

# ECONOMICS AND BUSINESS

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## CS 305. COMPUTER NETWORKS

The implementation and use of computer networks. Topics include the ISO reference model, communication protocols, local-area and wide-area networks, and satellite communications. Lecture/laboratory.

**Prerequisite:** Computer Science 203 or Electrical and Computer Engineering 313

**Corequisite:** Computer Science 205

**Faculty:** Ms. Anderson

## CS 320. DATABASE MANAGEMENT SYSTEMS

This course examines the organization, design, and implementation of database management systems. Lecture/laboratory.

**Prerequisite:** Computer Science 103

**Corequisite:** Computer Science 205

**Faculty:** Mr. Liew

## CS 390-394. INDEPENDENT STUDY AND RESEARCH

Independent study projects for juniors and seniors. Hours arranged. Permission of department head required.

**Faculty:** Staff

## CS 401. COMPUTER GRAPHICS

The creation and use of graphical information and user interfaces. Lecture/laboratory.

**Prerequisite:** Computer Science 202, 205; Mathematics 162

**Faculty:** Mr. Liew

## CS 406. OPERATING SYSTEMS

An in-depth study of operating systems, covering such topics as concurrent processes, memory management, input/output and file systems, and resource allocation. Lecture/laboratory.

**Prerequisite:** Computer Science 202, 204, 205

**Faculty:** Mr. Berry

## CS 410-414. SPECIAL TOPICS

This course considers recent advances and/or subjects of current interest in computer science.

**Prerequisite:** Prerequisites vary according to the topic

**Faculty:** Staff

## CS 420. ARTIFICIAL INTELLIGENCE

An introduction to the study of intelligence as computation. Topics include

problem-solving techniques, heuristic searches and knowledge representation.

Lecture/laboratory.

**Prerequisite:** Computer Science 202, 205

**Faculty:** Ms. Anderson, Mr. Liew

## CS 470. SENIOR PROJECT

In this course, students work in teams on the analysis, design, and implementation of a large-scale software project.

**Prerequisite:** Senior standing and either Computer Science 320 or 305

**Faculty:** Mr. Liew

## CS 495, 496. SENIOR THESIS

A two-semester, independent research project on a topic selected by the student and approved by the department. A student must undertake such a program for two semesters to graduate with honors. [W]

**Faculty:** Staff

## ECONOMICS AND BUSINESS

### Faculty

*Professor Averett, Head; Professors Ahene, Bodenhorn, Bruggink, Bukics, Chambers, Crain, Gamber, Heavey, Seifried; Associate Professor DeVault; Assistant Professors Handy, Kelly, Ruebeck, Smith, Stifel*

The foundation of the department's program is economics, that branch of social science that studies how societies allocate scarce resources among competing ends. The core courses include mathematics and statistics, economic theory, and financial accounting. Within these courses students have the opportunity to learn spreadsheet and econometric software.

Upper-division electives allow students to further their study of business and government, domestic and foreign economies, and current issues. The course offerings are well suited to concentrations in political economy, finance, applied economics, and international economics. Special opportunities include participating in research with faculty members, internships, and the Lafayette Student Investment Research Fund.

## Requirements

Economics and Business 101, 211, 212, 213, 218 and a minimum of five department electives excluding internships; Mathematics 161 and 176.

## Requirements for Minor

Six courses within the department, with prerequisites enforced.

The following Economics and Business courses may not be used to satisfy the requirements for the Mathematics/Natural Sciences unit or the Humanities/Social Sciences unit of the Common Course of Study: Economics and Business 213, 218, 319, 303, 320, 321, 322, 324, 352, 365, 367-368.

For information on the joint major in Mathematics and Economics, refer to the Mathematics and Economics major.

For information on the coordinate major in International Economics and Commerce, refer to the International Economics and Commerce major.

Additional departmental course offerings appear under Interim Session.

## ECON 101. PRINCIPLES OF ECONOMICS

An introduction to economics stressing the fundamental and central concepts in economics and discussing methods and topics that engage economists. Topics include supply and demand analysis, determination of prices, output and profits, distribution of income, determination of real GDP, and fiscal and monetary policy.

**Offered:** every semester.

**Faculty:** Staff

## ECON 210. FOUNDATIONS IN INTERNATIONAL ECONOMICS

This course provides nonmajors with an intermediate level microeconomic and macroeconomic foundation for the study of international economics. It addresses trade-related issues, such as why trade exists and who gains and loses from trade. International financial concepts, such as exchange rates and the balance of payments, are also examined. The course is open to nonmajors only and is designed specifically for International Affairs majors. International Affairs majors should take this course in the fall of sophomore

year. Students who receive credit for 210 may not receive credit for 211 or 212. Similarly, students who receive credit for 211 or 212 may not receive credit for 210.  
**Prerequisite:** E&B 101. Offered every year  
**Faculty:** Mr. DeVault

#### ECON 211. INTERMEDIATE MICROECONOMICS

A study of how individuals and organizations deal with the problem of scarcity, the role of prices in coordinating economic activity, criteria for determining desirable allocation of resources, the mix of private and public institutions, and the economic basis of public policies.

**Prerequisite:** E&B 101 and Mathematics 125 or Mathematics 161  
**Offered:** Every semester  
**Faculty:** Staff

#### ECON 212. INTERMEDIATE MACROECONOMICS

An examination of aggregate economic activity focusing on the forces that determine the behavior of real GDP, interest rates, and the price level. Economic growth, fluctuations, unemployment, and inflation are analyzed along with alternative policies for dealing with them.

**Prerequisite:** E&B 101 and Mathematics 125 or Mathematics 161  
**Offered:** Every semester  
**Faculty:** Staff

#### ECON 213. FUNDAMENTALS OF ECONOMETRICS

This course focuses on building multiple regression models useful for testing economic theories and making business forecasts. Topics include simple and multiple regression, dummy variables, multicollinearity, heteroscedasticity, serial correlation, and binary dependent variable models. The coursework includes extensive use of statistical software packages and large data sets.

**Prerequisite:** E&B 211, 212 (one of the preceding two can be taken concurrently); Mathematics 176 or 186  
**Offered:** Every semester  
**Faculty:** Ms. Averett, Mr. Bruggink, Mr. Heavey

#### ECON 218. FINANCIAL ACCOUNTING

An introduction to the basic concepts and

standards underlying the measurement and reporting of the financial effects of economic events on the business entity. Emphasis is on the theory of asset valuation and income determination and its implications for the communication function of accounting. Students are required to attend a weekly one-hour lab in which they learn spreadsheet techniques and applications to financial accounting.

**Offered:** Every semester  
**Faculty:** Staff

#### ECON 225. WOMEN AND THE ECONOMY

This course surveys a wide range of economic issues relating to women's lives with special emphasis on family, work, and income. Public policy applications are stressed. [W]

**Prerequisite:** E&B 101  
**Faculty:** Ms. Averett

#### ECON 303. INCOME TAX TOPICS

This course introduces students to the concepts and intricacies of federal income tax policies. Students learn to recognize the major transactions inherent in business and financial transactions.

**Prerequisite:** Prerequisite: E&B 219  
**Faculty:** Ms. Handy

#### ECON 313. FORECASTING FOR BUSINESS AND ECONOMICS

This course teaches the basic techniques used by business, academic, and government economists to forecast a wide variety of economic variables. The emphasis is on statistical technique. Students learn how to decompose time series data into their key components: seasonal, cyclical, trend, and white noise. Autoregressive and moving average techniques as well as econometric modeling are used to model and forecast economic and business data. [W]

**Prerequisite:** E&B 213 or E&B 365  
**Faculty:** Mr. Gamber

#### ECON 319. FINANCIAL THEORY AND ANALYSIS

This course takes the principles of accounting and applies them to the world of finance. The emphasis is on the theory that underlies corporate accountability for financial reporting. Selected reporting and disclosure issues, such as financial

statement presentations, earnings per share (EPS), debt, equity, and investments of excess funds for strategic financial management, as well as cash flow analysis, are incorporated. Excel spreadsheets are used extensively.

**Prerequisite:** E&B 218  
**Offered:** Offered every semester.  
**Faculty:** Ms. Bukics

#### ECON 320. CORPORATE FINANCE

Analysis and practical application of corporate financial data as it relates to managerial decision making. Particular emphasis is placed on the corporate investment and financing decision, risk management, and the dividend decision.

**Prerequisite:** E&B 211, 213 (may be taken concurrently), 219.  
**Offered:** Every semester  
**Faculty:** Mr. Chambers, Mr. Kelly

#### ECON 321. INVESTMENTS

An examination of the portfolio theory and security analysis involved with both fixed income and equity securities. Topics include analysis, pricing, and risk management.

**Prerequisite:** E&B 320.  
**Faculty:** Mr. Chambers, Mr. Kelly

#### ECON 322. FINANCIAL MARKETS

This course is an introduction to Flow of Funds analysis and interest rate determination in the money and capital markets, the structure of interest rates, efficient market hypothesis, and major financial institutions in the United States.

**Prerequisite:** E&B 211, 212, or permission of instructor  
**Faculty:** Mr. Seifried

#### ECON 323. MONEY, FINANCIAL INTERMEDIATION, AND THE ECONOMY

A theoretical analysis of the role of money in determining the level of economic activity. Topics covered include the determination of interest rates and inflation, the institutional structure of financial intermediaries and the Federal Reserve, and the history of monetary policy in the United States. [W]

**Prerequisite:** E&B 211, 212, or permission of instructor  
**Faculty:** Mr. Gamber

### ECON 324. OPTIONS AND FUTURES

This course examines the practices and principal theories of major options and futures markets. Special emphasis is placed on the role of derivative securities in facilitating risk management.

**Prerequisite:** E&B 321.

**Faculty:** Mr. Chambers, Mr. Kelly

### ECON 326. ENTREPRENEURIAL FINANCE AND MANAGEMENT

This course is designed for students with an interest in the critical examination of small businesses from inception to growth phase and ultimately to the mature business model. The course focuses on key elements of new business ventures with particular emphasis on differences that exist in the financing and cash-flow management techniques critical to the survival of entrepreneurial ventures. [W]

**Prerequisite:** E&B 319

**Faculty:** Ms. Bukics

### ECON 330. URBAN ECONOMICS AND PUBLIC POLICY

An introduction to the economic analysis of urban areas. Theories of urban growth and of intra-metropolitan land use are explored. Topics include trends in the location of economic activity within urban areas, the urbanization of poverty, and problems of urban government.

**Prerequisite:** E&B 211, 212, or permission of instructor

**Faculty:** Mr. Ahene

### ECON 331. INDUSTRIAL ORGANIZATION

This course integrates microeconomic theory with economic application techniques in an investigation of various market structures, strategic firm interaction, antitrust issues, and economic regulation. Beginning with the standard Structure-Conduct-Performance paradigm and proceeding through some of the most recently developed theories in noncooperative games, the course content exposes students to an array of methods that facilitate the analysis of market structures, antitrust, and regulatory issues.

**Prerequisite:** E&B 211 or permission of instructor

**Faculty:** Mr. Ruebeck

### ECON 332. ECONOMICS OF LABOR

A general course in labor economics with a focus on the theoretical and actual operation of the labor market. The course includes consideration of problems, policies, and theories concerned with the labor force, wages, unemployment, productivity, human capital, worker health and safety, poverty, the economic effect of unions, and alternatives to orthodox theories. [W]

**Prerequisite:** E&B 211, 212, 213, or permission of instructor

**Faculty:** Ms. Averett

### ECON 333. MANAGERIAL ECONOMICS

This course covers the practical application of microeconomic theory to business problems. Examples of these problems include: price and output decisions and cost and demand functions in various markets under risk and uncertainty. Case studies are used to exemplify specific problems.

**Prerequisite:** E&B 211, 213

**Faculty:** Staff

### ECON 334. ECONOMIC GROWTH

This course explores the causes of long-term growth. It begins by asking why some countries are rich and others are poor, then investigates the roles of population growth and capital accumulation in the growth process in the context of the neoclassical growth model. Finally, the course investigates the roles of technology and social infrastructure in the growth process in the context of new growth theory. The course concludes with an investigation of the impact of long-term growth on the environment.

**Prerequisite:** E&B 211, E&B 212

**Faculty:** Mr. Gamber

### ECON 335. ENVIRONMENTAL ECONOMICS

This course is designed to give students a better understanding of how the environment and the economy interact and how public policy can be used to shape this interaction. The course begins by sketching out the flows of natural resources associated with economic activity and how the environmental effects produced by these flows are valued. The course then proceeds to show how market economies affect the environment. Particular emphasis is placed on the environmental

damage generated by market economies and how public policy can best be used to address this damage.

**Prerequisite:** E&B 211

**Faculty:** Mr. DeVault

### ECON 338. ECONOMICS OF SPORTS

The application of theoretical economics to the sports industry. Professional and collegiate sports offer opportunities for both theoretical and empirical research due to the amount of data that is available. Topics include market structure and antitrust, managerial decisions for inputs and outputs, pay and performance in labor markets. Students chose a topic area for presentation and write a paper on a contemporary sports issue.

**Prerequisite:** Economics 211, 213; 365; or permission of instructor

**Faculty:** Mr. Bruggink

### ECON 341. PUBLIC SECTOR ECONOMICS

A study of the public sector of the economy that includes the theories of public revenues and expenditures, the tax structure of American governments including analysis of the rationale and consequences of major taxes, and major expenditure programs. Fiscal problems of state and local governments and intergovernmental fiscal relations are also examined.

**Prerequisite:** E&B 211, 212, or permission of instructor

**Faculty:** Staff

### ECON 342. PUBLIC FINANCE

This course is a study of the role of government in the economy: when should government intervene, how does it intervene, and what is the effect of interventions on economic outcomes? These issues are examined using the tools of economic theory and statistics, with emphasis on applications and analysis of policies in the U.S. and other countries.

**Prerequisite:** E&B 211 and E&B 213.

**Offered:** Every semester

**Faculty:** Mr. Crain

### ECON 343. ECONOMIC HISTORY OF THE UNITED STATES

A study of the growth and development of the American economy from the Jamestown colony to the Cold War. The

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course introduces students to the fundamental debates concerning the importance of various historical episodes and institutions that forged the modern American economy. Underlying the historical analysis is the explicit use of economic models and theories. Wherever possible analogies between historical experience and contemporary issues are drawn providing useful and often unique insights.

**Prerequisite:** E&B 211, 212

**Faculty:** Mr. Bodenhorn

#### ECON 345. POLITICAL ECONOMY

Political economy examines issues that lie on the boundary of political science and economics. At one level, the course uses the tools of modern economics to examine behavior in political settings: why people vote, make campaign contributions, run for political office, favor specific legislative programs, and so forth. At another level, the course seeks a rich understanding of economic policymaking by considering the role of political institutions and non-market incentives.

**Prerequisite:** E&B 211 and E&B 213.

**Offered:** Every semester

**Faculty:** Mr. Crain

#### ECON 346. ECONOMIC DEVELOPMENT

An introductory survey of the economic structures and behavior of developing countries and how these factors influence their approach to the challenges of reducing poverty, improving health and education, and increasing their productive capacity and national and per capita income. The course examines the applicability of conventional economic logic and analytical tools to developing economies. Competing paradigms of development and the implications of different sets of behavioral assumptions are explored.

**Prerequisite:** E&B 210 or 211-212, or permission of instructor

**Faculty:** Mr. Ahene, Ms. Beckman

#### ECON 347. COMPARATIVE SYSTEMS AND TRANSITIONAL ECONOMIES

An examination of the elements of capitalism, socialism, markets and planning and of their applications worldwide. Special emphasis is given 1) to economies currently moving from socialist planned

forms of economic organization to market capitalism, found primarily in Eastern Europe, Russia, and in former republics of the Soviet Union, and 2) to developing nations currently privatizing many state-owned enterprises and strengthening their reliance on market forces.

**Prerequisite:** E&B 101 and 210, or 211-212, or permission of instructor

**Faculty:** Ms. Beckman

#### ECON 349.A BUSINESS HISTORY OF THE UNITED STATES

Employing an economic approach, this course explores a number of topics relevant to an understanding of the American experience. It is a course about economic growth and development. Students study a number of institutions and developments believed to be critical to the United States ascendancy from a marginal country on the periphery of the Atlantic economy to the dominant economy in an increasingly globalized world. The course begins with a discussion of what makes a firm a firm, why they exist, and their special advantages, then explores the nature of entrepreneurship. What makes entrepreneurs tick? What makes them successful? Is it a unique vision? Is it a capacity to organize resources and motivate people? Next, students study several specific businesses. How did they develop successful managerial structures that became self-perpetuating? Finally, the course turns to modern business and its response to the competitive and regulatory environment.

**Prerequisite:** E&B 211, E&B 212

**Faculty:** Mr. Bodenhorn

#### ECON 351. INTERNATIONAL FINANCE

This course provides students with an understanding of the international monetary system. The course examines the foreign exchange market and the role that governments play in this market. A review of previous and current exchange rate systems and an analysis of international capital markets is provided.

**Prerequisite:** E&B 210 or 211-212, or permission of instructor, and junior/senior standing

**Faculty:** Mr. DeVault

#### ECON 352. INTERNATIONAL BUSINESS

This course examines the mechanics of

doing business abroad and thoroughly explores the challenges that management faces today within an international environment. The greater the number of countries in which a corporation operates, the more "multinational" it is. More specifically, students are introduced to the field of global strategic management and are provided with a good understanding of the fundamental importance of cultural, economic, political, and environmental factors in the growth of global business and investment.

**Prerequisite:** E&B 210, or 211-212, 218

**Faculty:** Mr. Ahene

#### ECON 353. INTERNATIONAL TRADE POLICY

This course examines the ways in which international trade in goods and services is regulated through trade policy. This course has several objectives: 1) to provide students with an understanding of how and why international trade is regulated, 2) to demonstrate to students how particular trade policies affect international trade and international economic welfare, and 3) to expose students to the economic and political forces that shape international trade policy.

**Prerequisite:** E&B 210 or 211-212, or permission of instructor

**Faculty:** Mr. DeVault

#### ECON 354. CONTEMPORARY AFRICAN ECONOMICS

Analysis of the contemporary economic environment in Africa: political socio-cultural identity and economic structure, trends in public and private capital flows, African regional and international economic institutions, trade development and relations with world markets, investment concessions and risk, with case illustrations from African countries.

**Prerequisite:** E&B 210 or 211-212, or permission of instructor

**Faculty:** Mr. Ahene

#### ECON 355. ECONOMICS IN LATIN AMERICA

This course examines economic thought and trends pertaining to Latin America from structuralism to neoliberalism. It explores how state ownership, private ownership, markets, and planning have

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been combined in attempts to achieve desired goals. Selected issues of economic importance in the region are addressed, including regional trade efforts such as NAFTA and native peoples' struggles over land rights. Country studies based on student research are used throughout. [W]

**Prerequisite:** E&B 210, or permission of instructor; E&B 346 recommended

**Faculty:** Ms. Beckman

## ECON 356. ECONOMIC HISTORY OF RUSSIA IN THE TWENTIETH CENTURY

A study of the economy of Russia from the beginning of the twentieth century: the economy on the eve of World War I, the Russian Revolution, Lenin's NEP, the Stalinization of the Russian economy, the period of stagnation under Brezhnev, the reforms under Gorbachev and Yeltsin, and current problems.

**Prerequisite:** E&B 210 or 211

**Faculty:** Mr. Heavey

## ECON 358. AN ECONOMIC HISTORY OF AFRICAN AMERICANS: MIDDLE PASSAGE TO GREAT SOCIETY

Employing an economic approach, this course explores the African American experience from their introduction as indentured servants in 1619-20 Jamestown to later importation as slaves. The course begins with the arrival of the first Africans to the Virginia colony, then traces the economics of the transition from servitude to slavery, from tobacco slave culture centered in the Chesapeake region to cotton culture in the Deep South, from slavery to freedom, and the slow transition to even a semblance of racial equality. Topics include economic consequences of the broken promise of "40 acres and a mule," segregation and Jim Crow, the Great Depression and the apparent abandonment of African Americans by the New Deal, policy changes wrought by the Civil Rights Movement, and affirmative action.

**Prerequisite:** E&B 211, E&B 212

**Faculty:** Mr. Bodenhorn

## ECON 359. EUROPEAN BUSINESS ENVIRONMENT

This course examines the functional elements of business in Europe. Issues include the economic environment and economic policies, the methods of busi-

ness formation, how firms raise capital, how cultural characteristics affect the marketplace, the legal and tax environment and the labor markets. Consideration of the structure of the European Union and its impact on business are also discussed, particularly in light of the new member countries expecting to join in 2004.

**Prerequisite:** E&B 211 and E&B 212 (or E&B 210) and E&B 218

**Faculty:** Ms. Bukics

## ECON 360. MARKETING SCIENCE

What products do firms decide to introduce? How do they price and promote existing products? Drawing from knowledge in the areas of microeconomic theory and strategic marketing, students use analytical modeling, case study, and computer simulation methods to explore techniques as well as ethics and economic efficiency of product promotion, pricing, and differentiation in today's diverse and evolving markets. [W]

**Prerequisite:** E&B 211 or permission of instructor

**Faculty:** Mr. Ruebeck

## ECON 365. ECONOMETRIC ANALYSIS

Econometric analysis is a blend of mathematics, statistics, and economic theory. It focuses on the development of multiple regression models useful for testing economic relationships and making business forecasts. The multiple regression model and problems encountered in its application are developed in lecture and individual applied research papers. Topics include serial correlation, heteroscedasticity, simultaneous equations, limited dependent variable models. Special attention is given to the matrix algebra determination of estimators.

**Prerequisite:** Mathematics 272 or 275, 336, 176, 186 or 336; E&B 211, 212 (one of the preceding can be taken concurrently)

**Faculty:** Ms. Averett, Mr. Bruggink

## ECON 367, 368. INTERNSHIP

A one-semester course that emphasizes the practical application of economics and business management principles. A limited number of students are placed in either community business organizations or governmental agencies. Under the

direction and supervision of a designated internship sponsor, the student completes a training program and a practical work project. Internships do not count toward the elective courses required in the major. Permission of instructor required.

**Faculty:** Mr. Seifried

## ECON 370-375. SPECIAL TOPICS

A seminar study of major economic issues facing the United States and world economies. Topics to be announced in advance of each semester.

**Prerequisite:** As stated for each special topics course

**Faculty:** Staff

## ECON 390, 391. INDEPENDENT STUDY

An investigation and report on a subject selected by the student. Open by permission of the department. Hours to be arranged.

**Faculty:** Staff

## ECON 495, 496. THESIS

For honors candidates. One course each semester, only E&B 496 counts toward the required electives in the major; E&B 495 does not. 496 [W]

**Faculty:** Staff

## EDUCATION

### *Faculty*

*Instructors Squarcia and Tiernan*

Students interested in pursuing a teaching career upon graduation should contact the Education Program Adviser at the earliest opportunity. Although Lafayette does not offer teaching certification, several possibilities exist for receiving secondary teaching certification. Students who have completed the core education requirements at Lafayette may enroll in DeSales University's ninth-semester program for teaching certification.

Lafayette students may also receive advanced standing toward a graduate degree and certification at University of Pennsylvania and other universities. Students wishing to pursue teaching certification need to plan their academic program in cooperation with the Education Program Adviser.

## EDUC 150. PRINCIPLES OF EDUCATION

The course examines the historical, sociological, and philosophical