

Economics

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COLLEGE OF LIBERAL ARTS

Graduate Faculty:

Becsi, Zsolt, Associate Professor, Ph.D., University of Wisconsin-Madison, 1991; 2003. Public finance, macroeconomics.

Dai, Chifeng, Associate Professor, Ph.D., University of Florida, 2003; 2005. Industrial organization, public economics, law and economics, and applied econometrics.

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

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

Grabowski, Richard, Professor, *Emeritus*, 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, *Emeritus*, Ph.D., Brown University, 1984; 1983. Microeconomic theory; mathematical economics.

Morshed, A.K.M. Mahbub, Associate Professor, Ph.D., University of Washington, 2001; 2004. Macroeconomic theory, International economics, economic growth.

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

Primont, Daniel, Professor, *Emeritus*, Ph.D., University of California, Santa Barbara, 1970; 1978.

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

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

Watts, Alison, 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 12-16 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, macroeconomics and econometrics, 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 a student has not taken intermediate level microeconomics, macroeconomics, and statistics, remedial work may be required before the student can take the required courses for the graduate degree.

Application is done online: gradschool.siu.edu/applygrad. Additional information about the graduate programs in the Department of Economics is available online at cola.siu.edu/economics.

This program requires a nonrefundable \$65 application fee that must be submitted with the application for admission to graduate study in economics. Applicants must pay this fee by credit card.

All applicants should take the aptitude portion of the Graduate Record Examination. Information on testing dates and locations may be obtained at ets.org or 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 to international students.

Foreign applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL) or another equivalent test. The Department of Economics requires that the applicant achieve a 550 paper score or a 220 computer score or an 80 internet-based score or above for admission to the graduate program. The TOEFL must be taken no more than 24 months prior to the date for which admission is sought. For information concerning TOEFL testing dates and locations, visit ets.org or 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 to the Ph.D. program should be made at the Graduate School website, gradschool.siu.edu.

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 for entry to the master's degree program should be made at the Graduate School website, gradschool.siu.edu/.

Bachelor's and Accelerated Masters's Track. Undergraduate Economics majors at SIU can enter an accelerated Bachelor's-Master's program in which specific courses will satisfy requirements in both degrees allowing for completion of the master's in just one year after the B.A. To enter this program, students apply through the Department of Economics during their junior year and must have at least a 3.25 GDP in all coursework. Please see the Director of Graduate Studies in the Economics Department for more information.

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 classified 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:

- ECON 465* Mathematical Economics I
- ECON 463* Applied Econometrics
- ECON 540A Microeconomic Theory I
- ECON 541A Macroeconomic Theory I

*For graduate credit

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 ECON 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 minimum grade point average of 3.0 (*A* = 4.0) in 400- and 500-level economics courses is required excluding ECON 408, 440, 441, 501 and 502. Only 400- and 500-level courses may count toward the master's degree. Graduate students in economics cannot take ECON 408, 440, 441, or 443 for credit toward a graduate degree in economics.

Research Requirements. A Master of Arts degree will be awarded upon completion of a research paper and the course and hour requirements. The research paper is counted as three semester hours of credit as ECON 598. For electronic submission requirements, please go to gradschool.siu.edu/thesis-dissertation-researchpaper/research-paper-guidelines. Here you will find detailed information concerning the electronic submission requirements. One copy is to be submitted to the Department of Economics prior to graduation. Under this option, the student must take an additional graduate-level course for three semester hours.

A Master of Science 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 will be counted for six semester hours of credit as ECON 599. (Thus the thesis constitutes six of the required 30 semester hours). The student is required to submit the thesis electronically to the Graduate School. For electronic submission requirements, please go to gradschool.siu.edu/thesis-dissertation-researchpaper/etd-guidelines. Here you will find detailed information concerning the electronic submission requirements. One copy of the thesis is to be submitted to the Department of Economics prior to graduation.

Requirements for the 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 (Fall/Spring) of graduate work he/she will be required to take the following courses:

- ECON 465 Mathematical Economics I
- ECON 540A Microeconomic Theory I
- ECON 540B Microeconomic Theory II
- ECON 541A Macroeconomic Theory I
- ECON 541B Macroeconomic Theory II
- ECON 567A Econometrics I

At the end of the first year (June) the student will take qualifying examinations over microeconomic theory and macroeconomic theory. A student will be allowed at most two attempts at passing each qualifying exam.

Fields of Specialization. A 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. A student will be allowed to take a field exam at most two times.

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

- ECON 540C Microeconomic Theory III
- ECON 541C Macroeconomic Theory III
- ECON 567B Econometrics II
- ECON 567C Econometrics III

Dissertation. Upon successful completion of the coursework and passing of the qualifying and field examinations, a student will then be admitted to candidacy for the Ph.D. degree. 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.

The student is required to submit their dissertation electronically to the Graduate School. For electronic submission of dissertations, please go to gradschool.siu.edu/thesis-dissertation-researchpaper/etd-guidelines. Here the student

will find frequently asked questions as well as information from UMI (University Microfilm International) regarding electronic submission requirements. One copy of the dissertation is to be submitted to the Department of Economics prior to graduation.

Courses (ECON)

ECON 416-3 Financial Economics. Study the role of money within the 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: ECON 315 or 341 or consent of instructor.

ECON 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: ECON 322, or 340, or 341, or consent of instructor.

ECON 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: ECON 340 and 341 or consent of instructor.

ECON 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: ECON 330 or 340 or 341 or consent of instructor.

ECON 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: ECON 240 or consent of instructor.

ECON 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: ECON 241 or consent of instructor.

ECON 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: ECON 240 and 241; or 113; or consent of instructor.

ECON 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: ECON 308 or equivalent or consent of instructor.

ECON 465-4 Mathematical Economics I. A systematic survey of the fundamental mathematical tools for economic analysis. Topics include functions and their properties, including derivatives and integrals. The focus is on calculus techniques for optimization and comparative statics analysis. Prerequisite: ECON 340 or 440, and MATH 140 or consent of instructor.

ECON 474-3 Economic Strategies for Business. This course will be concerned with broad principles of microeconomics that underlie all business decision-making. The main topics discussed may include the firm's costs, pricing and research and development decisions under different market structures, price discrimination, strategies of different business practices, information, advertising, decision-making over time, and decision-making under symmetric information. Prerequisite: ECON 240 or its equivalent or consent of instructor.

ECON 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: ECON 240, 308 or consent of instructor.

ECON 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. Special approval needed from the instructor.

ECON 501-1 to 21 Economics Readings. Readings from books and periodicals in economics. Master's degree students limited to a total of six hours. Special approval needed from the instructor and chair.

ECON 502-1 to 4 Readings in Resource Economics. (See FOR 590).

ECON 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.

ECON 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. Special approval needed from the instructor.

ECON 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: ECON 465 or consent of instructor.

ECON 517-3 Monetary Economics I. A graduate-level introduction to the field of monetary economics. Students will focus on the core theoretical models to describe and explain the role of money in modern economies. The course emphasizes empirical methods in macroeconomics and reviews current empirical research and evidence on the channels through which money influences economic activity. Students will relate monetary variables to the rates of interest, inflation and unemployment, to deficits and the national debt, and to savings, investment, and output. Prerequisite: ECON 541A or B and 463 or equivalent.

ECON 518-3 Monetary Economics II. An advanced graduate-

level course in monetary economics. Students will use contemporary macroeconomic models to analyze monetary policy. The course emphasizes macroeconomic theory and the role of underlying frictions in monetary economies. Students will focus on recent developments and controversies in monetary theory and policy as well as on optimal monetary policy under discretion or commitment, monetary policy operating procedures, and the interaction of monetary and fiscal policy. Prerequisite: ECON 541B and 517.

ECON 520A-Economic Development Theory and Policy. The two parts deal with the macroeconomic and microeconomic aspects of development economics, respectively. 520A topics include theories of development, structural change, income inequality, natural resources, open economy shocks, and the political economy of development.

ECON 520B-3 Economic Development Theory and Policy. The two parts deal with the macroeconomic and microeconomic aspects of development economics, respectively. 520B topics include theories and case studies of famine and famine prevention, gender and development, economics of child labor, and informal credit markets and microfinance. Prerequisite: ECON 465 and ECON 540A or their equivalent or consent of instructor.

ECON 530-3 Foreign Trade. This course covers the determinants of the pattern of trade and possible gains from trade, under both perfect and imperfect competition. It also examines trade policy issues such as optimal tariffs and the relative merits of alternative trade policies. A number of specific topics are also covered, for example: foreign direct investment, trade and the environment, and fair trade. Prerequisite: ECON 465 and ECON 540A or their equivalent or consent of instructor.

ECON 531-3 International Finance. Application of theory to current international economic transactions. Emphasis is placed on topics at the frontier of research in international macroeconomics, with empirical studies. Prerequisite: ECON 465 and ECON 541A or consent of instructor.

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

ECON 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: ECON 330 and ECON 340, or ECON 440, or consent of instructor.

ECON 540A-3 Microeconomic Theory I. The course provides the basic theoretical knowledge necessary for microeconomic research in business and government. Prerequisite: ECON 340 or ECON 440 or consent of instructor AND MATH 150 or its equivalent or consent from the Director of Graduate Studies in the Economics Department.

ECON 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: ECON 465 and Mathematics 221, or Mathematics 150, 221 and 250 or consent of instructor.

ECON 540C-3 Microeconomic Theory III. A contemporary course in game theory as applied to economics. Topics include static games of complete and incomplete information with applications to Cournot oligopoly, tragedy of the commons, and auctions; as well as dynamic games of complete and incomplete information with applications to Stackelberg oligopoly, sequential bargaining, imperfect international competition, and job market signaling. Prerequisites: ECON 540A and ECON 540B or consent of instructor.

ECON 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: ECON 340 or ECON 440 or consent of instructor AND MATH 150 or its equivalent or consent from the Director of Graduate Studies in the Economics Department.

ECON 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: ECON 541A.

ECON 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: ECON 541B.

ECON 542A-3 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: ECON 440 and ECON 441.

ECON 542B-3 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: ECON 440 and ECON 441.

ECON 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: ECON 440 or consent of instructor.

ECON 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: ECON 545.

ECON 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.

ECON 566-3 Mathematical Economics II. Linear economic

models. Linear programming. Input-output analysis and general equilibrium models. Prerequisite: ECON 340 or ECON 440 or ECON 465 or consent of instructor.

ECON 567A-3 Econometrics I. This is a course in modern mathematical statistics applied to economics and allied fields. Students will use calculus and linear algebra to apply probability and statistical models to data, via parameter estimation and hypothesis testing. Key topics include probability models, features of probability distributions, sampling distributions, estimation via maximum likelihood, inference via likelihood ratio, score and Wald tests; and asymptotic theory. Applications center on the simple linear regression model and its variants, and students will apply models to data using econometric software. Prerequisite: ECON 465 or consent of instructor.

ECON 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 and autocorrelation. Topics in time series analysis include unit root tests and ARIMA model building. Prerequisite: ECON 465 and ECON 567A or consent of instructor.

ECON 567C-3 Econometrics III. Topics covered are systems of regression equations; models for panel data; simultaneous equations models; time series models; VAR; causality, cointegration, error correction model among others; and estimation and inference in models with discrete and limited dependent variables, i.e., Probit and Logit models, censored regression models and Tobit analysis. Prerequisite: ECON 567B or consent of instructor.

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

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

ECON 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: ECON 567B or consent of instructor.

ECON 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, non-nested hypothesis testing, Bayesian methods, bootstrapping, and other topics to be determined by the instructor. Prerequisite: ECON 575A or consent of instructor.

ECON 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: ECON 540A and ECON 465, or consent of instructor.

ECON 580B-3 Welfare Measurement. A study of the theory and

methods of constructing economic measures of price, quantity and other welfare indicators. Prerequisite: ECON 540A, ECON 540B and ECON 465 or consent of instructor.

ECON 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.

ECON 598-1 to 3 Research Paper. Preparation of a research paper for a Master's degree. Special approval needed from the instructor.

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

ECON 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.

ECON 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.

ECON 699-1 Postdoctoral Research. Must be a Postdoctoral Fellow. Concurrent enrollment in any other course is not permitted