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 Department of  
**Economics**

 Courses of Study:  
 Minor  
 Major (BA)
 

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**Objectives**


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Majors in economics receive broad yet rigorous training in the core subjects of the discipline: general principles, micro and macroeconomic theory, statistics, and econometrics. They learn to use skills developed in the core courses to analyze a variety of economic problems, social issues, and economic institutions. These skills are applied and reinforced in four elective courses chosen from a list that includes most of the subfields of interest to economists, for example, international economics, financial markets, industrial organization, the regulation of economic activity, the public sector, technology, growth, and development.

The department stresses analytic and quantitative approaches to the study of human choice and economic behavior, the functioning of the economic system, and specific subject areas and economic issues. Students develop analytic and quantitative skills in the economics major that are useful not only for economics but for other subjects as well. Both theoretical and applied courses are available. Upon completion of the major, students are expected to be familiar with the scholarship associated with a variety of economic subjects; majors learn to read books and articles written for the general economist.

The major in economics provides background for many positions in business and government. Some graduates pursue advanced degrees in economics and others enroll in professional schools of business, law, public policy, and other fields. Programs of study can be designed to match the interests of the student (see the following list of courses).

Brandeis juniors can apply for admission as “five-year students” to the Lemberg Master’s Program in International Economics and Finance (see Brandeis International Business School section of this *Bulletin*). Brandeis also offers a business minor (see the Program in Business section of this *Bulletin*).

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**How to Become a Major or Minor**


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The major has a single entry point, ECON 2a (Introduction to Economics), and is one of the courses that fulfills the quantitative reasoning component of the general university requirements. Most majors begin their study in the first or second year with ECON 2a, followed by a second principles course, ECON 8b (The Global Economy). Six core courses are required. The two principles courses are followed by four intermediate theory courses: microeconomic theory, macroeconomic theory, statistics, and econometrics (which builds on statistics), plus four electives. It is important to begin the study of economics early, because upper-level electives required for the major build on intermediate courses and have from three to six prerequisites. Calculus is required for the intermediate theory courses.

**Faculty**


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**Rachel McCulloch, Chair**

International economic theory and policy.  
 Industrial organization.

**Chad P. Bown**

International economics. Economic  
 development. Industrial organization.

**Linda Bui**

Environmental economics. Public finance.  
 Applied microeconomics. Industrial  
 organization.

**Laarni Bulan**

Corporate finance. Corporate governance.  
 Real options.

**Anne Carter**

Technological change. Input/output  
 analysis.

**Stephen Cecchetti (on leave 2008–2009)**

Advanced macroeconomic theory. Monetary  
 economics. Financial economics.

**H. Michael Coiner, Undergraduate Advising  
 Head**

Economics of higher education.  
 Macroeconomics. International economics.

**F. Trener Dolbear**

Macroeconomics. Public sector.

**Can Erbil**

Economic development. International trade.  
 Public finance.

**Kathryn Graddy**

Applied microeconomics. Empirical  
 industrial organization.

**Nader Habibi**

Economics of the Middle East.

**George J. Hall**

Macroeconomics.

**Jens Hilscher**

Asset pricing. Corporate finance.  
 International finance.

**Adam Jaffe, Dean of Arts and Sciences**

Technological change. Economics of  
 regulation. Industrial organization.

**Gary H. Jefferson**

Economics of innovation. Institutional  
 economics. Development. Industrial  
 organization. China.

**Blake LeBaron**

Macroeconomics. International finance.  
 Microeconomics.

**Hong Li (on leave fall 2008)**

Time series econometrics.  
 Macroeconomics. Monetary economics.

**Catherine L. Mann**

International finance. Outsourcing.  
 Technology. U.S. economic policy.

**Nidhiya Menon**

Empirical microeconomics. Economic  
 development. Econometrics. Economic  
 demography and labor.

**Carol Osler**

International finance. Financial markets.  
 Open economy. Macroeconomics.

**Peter Petri**

International trade. Development. Japan.  
 Korea.

**Scott A. Redenius**

Economic history. The economics of financial institutions.

**Paroma Sanyal**

Industrial organization. Regulation, microeconomics.

**Elif Sisi Ciamarra**

Corporate finance. Corporate governance. Financial intermediation.

**Daniel Tortorice**

Macroeconomics: business cycles, consumption, and unemployment fluctuations.

**Patricia Tovar**

International trade. Political economy. Development. Microeconomics. Behavioral economics.

**Requirements for the Minor**

**A.** Successful completion of ECON 2a (Introduction to Economics) and ECON 8b (The Global Economy) with a grade of C or higher.

**B.** Three additional economics courses, of which all but one must include a prerequisite of at least ECON 2a. This means that only some of the cross-listed courses, those that specifically have ECON 2a as a prerequisite, may be counted toward the minor in economics. Students must earn at least a C– in each of these three electives

**C.** Students undertaking the economics minor and the business minor are subject to additional restrictions to minimize the overlap in content. These students should consult their advisers or the undergraduate advising head for approval of such combined programs.

**D.** No course taken pass/fail may count toward requirements for the minor.

**Requirements for the Major**

**A.** ECON 2a (Introduction to Economics) and ECON 8b (The Global Economy). A grade of C or higher is required in these courses.

**B.** ECON 80a, 82b, and 83a. Students receiving less than a C– for any of these courses must retake the course and earn a C– or better before enrolling in any upper-level elective.

**C.** ECON 184b, ECON 185a, or ECON 215a. A grade of at least C– is required.

**D.** Four elective courses in economics, at least two of which must be upper-level. Upper-level electives are courses that have as prerequisites ECON 80a, ECON 82b, or ECON 83a; not all 100-level courses meet this criterion. ECON 122b, 170a, and 175a are lower-level electives. Lower-level electives can be any course in economics other than the required courses, except that ECON 98a/b, ECON 99a/b, and BUS 89a do not count as electives for the major. Only one course that does not include ECON 2a as a prerequisite can be accepted as a lower-level elective. Eligible lower-level electives include cross-listed courses and certain other courses that contain significant economics content offered by IBS, Heller, and other departments in the social sciences. Any student who intends to offer an economics-oriented course in another department or school toward the economics major should obtain prior approval of the undergraduate advising head.

**E.** A passing letter grade must be obtained in each course taken for credit toward the major. No course taken pass/fail may count toward requirements for the major. Students must earn at least a C– in three of the four electives, that is, no more than one grade of D, D+, or D–. Students must also achieve a GPA of at least 2.00 in the major courses; students close to this average should consult the undergraduate advising head before enrolling in economics courses for the senior year.

**F.** Any exception to the previously listed rules requires department approval by petition. See the department academic administrator or the undergraduate advising head for a petition; for example, a student must petition to get credit toward the major for an economics course taken at another university.

**G.** Qualified seniors are invited to participate in the department's honors program, which involves research and writing a thesis under the supervision of a member of the faculty. Candidates for honors must maintain a GPA of at least 3.5 in the major. Honors are awarded on the basis of excellence in courses taken in the major and the senior thesis.

**Special Notes Relating to Undergraduates****Business Minor**

Students interested in pursuing a formal program in business should consult the description given in the business program section of this *Bulletin*.

**Mathematics**

The required intermediate theory courses (ECON 80a, 82b, 83a) assume a knowledge of calculus at the level taught in MATH 10a (Techniques of Calculus). Students with a limited mathematics background should begin with MATH 5a (Precalculus Mathematics). Every student taking ECON 80a or ECON 82b must have either: (a) completed MATH 10a with a grade of C– or better, or (b) scored at least 4 on the AP Mathematics AB test or at least 3 on the AP Mathematics BC test, or (c) passed a placement exam which the economics department administers at the beginning of each semester. For some more advanced courses, additional calculus and linear algebra provide a useful background. Students unsure of the adequacy of their mathematics preparation should consult their adviser.

**Academic Adviser and Selection of Courses**

Students are strongly advised to choose courses with well-considered educational objectives in mind. Course offerings in economics can be grouped roughly into four categories (see below). Some students will wish to take at least one course from each of the four groups and thereby obtain a broad exposure to the discipline. Others will find a more narrow focus with in-depth study in only one or two groups more appropriate. Majors should discuss educational objectives and course selections and sequencing with their academic advisers.

**Internships**

Students interested in taking an internship for credit should consult the description and enrollment information for BUS 89a in the Business section of the *Bulletin* or the Web site for internships: [www.brandeis.edu/programs/internships/students](http://www.brandeis.edu/programs/internships/students).

There is no separate economics internship course; generally economics internship students enroll in BUS 89a. BUS 89a does not provide credit toward the ECON major or minor, but it is a four-credit course that counts as one of a student's thirty-two courses and as one of the BUS electives. Internships can be done during an academic semester or during the summer. Searching the university's main Web site for "internships" will lead to information on availability of courses, guidelines, and requirements.

**ECON Course Offering Groups**

## 1. Core Analytical Courses

ECON 2a	Introduction to Economics
ECON 8b	The Global Economy
ECON 80a	Microeconomic Theory
ECON 82b	Macroeconomic Theory
ECON 83a	Statistics for Economic Analysis
ECON 184b	Econometrics
ECON 185a	Econometrics with Linear Algebra

## 2. International and Comparative

ECON 26a	Latin America's Economy
ECON 30a	The Economy of China
ECON 60b	The Economics of International Trade Disputes
ECON 64a	East Asia's Economies
ECON 122b	The Economics of the Middle East*
ECON 141b	Economics of Innovation
ECON 160a	International Trade Theory
ECON 161a	International Finance
ECON 162a	Outsourcing and Offshoring: Informational Technology and Globalization
ECON 175a	Introduction to the Economics of Development*
ECON 176a	The Household, Health, and Hunger in Developing Countries

## 3. The U.S. Economy: Analysis, Institutions, Policy

ECON 57a	Environmental Economics
ECON 59b	The Economics of Education
ECON 69a	The Economics of Race and Gender
ECON 76b	Labor Economics
ECON 77a	Introduction to Regulation and Public Policy
ECON 134b	Public Sector Economics
ECON 135a	Industrial Organization
ECON 171a	Financial Economics
ECON 172b	Money and Banking
ECON 174a	Corporate Finance
ECON 177b	Economic Regulation and Deregulation

## 4. Analytical Methods

ECON 170a	Mathematics of Economics and Finance*
ECON 181b	Game Theory and Economic Applications

Several first-year Brandeis International Business School courses may be appropriate analytical electives for advanced undergraduates. These include courses in the PhD program in international economics. Interested students should see their adviser or the undergraduate advising head for more information.

\*This course is considered a lower-level elective.

**Courses of Instruction****(1-99) Primarily for Undergraduate Students****ECON 2a Introduction to Economics**

[ qr ss ]

*Common final exam.*

A one-semester introduction to economic analysis with policy applications. The economist's approach to social analysis is systematically elaborated. Usually offered every semester in multiple sections.

Mr. Coiner

**ECON 8b The Global Economy**

[ ss ]

*Prerequisite: ECON 2a. This course is not a writing-intensive course.*

Applies the basic tools and models of economic analysis to a wide range of topics in micro-, macro-, and international economics. Usually offered every semester in multiple sections.

Staff

**ECON 26a Latin America's Economy**

[ ss nw ]

*Prerequisite: ECON 2a. This course may not be repeated for credit by students who have taken ECON 25a in previous years.*

Introductory survey of economic, financial, and institutional problems, distortions, and reforms in Latin America. Topics include the role of government, privatization, liberalization of trade and capital flows, pension funds reforms, inflation, stabilization, and international debt crisis. Current and future trends will be discussed. Usually offered every second year.

Staff

**ECON 30a The Economy of China**

[ ss nw ]

*Prerequisite: ECON 2a.*

Analysis of China's economic transformation with particular emphasis on China's economic reforms since 1978, including the restructuring of its enterprise, fiscal, financial, and political systems and the roles of trade, foreign investment, and technology in driving China's economic advance. Usually offered every year.

Mr. Jefferson

**ECON 57a Environmental Economics**

[ ss ]

*Prerequisite: ECON 2a.*

Investigates the theoretical and policy problems posed by the use of renewable and nonrenewable resources. Theoretical topics include the optimal pricing of resources, the optimal use of standards and taxes to correct pollution problems under uncertainty, and the measuring of costs and benefits. Usually offered every year.

Ms. Bui

**ECON 59b The Economics of Education**

[ ss ]

*Prerequisite: ECON 2a.*

An introduction to economic analysis of the education sector. Topics include the concept of human capital, private and social return to investment in education, cost-benefit analysis of special educational programs, and issues in the financing of education. Usually offered every second year.

Mr. Coiner

**ECON 60b The Economics of International Trade Disputes**

[ ss ]

*Prerequisite: ECON 8b.*

Analyzes economic issues involved in a set of recent international trade disputes at the frontier of disagreement and conflict in international economic relations from the perspective of directly and indirectly affected participants such as firms, workers, consumers, policymakers, and NGOs. Usually offered every year.

Mr. Bown

**ECON 61a The Economics of Privatization in the New Europe**

[ ss ]

*Prerequisite: ECON 2a. Course to be taught at Brandeis summer program in Berlin.*

An analysis of the process and problems of economic reform in Central and Eastern Europe. Examines the reforms from a national and international perspective and considers the cross-border linkage of economics and the reintegration of Central and Eastern Europe in the economic world. Usually offered every summer.

Mr. Heinsohn

**ECON 64a East Asia's Economies**

[ ss ]

*Prerequisite: ECON 2a.*

Examines the postwar economic performance of the East Asian countries, especially Japan, China, Korea, and Taiwan. Emphasizes the public policies, institutional features, and historical conditions that accounted for the performance of these four economies. Also explores differences between the East Asian models of economic development and those of the Western economies, particularly the United States. Usually offered every second year.

Staff

**ECON 69a The Economics of Race and Gender**

[ ss ]

*Prerequisite: ECON 2a.*

The role of race and gender in economic decision making. Mainstream and alternative economic explanations for discrimination, and analysis of the economic status of women and minorities. Discussion of specific public policies related to race, class, and gender. Usually offered every second year.

Staff

**ECON 76b Labor Economics**

[ ss ]

*Prerequisite: ECON 2a.*

Analysis of competitive and less-than-competitive markets. Rationale for alternate methods of paying workers (e.g., hourly wages, piece rates, bonuses). Sources of wage differentials among jobs and workers. The U.S. labor movement, the process of collective bargaining, and the economic effects of unions. Effects of government interventions in the labor market, such as the minimum wage and occupational safety regulation. Extent and effects of discrimination in the labor market. Inequality in the distribution of wages.

Mr. Coiner

**ECON 77a Introduction to Regulation and Public Policy**

[ ss ]

*Prerequisite: ECON 2a. This course may not be repeated for credit by students who have taken ECON 177b in previous years.*

Economic rationale behind government intervention in markets. Theoretical, practical, and historical aspects of regulation. Recent trends toward deregulation or regulatory reform. Specific case studies such as telecommunications, electric utilities, environment, transportation, drugs, and workplace safety. Usually offered every second year.

Ms. Sanyal

**ECON 80a Microeconomic Theory**

[ ss ]

*Prerequisite: ECON 8b. Calculus is required. See "Special Notes Relating to Undergraduates" in the Bulletin for more information.*

Analysis of the behavior of economic units within a market economy. Emphasis upon individuals' decisions as demanders of goods and suppliers of resources, and firms' decisions as suppliers of goods and demanders of resources under various market structures. Usually offered every semester.

Staff

**ECON 82b Macroeconomic Theory**

[ ss ]

*Prerequisite: ECON 8b. Calculus is required. See "Special Notes Relating to Undergraduates" in the Bulletin for more information.*

Models of the determination of economic aggregates, such as national income, consumption, investment, government spending, exports, imports, and international capital flows, and economy-wide variables, such as the interest rate, the exchange rate, the price level and inflation, and the unemployment rate. The influence of fiscal and monetary policies on these aggregates and variables is examined.

Usually offered every semester.

Staff

**ECON 83a Statistics for Economic Analysis**

[ qr ss ]

*Prerequisite: ECON 2a.*

A first course in statistical inference. Topics include descriptive statistics, probability, normal and binomial distributions, sampling distributions, point and interval estimation, properties of estimators, hypothesis testing, regression, and analysis of variance. Usually offered every semester.

Staff

**ECON 98a Independent Study**

*Signature of the instructor required. Does not count toward the major in economics.* Normally available for a student who has taken a course and wishes to pursue further reading or research in that field or study a subject not listed among the department course offerings. Usually offered every year.

Staff

**ECON 98b Independent Study**

*Signature of the instructor required. Does not count toward the major in economics.*

See ECON 98a for course description.

Usually offered every year.

Staff

**ECON 99a Senior Research**

*Signature of the instructor required. Does not count toward the major in economics.*

A senior whose GPA in economics courses is 3.50 or above and has completed or is currently enrolled in ECON 184b or equivalent may petition to be admitted to the senior honors program and to enroll in this course. Usually offered every year.

Staff

**ECON 99b Senior Thesis**

*Prerequisite: Satisfactory completion of ECON 99a. Signature of the instructor required. Does not count toward the major in economics.*

Seniors who wish to complete a senior honors thesis normally enroll in this course. Usually offered every year.

Staff

**(100–199) For Both Undergraduate and Graduate Students****ECON 122b The Economics of the Middle East**

[ nw ss ]

*Prerequisite: ECON 2a or the equivalent. Does not count toward the upper-level elective requirement for the major in economics.*

Examines the Middle East economies—past experiences, present situation, and future challenges—drawing on theories, policy formulations and empirical studies of economic growth, trade, poverty, income distribution, labor markets, finance and banking, government reforms, globalization, and Arab-Israeli political economy. Usually offered every year.

Mr. Habibi

**ECON 134b Public Sector Economics**

[ ss ]

*Prerequisites: ECON 80a and ECON 83a or permission of the instructor.*

The effect of tax and expenditure policies on economic efficiency and equity. Topics include externalities and public goods, public choice, cost-benefit analysis, income redistribution, social security, and health care. Also discussion of U.S. tax system, public debt, and state and local finance.

Usually offered every year.

Mr. Coiner

**ECON 135a Industrial Organization**

[ qr ss ]

*Prerequisites: ECON 80a and ECON 83a or permission of the instructor.*

Microeconomic analysis of firm behavior under alternative market structures and implications for market outcomes. Topics include strategic interaction, entry and exit, collusion, predation, price discrimination, product differentiation, vertical relations, imperfect information, advertising, and patents and innovation. Usually offered every year.

Ms. Graddy

**ECON 141b Economics of Innovation**

[ ss ]

*Prerequisites: ECON 80a and ECON 83a or permission of the instructor.*

Technological change as the central focus of modern economies. Topics include changing industrial and international specialization, economics of research and development, innovation, diffusion and technology transfer, appropriability, patents, information markets, productivity, intersectoral effects, and global competitiveness. Usually offered every year.

Mr. Jefferson

**ECON 142a Research Seminar on the Economics of Higher Education**

[ ss ]

*Prerequisite: ECON 2a.*

This seminar will use economics to analyze issues related to the organization of modern universities and the markets in which they operate. Each student will prepare a major research paper and present her/his findings to the class. The paper can be based on statistical analysis of data for multiple institutions, a historical analysis, or a case study of a particular institution's approach to a specific issue. The course is intended to give students experience designing and executing their own original research project as preparation for undertaking a senior honors thesis. Usually offered every year.

Mr. Jaffe

**ECON 160a International Trade Theory**

[ ss ]

*Prerequisites: ECON 80a and ECON 83a or permission of the instructor.*

Causes and consequences of international trade and factor movements. Topics include determinants of trade, effects on welfare and income distribution, trade and growth, protection, foreign investment, immigration, and preferential trading. Usually offered every year.

Ms. McCulloch

**ECON 161a International Finance**

[ ss ]

*Prerequisites: ECON 82b and ECON 83a or permission of the instructor.*

Applications of international economic theory—regarding trade, the balance of payments, investments, and exchange rates—to the management of import/export firms and multinational corporations. Usually offered every year.

Ms. Mann

**ECON 162a Outsourcing and Offshoring: Information Technology and Globalization**

[ ss ]

*Prerequisite: ECON 80a. Corequisite: ECON 83a.*

Examines how information technology facilitates services trade, how important services transactions are in global trade and investment, and whether services trade requires a new trade theory. Topics include issues for business strategy and national policy arising from globalization of services. Usually offered every second year.

Ms. Mann

**ECON 170a Mathematics of Economics and Finance**

[ ss ]

*Prerequisites: ECON 2a and ECON 8b.*

*Does not count toward the upper-level elective requirement for the major in economics.*

An introduction to linear algebra and calculus with the stress on their applications in economics and finance. Topics covered include sequences and limits, derivatives, constrained and unconstrained optimization, matrix algebra and systems of linear equations, techniques of integration, and first-order differential equations.

Staff

**ECON 171a Financial Economics**

[ ss ]

*Prerequisites: ECON 80a and 83a, or permission of the instructor.*

An introduction to financial economics. Topics include the selection of assets, portfolio choice under uncertainty, equilibrium asset pricing models, the efficient markets hypothesis, futures, and options markets. Usually offered every year.

Staff

**ECON 172b Money and Banking**

[ ss ]

*Prerequisites: ECON 82b and 83a, or permission of the instructor.*

Considers the relationship of the financial system to real economic activity, focusing especially on central banks. Roughly one-half of the course is devoted to a study of the design and operation of central banks in the modern economy. The other half of the course considers the structure, management, regulations and supervision of bank and nonbank financial intermediaries; including examination of the globalization of the financial system. Students are assumed to know intermediate macroeconomics and elementary financial theory. Usually offered every year.

Mr. Redenius

**ECON 174a Corporate Finance**

[ ss ]

*Prerequisites: ECON 171a and BUS 6a or permission of the instructor. May not be taken for credit by students who are currently taking or have previously taken FIN 202a (formerly IEF 210b).*

An introductory course in corporate finance and financial management. Covers the theory and application of capital budgeting techniques and capital structure choice of firms. Usually offered every year.

Staff

**ECON 175a Introduction to the Economics of Development**

[ ss ]

*Prerequisite: ECON 2a or permission of the instructor. Does not count toward the upper-level elective requirement for the major in economics.*

An introduction to various models of economic growth and development and evaluation of these perspectives from the experience of developing and industrial countries. Usually offered every year.

Staff

**ECON 176a The Household, Health, and Hunger in Developing Countries**

[ nw ss ]

*Prerequisites: ECON 80a and 83 or permission of the instructor. ECON 175a is recommended. Primarily recommended for juniors and seniors.*

Examines aspects of poverty and nutrition that are confronted by households in low-income countries. Examines these issues primarily from a microeconomic perspective, although some macroeconomic angles are explored as well. Usually offered every year.

Ms. Menon

**ECON 177b Economic Regulation and Deregulation**

[ ss ]

*Prerequisites: ECON 80a and ECON 83a or permission of the instructor.*

Rate regulation of natural monopolies, antitrust regulation of horizontal and vertical mergers and contracts, and the deregulation movement. Focus on the peak-load pricing problem, vertical restraints, and case histories of airlines and savings and loan institutions. Usually offered every third year.

Staff

**ECON 181b Game Theory and Economic Applications**

[ ss ]

*Prerequisites: ECON 80a, ECON 83a, MATH 10a or equivalent.*

Analysis of decision making in multiperson settings. Studies models of equilibrium and various kinds of games under perfect and imperfect information. The applications include competition, auctions, voting, risk sharing, bargaining. Usually offered every year.

Staff

**ECON 184b Econometrics**

[ qr ss ]

*Prerequisites: ECON 80a, ECON 82b, and ECON 83a, or permission of instructor. This course may not be taken for credit by students who have previously taken or are currently enrolled in ECON 185a or ECON 215a.*

An introduction to the theory of econometric regression and forecasting models, with applications to the analysis of business and economic data. Usually offered every year.

Ms. Li

**ECON 185a Econometrics with Linear Algebra**

[ ss ]

*Prerequisites: ECON 80a, 82b, 83a and MATH 15a. A working knowledge of linear algebra is required.*

Students are first exposed to the necessary background in advanced probability theory and statistics. Then statistical theory for the linear regression model, its most important variants, and extensions to nonlinear methods including Generalized Method of Moments (GMM) and Maximum Likelihood Estimation (MLE) are covered. Theoretical analysis is accompanied by the study of empirical economic examples. Usually offered every second year.

Ms. Li

**Cross-Listed Courses****AAAS 60a**

Economics of Third World Hunger

**BUS 6a**

Financial Accounting

**BUS 10a**

Functions of the Capitalist Enterprise

**BUS 70a**

Business in the Global Economy

**BUS 75a**

Financial Analysis for Management

**HS 104b**

American Health Care

**HS 110a**

Wealth and Poverty

**HSSP 104b**

Health Economics

**PHIL 13b**

The Idea of the Market: Economic Philosophies

**POL 173a**

Foreign Economic Policy