in analyzing economic and business data. This course will not count as graduate credit for economics majors. Prerequisite: 308 or equivalent.

**416-3 Financial Economics.** Study the role of money within financial system, and the role of the financial system itself in providing risk-sharing, liquidity and information services. An examination of the bond market, interest rates and the concepts of risk, liquidity, information costs, taxation and investment maturity. A detailed examination of financial markets, e.g. the markets for stocks, foreign exchange, and market for financial derivatives. Finally, a more detailed account of why and how financial institutions and instruments evolve. Prerequisite: 241 or consent of instructor.

**419-3 Latin American Economic Development.** Special attention to contemporary policy issues and alternative strategies for development. Among the topics included are inflation and financial reform, international trade and economic integration, foreign investment and agrarian reform. Prerequisite: 322 or 340 or 341 or consent of instructor.

**420-3 The History of American Growth in the 20th Century.** An analytical survey of American growth in the present century. Concentrates on problems associated with the United States' role as a world economic power and changes in economic institutions engendered by rapid technological change and the need to cope with such problems as income distribution, equity, the growing public sector, inflation, unemployment and others. Prerequisite: 340 or 341 or consent of instructor.

**429-3 International Trade and Finance.** Analysis of the pattern and volume of world trade and capital flows; effects of trade and payments on the domestic economy; problems and methods of adjusting to change in the balance of payments. Prerequisite: 340 and 341 or consent of instructor.

**431-3 Public Finance II.** State and local. Analysis of the economic effects, problems and alternative solutions concerning state and local government expenditures, revenues and debt. Prerequisite: 330 or 340 or 341 or consent of instructor.

**436-3 Government and Labor.** Influence of government and law on collective bargaining, on the internal operation of unions, and on job discrimination in the public and private sectors. Prerequisite: Political Science 114 and Economics 113 or equivalents or consent of instructor.

**440-3 Price, Output and Allocation Theories.** A systematic survey of theories of product prices, wage rates, rates of production and resource utilization under conditions of competition, monopolistic competition, oligopoly and monopoly markets. Emphasis is on developing analytical tools useful in the social sciences. Not open to students who have had Economics 340. Prerequisite: 240 or consent of instructor.

**441-3 Contemporary Macroeconomic Theory.** An examination in the causes of inflation, unemployment, and fluctuations in aggregate economic activity, factors affecting consumption and investment, and the sources of economic growth. Emphasis is on understanding contemporary United States macroeconomic problems and the options for fiscal, monetary and income policies facing the United States government. Not open to students who have had 341. Prerequisite: 241 or consent of instructor.

**443-3 Honors Seminar in Economics.** Application of the tools of economic analysis to the study of contemporary social problems. Enrollment limited to economic majors who have a minimum cumulative grade point average of 3.0 or higher in all prior economics courses. Economics graduate students are not permitted to enroll in this course. Prerequisite: 340 and 341 or consent of instructor.

**450-3 History of Economic Thought.** An analytical study of the development of economic ideas, with special reference to historical and societal context, central thrust and impact. Such benchmark figures as Smith, Marx, Marshall, Veblen and Keynes are highlighted and major schools of economic thought are identified. Prerequisite: 240 and 241 or 113 or consent of instructor.

**463-3 Introduction to Applied Econometrics.** Applications of statistical tools to specific economic problems. Numerous examples will be examined in order to achieve this goal. Emphasis will be given to model misspecification, non-classical estimation techniques, data analysis and simultaneous equations. Prerequisite: 408 or consent of instructor.

**465-4 Mathematical Economics I.** A systematic survey of mathematical economics. Application of basic mathematical tools to economic analysis, and a restatement of economic theory in mathematical terms. Prerequisite: 340 or 440 and Mathematics 140, or consent of instructor.

**474-3 Antitrust and Regulation.** The theory and practice of government policy toward imperfectly competitive markets. Includes such topics as merger policy, unfair trade practices, regulation of natural monopolies, peak load pricing, safety and environmental regulation, and consumer protection. Prerequisite: 340 or 374.

**479-3 Problems in Business and Economics.** Application of economic theory and tools of analysis to practical business problems. Cost and demand functions, and forecasting are analyzed from a policy standpoint. Prerequisite: 240, 308 or consent of instructor.

**500-3 to 24 (3 per topic) Economics Seminar.** A study of a common, general topic in the field of economics with individual reports on special topics. Prerequisite: consent of instructor.

**501-1 to 21 Economics Readings.** Readings from books and periodicals in economics. Master's degree students limited to a total of six hours. Prerequisite: consent of instructor and chair.

**502-1 to 4 Readings in Resource Economics.** (See Forestry 590.)

**507-1 to 4 (1,1,1,1) Practicum in Undergraduate Teaching.** Emphasizes teaching methods, source materials, and preparation of classroom materials. All teaching assistants must enroll. One hour of credit per semester. Graded *S/U* only.

**510-2 Research in Economics: Design, Methodology and Presentation.** Systematic approach to economic research. Includes research planning and design, exploration of the various sources of data and most frequently used methodology. The last part of the course is concentrated on techniques for communicating the results of research. Prerequisite: consent of instructor.

**511-3 Advanced Mathematical Economics.** A continuation of topics in 465 with more emphasis on proofs. Topics include economic applications of integration, differential equations and real analysis. Prerequisite: 465 and Mathematics 211, or consent of the instructor.

**512-3 Seminar in Labor Institutions.** Multi-disciplinary approach to collective bargaining in the private and public sectors, considering industrial relations theory and the economic effects of collective bargaining. Readings and cases. Prerequisite: 310 or equivalent or consent of instructor.

**517-3 Monetary Theory and Policy.** A survey of contemporary monetary theory and related policy issues. Prerequisite: 541 or consent of instructor.

**518-3 Monetary Theory and Policy II.** Contemporary topics in monetary theory and policy, including analysis of the roles of money in inflation and economic growth, and an appraisal of the conduct and impact of monetary policy. Prerequisite: 517 or consent of instructor.

**520-6 (3,3) Economic Development Theory and Policy. (a)** Classical, neoclassical, and modern contributions to the theory of development; theories of underdevelopment. **(b)** Basic approaches to economic development; laissez-faire; balanced growth; unbalanced growth, role of government; methods of planning; and foreign aid. Must be taken in a,b, sequence. Prerequisite: consent of instructor.

**522-3 Microeconomic Foundations of Labor Markets.** The approach is theoretical. Topics include the theory of wage and employment determination, labor mobility, labor market imperfections, the special problems of minority group labor and trade union issues. Prerequisite: 538 or 540b or consent of instructor.

**525-4 Seminar in Economics in Geography and Planning.** (Same as Geography 522.) Public expenditure criteria based on free-market allocation, public, private, and merit goods and services, and related planning; expenditure criteria based on comprehensive plans; expenditure criteria and planning in the absence of general optimality; multiple objectives, measurement of benefits and costs, shadow prices, choice of techniques in planning; consideration of uncertainty. Critical evaluations of applied work and models of development projects and programs by students. Prerequisite: 422 or consent of instructor.

**530-3 Foreign Trade.** Emphasis on the advanced theory of international trade, survey of significant literature in international theory. Study of more advanced tools of analysis. Prerequisite: 340 or 440 or consent of instructor.

**531-3 International Finance.** Application of theory to current international economic developments. Empirical studies. Prerequisite: 329 or consent of instructor.

**532-3 Economics of Human Resources.** The study of institutions and policies designed to solve manpower problems. Emphasizes such topical areas as unemployment, underemployment, manpower training and development, labor market behavior, vocational education, labor problems of the handicapped, the aged, women, and minority groups, health economics, economics of education and poverty. Prerequisite: consent of instructor.

**533-3 Public Finance Theory and Practice.** Historical development of public finance theories with analysis of their policy implications. Prerequisite: 330 or consent of instructor.

**534-3 Economics of Taxation.** This course examines from a theoretical and applied point-of-view, various economic aspects of taxation. Other government revenue sources may also be analyzed such as inter-governmental grants and debt. Emphasis is on application of microeconomic theory to problems in taxation. Usual topics include: equity in taxation, shifting and incidence of taxes, excess burden of taxes, other economic effects of taxes, tax reform, debt. Prerequisite: 330 and 340, or 440, or consent of instructor.

**540A-3 Microeconomic Theory I.** The course provides the basic theoretical knowledge necessary for microeconomic research in business and government. Prerequisite: 340 or 400 or consent of instructor.

**540B-3 Microeconomic Theory II.** A contemporary course in partial equilibrium analysis. Topics include the theory of the firm, market structure and the theory of the consumer. The course frequently takes an axiomatic approach;

consequently there are many formal statements and proofs of theorems. Prerequisite: 465 and Mathematics 221, or Mathematics 150, 221 and 250 or consent of instructor.

**540C-3 Microeconomic Theory III.** A contemporary course in general equilibrium analysis. Topics include equilibrium in an exchange economy, equilibrium with production and welfare implications of general equilibrium. The existence and uniqueness of equilibrium and the concept of the core of an economy are studied in detail. Prerequisite: 511, 540b or Mathematics 352, or consent of instructor.

**541A-3 Macroeconomic Theory I.** The Rigorous development of general equilibrium macroeconomic models to analyze the determination of national income in the context of Classical, Keynesian, Neoclassical and Monetarist economic systems. Also included is the study of key sectoral demand functions. Prerequisite: 341 or 441 or consent of instructor.

**541B-3 Macroeconomic Theory II.** Continuation of 541A. Analyzes the ideas of New Classical and New Keynesians on the determination of national income. Focuses on the impact of rational expectations and the natural rate hypotheses on the effectiveness of macroeconomic policy. Also included are recent developments in the area of business cycles. Prerequisite: 541a.

**541C-3 Macroeconomic Theory III.** Recent developments and major issues in contemporary macroeconomic theory. Focuses on incorporating uncertainty, stochastic tools and dynamic analysis into macroeconomic theory. Prerequisite: 541b.

**542-6 (3,3) Industrial Organization. (a)** Industrial organization I. A study of the variety of forms of competition among firms. Topics include theories of the firm, oligopoly theory, theories of entry, product differentiation and innovation. Prerequisite: 440 and 441. **(b)** Industrial organization II. A survey of government policy toward industry. Topics include antitrust: mergers, concentration and unfair trade practices, regulation of public utilities, peak load pricing, product, safety and environmental regulation. Prerequisite: 440 and 441.

**545-3 Resource Economics.** A survey of theoretical and institutional aspects of energy production, distribution, consumption and regulation. Topics covered include cartel theory, history of energy use, theory of resource exhaustion, models of energy demand and supply, past and current policy issues, and environmental protection. Prerequisite: 467 and 440, or consent of instructor.

**546-3 Workshop in Resource Economics.** A research seminar on topics related to energy production, distribution, consumption and regulation. Meetings will be divided among presentations of research of (a) faculty, (b) students, and (c) outside speakers, offered every semester. Maximum of three hours toward Master's degree in economics. Prerequisite: 545.

**552-3 Seminar in Economic Thought.** An exploration of the basic philosophic assumptions which underlie the various types of economic thought with special emphasis upon the historical development of the premises of modern day economic theories. Prerequisite: 450a or 450b or consent of instructor.

**566-3 Mathematical Economics II.** Linear economic models. Linear programming. Input-output analysis and general equilibrium models. Prerequisite: 340 or 440 or 465 or consent of instructor.

**567A-3 Econometrics I.** Topics include distribution theory, statistical inference, hypothesis testing and classical linear multiple regression. The emphasis is on both theory and application. Prerequisite: 408, 465 and Mathematics 150, or consent of instructor.

**567B-3 Econometrics II.** Further topics in the theory and application of single equation econometric models including model specification, data problems, large sample results, non spherical disturbances, heteroscedasticity, autocorrelation and time series analysis. Prerequisite: 567a or consent of instructor.

**567C-3 Econometrics III.** Topics will include systems of regression equations and simultaneous equation models. Additional topics will be selected by the instructor from the following: models with discrete dependent variables, limited dependent variable model, nonlinear regression model, nonlinear optimization and estimation of stochastic equilibrium models. Prerequisite: 567b or consent of instructor.

**570-3 Seminar in Contemporary Microeconomic Theory.** An investigation of recent developments and current controversies in economic theory with emphasis on microeconomic problems. Prerequisite: 540b.

**571-3 Seminar in Contemporary Macroeconomic Theory.** An investigation of recent developments and current controversies in economic theory with emphasis on macroeconomic problems. Prerequisite: 541b or consent of instructor.

**575A-3 Econometric Theory I.** Topics include: probability theory; asymptotic theory; linear regression; likelihood ratio, Lagrange multiplier, and Wald tests; stochastic processes; ARIMA models; unit root tests, cointegration, spurious regression, and spurious trend; ARCH models; VAR models; and other topics to be determined by the instructor. Prerequisite: 567b or consent of instructor.

**575B-3 Econometric Theory II.** Topics include: density estimation methods, nonparametric regression, stochastic frontiers, nonlinear regression models, nonlinear time series models, information matrix tests, generalized method of moments, nonnested hypothesis testing, Bayesian methods, bootstrapping, and other topics to be determined by the instructor. Prerequisite: 575a or consent of instructor.

**580A-3 Performance Measurement.** Analysis of measurement of efficiency and productivity using frontier techniques. Focuses on theoretical and empirical specification of production frontiers and the evaluation of performance relative to those frontiers. Duality theory is exploited to investigate performance in various economic environments. Prerequisite: 540a and 465, or consent of instructor.

**580B-3 Welfare Measurement.** A study of the theory and methods of constructing economic measures of price, quantity and other welfare indicators. Prerequisite: 540a, 540b and 465 or consent of instructor.

**590-1 to 8 (1 per semester) Seminar in Contemporary Economics.** Presentation and discussion of current research in economics. One hour credit per semester. Graded *S/U* only.

**598-1 to 3 Research Paper.** Preparation of a research paper for a Master's degree. Prerequisite: consent of instructor.

**599-1 to 6 Thesis.** Minimum of four hours to be counted toward a Master's degree. Graded *S/U* only.

**600-1 to 36 (1 to 16 per semester) Doctoral Dissertation.** Hours and credit to be arranged by director of graduate studies. Graded *S/U* only.

**601-1 per semester Continuing Enrollment.** For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.