

## Economics

### School of Liberal Arts Indianapolis

**Chairperson**

Professor Paul Carlin\*

**Departmental E-mail**[rdrenoll@iupui.edu](mailto:rdrenoll@iupui.edu)**Departmental URL**[www.iupui.edu/~econ](http://www.iupui.edu/~econ)

## Graduate Faculty

(An asterisk [\*] denotes membership in the University Graduate School faculty with the endorsement to direct doctoral dissertations.)

**Professors**

David Glenn Bivin\*, Paul S. Carlin\*, Subir K. Chakrabarti\*, Robert B. Harris, Peter Coia Rangazas\*, Patrick M. Rooney\*, Steven Russell\*, Robert Sandy\*, Martin C. Spechler\*, Richard S. Steinberg\*

**Associate Professors**

Marc Bilodeau\*, Gwendolyn Morrison, Una O. Osili, Anne B. Royalty\*, Mark O. Wilhelm\*

**Assistant Professor**

Ye Zhang

**Admissions**

Professor Peter Coia Rangazas\*

**Advising**

Associate Professor Anne Royalty\*

## Degree Offered

Master of Arts

**Program Information**

The Master of Arts in economics has a twofold objective: (1) to provide students with analytical capabilities and research skills for careers in business, government, and the nonprofit sector; and (2) to prepare those who wish to pursue the Ph.D. at another university or Indiana University Bloomington.

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## Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements**

Applicants should have completed a bachelor's degree from an accredited institution. Ordinarily, applicants should have a minimum grade point average of 3.0 on a 4.0 scale in their undergraduate course work and in their previous economics courses. Before undertaking graduate study in economics, a student should have knowledge of intermediate-level undergraduate economic theory (E321 and E322), statistics (E270), multivariate differential and integral calculus (the IUPUI equivalents are M165 and M166 offered by the mathematics department). Students with deficiencies in economics and/or mathematics may be admitted on a conditional basis.

The verbal, quantitative, and analytical portions of the Graduate Record Examination (GRE) are required, and applicants are urged to complete the examination by December of the year before admission. Requests to substitute GMAT scores for GRE scores will be considered.

Three letters of recommendation are required. For students with English as a second language, a minimum TOEFL score of at least 550 is recommended. Successful completion of ELS 112 will be accepted in lieu of TOEFL for admission. Those who seek financial support should continue to submit the TOEFL and would normally need a score of 600 or better to receive an award.

## Master of Arts Degree

**Course Requirements**

Students must complete a minimum of 30 credit hours of graduate work, which may include up to 6 credits of thesis. Twelve (12) credits are devoted to the following required core courses: E504 Mathematics for Economists, E521 Theory of Prices and Markets, E622 Theory of Income and Employment, and E570 Fundamentals of Statistics and Econometrics. These core courses serve as the prerequisites for some of the 500-level field courses. No more than 9 of the remaining 18 credits may be earned in courses numbered below 500. If a thesis is written, it must be defended. If a thesis is not written, there will be a comprehensive written examination with an oral defense in an area of specialization within economics.

Students have the option of replacing the thesis with reading proficiency in a foreign language or with 6 credit hours of course work in tool skills such as mathematics, statistics, or computer science. Consult the department's Graduate Study Guide for a list of acceptable research-skill courses. Courses

carrying graduate credit taken to meet the language or tool skill options are counted toward the 30 credits required for the degree.

### Grades

The student must receive at least a C (2.0) in each course and must average at least a B (3.0 on a 4.0 scale) for all courses taken.

## Dual Degree: Master of Arts in Economics and Master of Arts in Philanthropic Studies

The dual master's degree in economics and philanthropic studies substantially benefits students intending to pursue a career in independent research, academia, or practice. Normally, those pursuing a career in research or academia continue in a Ph.D. program in economics, finance, accounting, management, marketing, or public policy. Very few doctoral programs include substantial content on philanthropy or nonprofit organizations. As such, the M.A. in philanthropic studies provides a broad interdisciplinary background that makes the future researcher sensitive to the institutional details, values, and history of the sector, thus leading to better research. For the future nonprofit manager or leader, economics provides the principles and methodologies to make informed decisions on the appreciative level, the policy level, and the managerial level.

Admission requirements for the dual degree program are identical to those for each program separately. Separate application must be made to each of the two programs. Students are expected to take responsibility for learning about and meeting the admission requirements of each school individually, which may differ from each other in application documents required, minimal standards of criteria for admission, and deadline dates. Students must make plans early with advisors in both programs to identify (1) common courses and (2) thesis credit.

Study for the two degrees can be combined for a total of 51 credit hours rather than the 66 credit hours that would be required if the two degrees were taken separately. Two of the required core courses for the M.A. in economics may be selected as electives to meet the Philanthropic Studies Program requirement for two applied electives. One of the required philanthropic studies courses, ECON E514 The Nonprofit Economy and Public Policy, may be taken to meet 3 of the 12 credit hours of electives required in the economics program. A common thesis meets the requirements of both departments.

Further information regarding regulations governing advanced degree programs may be obtained from the respective departments.

## Courses Offered

### E420 History of Economic Thought (3 cr.)

**E504 Mathematics for Economists (1-3 cr.)** Topics in mathematics that are particularly useful in the application of microeconomic

theory, macroeconomic theory, and econometrics. Topics covered include matrix algebra, comparative-static analysis, constrained optimization, difference equations in discrete time, game theory, and set theory as applied to general equilibrium analysis.

**E513 Special Topics in Economic History (3 cr.)** Explicit methodology and economic analysis applied to major issues in American and European economic history.

**E514 The Nonprofit Economy and Public Policy (3 cr.)** P: E201. The role of nonprofit organizations (universities, churches, hospitals, orchestras, charities, day care, research, nursing homes) in mixed economies. Public policy controversies such as regulation of fundraising, antitrust against universities, "unfair" competition with for-profit firms, and the tax treatment of donations. This course may not be taken for credit by anyone who has received credit in ECON E414.

**E519 Regional Economics (3 cr.)** Regional economics is the study of economic behavior in space. The course examines the internal and interregional determinants of growth and decline of a region from supply-and-demand perspectives. Public policies to influence these determinants are considered.

**E521 Theory of Prices and Markets I (3 cr.)** Develops the methodology of economic analysis and teaches the tools and language of price theory. Fundamental elements of consumer theory, producer theory, and economics of uncertainty. Emphasis on comparative statics and the duality theory. Topics include welfare analysis, the theory of price indices, quality of goods, revealed preferences, the theory of derived demand, expected utility theory, attitudes toward risk, and various measures of riskiness.

**E522 Macroeconomic Theory I (3 cr.)** Introductory course on macroeconomic dynamics; covers growth models and asset pricing theories, endogenous growth theories, optimal growth problems, and competitive dynamic equilibrium models. Dynamic programming tools introduced as needed. All models are cast in a discrete time setup; presents deterministic and stochastic theories.

**E528 Economic Analysis of Health Care (3 cr.)** A graduate introduction to health economics. Applications of economic theory to problems in various areas in health care. Applications of econometric techniques to the same. Topics include how physicians, institutions, and consumers respond to economic incentives and what policies contribute maximally to efficiency and welfare.

**E541 Labor Market Analysis (3 cr.)** P: Consent of instructor (Indianapolis). An analytical approach to the labor market. Theoretical underpinning and statistical testing of issues in demand and supply of labor, household decision making, human capital, contract theories, unionism, minimum wages, and discrimination.

**E545 Applied Labor Economics (3 cr.)** Discussion of wage rates and working conditions, searches by workers or firms, investment training, quits and layoffs, shirking, discrimination, the

division of household labor, retirement, and implicit contracts. The course also examines the impact of institutions such as unions and the government on the efficiency of the labor market.

**E551 Monetary Economics II (3 cr.)** Introduces alternative models of monetary economies; covers topics in monetary economics such as money and growth and optimal money growth. The course takes a unified approach to macroeconomic policy, treating monetary and fiscal policy as jointly determining macroeconomic equilibria. May include discussion of empirical work on money.

**E568 Public Finance I (3 cr.)** P: E360, E470, E521, E522. Partial equilibrium, microeconomic analysis of how tax and subsidy policies affect various types of individual and firm behavior. Theoretical models are introduced to assess and develop quantitative studies of fiscal policy. Summaries of the empirical impact of policy will be formed for the purpose of becoming an “input” in the complete general equilibrium analysis conducted in E569 Public Finance II.

**E569 Public Finance II (3 cr.)** P: E568. Empirical examination of the general equilibrium effects of major tax/subsidy programs, such as personal income taxation, corporate profit taxation, income maintenance, Social Security, and government provision of education. In addition, proposed reforms to these programs will be analyzed using empirically based simulation models.

**E570 Fundamentals of Statistics and Econometrics (3 cr.)** P: E504. Mathematical overview of statistics and econometrics at graduate level. Topics covered include probability and probability distributions, sampling distributions, tests of hypotheses, estimation, simple regression, multiple regression, generalized linear model and its applications, simultaneous equation systems.

**E574 Applied Econometrics and Forecasting (3 cr.)** P: E570. An overview of techniques employed in economic model building, estimation, and usage. Topics covered include single and multiple equation system estimation, limited dependent variable regression techniques, hypothesis testing, policy analysis, and forecasting. Various forecasting techniques are discussed, including smoothing decomposition methods and time series analysis. A number of projects are assigned throughout the semester to give the student hands-on experience with the different techniques.

**E581 Topics in Applied Microeconomics I (3 cr.)** P: E521 and E570 or consent of instructor. This course is a graduate-level introduction to theoretical and empirical applications in two areas of microeconomics. We will demonstrate how economic concepts can be usefully applied to understanding problems in the subdiscipline under study and discuss and apply estimation techniques appropriate for problems in the area.

**E582 Topics in Applied Microeconomics II (3 cr.)** P: E521 and E570 or consent of instructor. This course is a second graduate-level introduction to theoretical and empirical applications in two areas of microeconomics. We will demonstrate how

economic concepts can be usefully applied to understanding problems in the subdiscipline under study, and discuss and apply estimation techniques appropriate for problems in the area.

**E583 Topics in Applied Macroeconomics (3 cr.)** P: E522 and E570 or equivalents, or consent of instructor. This course is a graduate-level introduction to theoretical and empirical applications in two areas of macroeconomics. We will demonstrate how economic theories can be usefully applied to understanding problems in the subdiscipline under study and discuss and apply estimation and calibration techniques appropriate for problems in the area.

**E585 Industrial Organization and Control (3 cr.)** P: Consent of instructor (Indianapolis only). Analysis of interrelated structure, behavior, and performance in industrial markets and multi-market corporations; multidimensional nature of competitive processes. Public controls. Topics include patterns of oligopoly, vertical integration, entry barriers; “cartelized” coalescence, limit pricing, price discrimination, long-term contracts; capacity expansion and utilization, resource reallocation, and innovation.

**E600 Readings in Economics (1-6 cr.)** Individual readings and research.

**E808 Thesis (M.A.) (cr. arr.)\*\***

\*\*This course is eligible for a deferred grade.