

## DEPARTMENT OF ECONOMICS

**Dr. Gyan Pradhan, Chair**  
**Luter Hall 227**  
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### Faculty

**Professors:** Pradhan, Winder, Zestos

**Associate Professor:** Taylor

**Assistant Professor:** Chakraborti, He

**Lecturer:** Taghvatalab

**Instructor:** Kotula, Li

**Emeriti:** Booker, Park, Vachris

### Mission Statement

The mission of the Department of Economics is to provide an outstanding, liberal arts education that will enable and inspire our students to live personally meaningful and socially productive lives. We achieve this by teaching a rigorous curriculum that integrates the liberal arts, the core functional areas of economics, and the quantitative competencies needed to address the economic and public policy challenges of today and the future. Students will acquire the analytical and decision-making skills that employers in the private and public sectors value, become informed and thoughtful citizens, and better understand how to enrich human welfare in a complex and interdependent world. Because of its emphasis on sound logic and rational thought, a degree in economics is an excellent foundation for pursuing graduate studies in a wide range of disciplines, including political science, law, public policy, business, international studies, and economics.

### Overview of the Department

Economics is the study of how individuals, firms, government, and society allocate scarce resources among viable alternatives. Students who major in economics enjoy a broad liberal arts education, while also developing analytical skills to prepare them for employment and graduate school. Students develop their analytical abilities with a core curriculum of theory and applied methods courses. The major offers flexibility such that students may tailor their program electives according to their needs. Consult your advisor for assistance in selecting electives that meet your needs.

The economics faculty is a talented and dedicated cadre of teacher-scholars. The faculty has applied work experience in organizations such as the Bureau of Labor Statistics (BLS), financial and investment banking firms, the Organization for Economic Cooperation and Development, and defense economics think-tanks. The professors challenge, encourage, and mentor students to reach their potential.

### Program Objectives

1. To provide students an in-depth understanding of the fundamental principles and theories that underlie both

microeconomics and macroeconomics.

2. To provide students an understanding of one or more of the functional (applied) fields of economics through their upper-level coursework.
3. To help students understand the key elements of the scientific method and learn to utilize and interpret the empirical and statistical methods most commonly found in economic research.
4. To provide students the ability to conduct and present their own independent research in economics.
5. To help students learn how to analyze and critically evaluate ideas, arguments and points of view.
6. To provide students both the knowledge and quantitative skills to be successful in graduate programs in economics, law, public policy, business and other disciplines.

### Opportunities Outside the Classroom

Many of our students enjoy the learning and networking opportunities afforded by the Economics & Finance Club. The club hosts speakers, panel discussions and social gatherings. The Department is also home to the Jean-Monnet European Union Lecture Series.

### After Graduation

Students majoring in economics can find multiple employment opportunities upon graduation. Nearly every industry in the Commonwealth and nation employ economists. Local, state, and federal governments also hire significant numbers of economics graduates. Recent graduates have taken positions at PricewaterhouseCoopers, Deloitte, the U.S. Federal Reserve Bank, Merrill Lynch, Mass Mutual, SunTrust Bank, the U.S. Bureau of Labor Statistics, and the U.S. Department of Defense. Others have gained acceptance to graduate schools such as the London School of Economics, the University of Glasgow, Johns Hopkins University, University of Virginia, Purdue University, Rensselaer Polytechnic Institute, George Mason University and Indiana University.

### Degree Requirements

The department offers a major and minor in economics. Within the major, an optional concentration in mathematical economics is also available.

### Bachelor of Arts Degree in Economics

In addition to the successful completion of the University's liberal learning curriculum, the Bachelor of Arts degree in economics requires successful completion of the following major and elective courses:

**Foundation**

1. MATH 125;
2. ECON 201, 202;
3. MATH 135 or 140 or 148;
4. CPSC 215\*;
5. ECON 300\*\*, 303\*\*\*, 304\*\*\*\*, 485\*\*\*\*\*, 490W.

**Program Electives: Select five courses (15 credits) at the 300 / 400-level. For 400-level courses, select one from each list (ECON 470 cannot be used twice):**

1. ECON 400, 425, 465, 470;
2. ECON 470, 475.

\*Pre- or Co-requisite: MATH 135 or 140 or 148 or a passing score on the CPSC 215 readiness exam.

\*\*Prerequisites: ECON 202, MATH 125, MATH 135 or 140 or 148, each with a grade of C or higher; Prerequisite or Corequisite: ECON 201.

\*\*\*Prerequisites: ECON 201, 202, 300, MATH 125, MATH 135 or 140 or 148, each with a grade of C or higher.

\*\*\*\*Prerequisites: ECON 201, 202, MATH 125, MATH 135 or 140 or 148, each with a grade of C or higher.

\*\*\*\*\*Prerequisites: ECON 201, 202, 300, MATH 125, MATH 135 or 140 or 148, each with a grade of C or higher; CPSC 215 or 250.

**Bachelor of Arts Degree in Economics  
Mathematical Economics Concentration**

The economics core curriculum is complemented by coursework in mathematics. This concentration develops the quantitative skills that are increasingly sought by businesses, government, and research organizations. It is expected that graduates in mathematical economics will gain admission to highly reputed graduate programs.

In addition to requiring the successful completion of the University's liberal learning curriculum, the Bachelor of Arts degree in economics with a concentration in mathematical economics requires successful completion of the following major and elective courses:

1. MATH 125, and MATH 140 or 148;
2. ECON 201, 202;
3. CPSC 215\*;
4. ECON 300\*\*, 303\*\*\*, 304\*\*\*\*, 485\*\*\*\*\*, 490W;
5. Select two 300/400 ECON elective courses (six credits);
6. MATH 240, 250, 260, 320

\*Pre- or Co-requisite: MATH 135 or 140 or 148 or a passing score on the CPSC 215 readiness exam.

\*\*Prerequisites: ECON 202, MATH 125, MATH 140 or 148, each with a grade of C or higher; Pre-requisite or Co-requisite: ECON 201.

\*\*\*Prerequisites: ECON 201, 202, 300, MATH 125, MATH 140 or 148, each with a grade of C or higher.

\*\*\*\*Prerequisites: ECON 201, 202, MATH 125, MATH 140 or 148, each with a grade of C or higher.

\*\*\*\*\*Prerequisites: ECON 201, 202, 300, MATH 125, MATH 140 or 148, each with a grade of C or higher; CPSC 215 or 250.

**Minor in Economics (21 credits)**

The minor in economics requires successful completion of the following courses: ECON 201, 202, 300, 303 and 304 plus six additional credits in upper-level (300-400) economics courses. The minor can be declared after completion of ECON 201 and 202 with a required minimum grade of C in each course. Students must have a CNU GPA of at least 2.0 to declare the minor. (See applicable prerequisites.)

**THE CURRICULUM IN ECONOMICS****ECON 200. The Economic Way of Thinking (3-3-0) LLFE  
Fall and Spring.**

The economic way of thinking can help students better understand problems facing the world. In this course, students will apply the economic way of thinking to a broad set of economic and public policy issues covering topics such as consumer safety and health, the environment, international trade and labor markets. Satisfies the economic modeling and analysis requirement. *Students may not receive credit for this course after receiving a grade of D- or higher in any economics course numbered ECON 201 or higher.*

**ECON 201. Principles of Macroeconomics (3-3-0) LLFE  
Fall and Spring.**

An introduction to the analytical tools commonly employed by economists in determining the aggregate level of economic activity and the composition of output, prices, and the distribution of income. Problems related to these subjects are considered, and alternative courses of public policy are evaluated. Satisfies the economic modeling and analysis requirement.

**ECON 202. Principles of Microeconomics (3-3-0) LLFE  
Fall and Spring.**

Microeconomics is the study of the analytical tools used by economists in the 'theory of the firm'. Topics include the price mechanism, pricing policy, production theory, cost theory, profit maximization, and the various types of market structures. Problems related to these areas and policies for solutions are discussed. Satisfies the economic modeling and analysis requirement.

**ECON 203. Environmental Economic Literacy for the Citizen (3-3-0)  
Fall.**

This course provides students with an introduction to envi-

ronmental issues through an economic lens. The rational, economic analytical approach is introduced and the basic principles of economics are applied to issues such as energy markets, air and water pollution, sustainability, population and environment, waste and recycling, and dealing with climate change. *Students may not receive credit for this course after receiving a grade of D- or higher in any economics course numbered ECON 301 or higher.*

### **ECON 300. Quantitative Methods in Economics (3-3-0)**

*Prerequisite: ECON 202, MATH 125, 135 or 140 or 148, each with a grade of C or higher.*

*Pre-or Co-requisite: ECON 201.*

*As needed.*

Introduces students to a variety of quantitative skills commonly used in economic analysis. The primary aim is to prepare students for upper-level courses in the economics major. Topics include high order derivatives, exponential and logarithmic functions, partial differentiation, total differentiation, unconstrained and constrained optimization, matrices, probability distributions and the derivation of OLS estimators. Specific applications include maximizing utility and profit functions, minimizing cost functions, returns to scale, Cobb-Douglas functions, indifference and isoquant curves and marginal rates of substitution and transformation, Kuhn-Tucker conditions, Pearson's correlation, F-tests, and Z-tests.

### **ECON 301. Environmental Economics (3-3-0)**

*Prerequisite: A grade of C or higher in ECON 203, or both ECON 201 and 202 with a grade of C or higher.*

*As needed.*

This course combines theoretical analysis with discussions on specific environmental policies as applied to water, air pollution, energy, climate change and human health issues. Topics to be covered are the microeconomic analysis of environmental regulation, the problem of social cost, policy instrument choice, enforcement of regulations, and estimating benefits of environmental improvements.

### **ECON 303. Intermediate Microeconomic Analysis (3-3-0)**

*Prerequisites: A grade of C or higher in ECON 201, 202, 300, MATH 125 and 135 or 140 or 148.*

*Spring.*

Intermediate microeconomics is the study of consumer and producer behavior. This course builds upon the principles of microeconomics course as it provides a more in-depth analysis of the utility maximizing behavior of households and the profit-maximizing behavior of firms. Other topics include alternate market structures, welfare economics, and decision making in the public sector.

### **ECON 304. Intermediate Macroeconomic Analysis (3-3-0)**

*Prerequisites: A grade of C or higher in ECON 201, 202, MATH 125 and 135 or 140 or 148.*

*Fall.*

A study of classical, neoclassical, and Keynesian macroeconomics. Economic analysis of national income, output, employment, price level, consumption, investment, rate of interest, demand for money and supply of money, and a study of monetary, fiscal, and other economic policies. Introduction to the theory and empirics of economic growth.

### **ECON 320. European Integration (3-3-0) AIWT**

*Prerequisites: ECON 201, 202.*

*As needed.*

This course examines political and economic developments after the end of World War II in Europe. Students will investigate all those events that brought the European countries closer to each other by abolishing trade barriers and allowing free mobility of capital and labor, as well as the tremendous progress made toward economic and monetary integration since the treaties of Paris and Rome. This course is an in-depth analysis of the economic and political integration of Europe.

### **ECON 351. Urban Economics (3-3-0)**

*Prerequisites: A grade of C or higher in ECON 201, 202.*

*As needed.*

Students will undertake an analysis of the economic factors that have given rise to the formation of urban centers. We will discuss what makes them unique, and study urban problems such as poverty, crime, homelessness and housing conditions, traffic congestion and urban growth. Students will also participate in a community engagement activity and reflect on this service (20 hours). Students reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, a deeper understanding of community concerns, and an enhanced sense of civic responsibility.

### **ECON 372. Economic Development Theory and Policy (3-3-0) [Formerly ECON 410, equivalent]**

*Prerequisites: A grade of C or higher in ECON 201, 202.*

*As needed.*

An introduction to important topics in the field of economic development. The first part of the course examines the historical record of world development, the challenges facing many less developed countries, and growth models. The second part of the course focuses on economic development theory and policy. Here we examine how trade, balance of payments and exchange rates can affect growth trajectories. Extensive coverage is given to industrial policy, its theory, empirics, and strategy. The course concludes with a study of how institutions and linkages can influence development outcomes.

### **ECON 395. Intermediate Topics in Economics (3-3-0)**

*Prerequisites: As announced.*

*As needed.*

Topical seminars in economics to cover a variety of areas.

### **ECON 400. Economics of International Contracting & Organization (3-3-0)**

*Prerequisites: A grade of C or higher in ECON 201, 202; ECON 303.*

*As needed.*

This course introduces students to the economics of organization, and international business contracting. Topics include the examination of contracts used in international trade finance, barter and countertrade, transfer pricing, the defense industry, and international government procurement. Students acquire the skills to understand and use a wide range of contracts employed, assess the relative economic efficiency of a given contract, and design a particular contract to facilitate the intended transaction, given the exchange setting. A major assignment requires students to propose, design, and present their own import/export business plan.

**ECON 425. Economics of the Public Sector (3-3-0)  
[Formerly ECON 302 and ECON 310, equivalent]**

*Prerequisites: A grade of C or higher in ECON 201, 202; ECON 303.*

*As needed.*

The nature and application of the fundamental principles of obtaining, managing, and disbursing funds for governmental functions at the local, state, and federal levels. The American tax system is given detailed consideration.

**ECON 465. Industrial Organization and Public Policy (3-3-0) [Formerly ECON 375W, not equivalent and ECON 375, equivalent]**

*Prerequisites: A grade of C or higher in ECON 201, 202; ECON 303.*

*As needed.*

Designed to enable the student to study the microeconomic theoretical aspects of industrial organization. The topics covered include market structures, vertical structure of markets, welfare losses due to market power, market power impact on distribution pricing policies, and the role of government in promoting and preventing competition. The course provides the student with a theoretical, empirical, and descriptive framework of industrial organization and social and business policy.

**ECON 470. International Trade and Finance (3-3-0)**

*Prerequisites: A grade of C or higher in ECON 201, 202; ECON 303 or 304.*

*As needed.*

The theory of comparative costs, the transfer of international payments, the balance of international payments, foreign exchange rates, and the theory of adjustments are the principle topics addressed in this course. The means and ends of international economic policy are also covered. Trade restrictions, arguments for protection, cartels, state-trading, commodity agreements, commercial policy of the United States, foreign economic assistance, and international measures to liberalize trade and payments are taken up in order.

**ECON 475. Money and Banking (3-3-0)**

*Prerequisites: A grade of C or higher in ECON 201, 202; ECON 304.*

*As needed.*

An analysis of the monetary system with emphasis upon determinants of the money supply money demand, interest rates, the international financial system, and the relationship between money and economic activity. In addition, the conduct of monetary policy, including goals, targets, and transmission mechanisms are carefully considered.

**ECON 480. Internship in Economics (3-0-3)**

*Prerequisite: Junior or senior standing and approval of Department Chair.*

*As needed.*

This is a hands-on course supervised by faculty. Local area organizations commit themselves to participate in a learning experience for the student that is related to the major in economics. Projects are determined in a joint process between the faculty, host agency and student. A semester-long deliverable is due at the end of the course requiring an extensive written report and presentation for both faculty and the host agency.

**ECON 485. Applied Econometrics (3-3-0)**

*Prerequisites: ECON 201, 202 and 300; MATH 125, and either MATH 135 or 140 or 148; each with a grade of C or higher; CPSC 215 OR 250.*

*Fall.*

Introduces students to fundamental econometric and mathematical techniques necessary to design and carry out applied research in economics and business. Topics include multiple regression, common econometric problems, time series analysis, and optimization. A major research project is required.

**ECON 490. WI: Senior Seminar in Economics (3-3-0)**

*Prerequisites: ENGL 223 with a C- or higher; ECON 300, 303, 304, 485; senior standing.*

*Spring.*

Required topical capstone for all economics majors. The seminar integrates concepts, theories, and methodologies from core courses in the study of a selected topic in economics. The focus and content of the course will be determined by the instructor. Students are required to prepare and present a scholarly research paper. This course partially satisfies the writing intensive requirement.

**ECON 495. Advanced Topics in Economics (3-3-0)**

*Prerequisites: As announced. As needed.*

Topical seminars or experimental courses in economics in a variety of areas.

**ECON 499. Independent Study in Economics (Credits vary 1-3)**

*Prerequisites: ECON 201, 202, junior standing, and consent of instructor and Department Chair.*

An opportunity for independent study or research with guidance of an economics faculty member.