

**Economics (ECO)****Major in Economics****Department of Economics, College of Arts and Sciences**

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Minors of particular interest to students majoring in Economics: Applied Mathematics and Statistics (AMS), Business Management (BUS), Computer Science (CSE), International Studies (INT)

**Economics (ECO)**

Economics is the study of production, distribution, and exchange of goods and services. It investigates such questions as price formation, degree of employment of labor and other resources, efficient use of scarce resources, and the basis and effects of government policies in the economy. Economics also analyzes, compares, and contrasts different economic systems in the world, and studies the international economic relations among countries.

The areas of study in the Department fall into three broad classifications. The first of these, microeconomics, deals with the theoretical and empirical study of the behavior and interrelationships of individual economic agents, such as firms and individuals, and their interaction through markets. Next, macroeconomics examines the large sectors of the economy such as government, business, money and banking, and international trade. It also covers such topics as unemployment, inflation, and economic growth. Finally, econometrics uses statistics to estimate, test, and predict patterns of behavior of the various units and relationships that make up the economy.

The undergraduate economics program is designed to give students a beginning sense of what economists do as well as how they think. After taking the introductory course, ECO 108, students acquire a more thorough background in economic theory by taking ECO 303 and ECO 305. The remaining economics courses used to satisfy the major requirements focus on particular aspects of economics (e.g., labor markets, industrial organization, money and banking, economic development, finance) showing how economists analyze the theoretical and empirical issues. Some upper-division courses apply statistical methods, which are taught (but not required) in the program.

Students with a degree in Economics can pursue graduate studies leading to an M.A. or Ph.D. in Economics, or to a Master of Business Administration degree. The major is also especially useful for students interested in graduate studies in such areas as law, human resources, public policy, and health economics. The majority of graduating Economics majors who continue their education either go to law school or pursue an M.B.A. A small number of graduates go to graduate school in economics. More than half the graduating seniors go directly into the job market. The great majority find entry-level positions in finance, marketing, sales, and various forms of business analysis and research. Many M.B.A. programs require applicants to have had work experience before applying to their program, so many students enter the job market temporarily and eventually return to school for an advanced degree.

Students are urged to consider enrolling in ECO 488, Internship. Internships provide opportunities for students to integrate work experience into the Economics major by doing related readings, keeping a daily journal, and writing an analytical paper under the supervision of a faculty member. To register for ECO 488, students must have the permission of the internship coordinator in the Department of Economics and the internship manager in the Career Center. For further information, students should contact the Internship Coordinator in the Department.

**Requirements for the Major in Economics (ECO)**

The major in Economics leads to the Bachelor of Arts degree. All courses offered for the major must be passed with a letter grade of C or higher.

Completion of the major requires 41 credits.

A. A minimum of 11 courses, at least nine of them in economics, distributed as follows:

1. ECO 108 Introduction to Economics
2. Intermediate economics courses:

- ECO 303 Intermediate Microeconomic Theory
- ECO 305 Intermediate Macroeconomic Theory
- ECO 320 Mathematical Statistics
- ECO 321 Econometrics

3. Five additional courses in economics at the 300 level and above. Each of these must be taken for a minimum of three credits.

4. One additional course, either in economics or from a list of pre-approved electives in other departments, that carries a minimum of three credits.

*Note: No more than two 400-level courses will count toward fulfillment of major requirements.*

B. MAT 122 Overview of Calculus with Applications

or MAT 123 Introduction to Calculus

or AMS 151 Applied Calculus I

or level 4 on the mathematics placement examination

or any higher level calculus course (See Note 2)

C. Upper-Division Writing Requirement:

Students should meet the upper-division writing requirement before the end of the junior year, demonstrating their competence in writing for the discipline by registering for the 0-credit ECO 459 and obtaining a satisfactory evaluation of their writing from the faculty instructor of any upper-division ECO course except ECO 320 in which a term paper or other major writing assignment is a required part of the course, this work will form the basis of evaluation. When the course involves no major writing assignment, the instructor will assign a special paper for those students in the class seeking to satisfy the writing requirement. In these cases, the number of students who will be permitted to seek evaluation may be limited.

Students should consult with the department advisor to ensure that their plan for completing the Upper Division Writing Requirement is consistent with university graduation requirements for General Education. Students completing the Stony Brook Curriculum (SBC) must complete a course that satisfies the "Write Effectively within One's Discipline" (WRTD) learning objective to graduate. The Upper Division Writing Requirement is consistent in most cases with the SBC learning outcomes for WRTD.

Notes:

1. Students who need to take MAP 103 will be unable to take ECO 108 in the first semester of the freshman year and will have to adjust their schedule accordingly.
2. Economics is a quantitative social science. Students planning to use their background in economics for graduate studies or in their careers should take additional courses in mathematics and applied mathematics.
3. A maximum of four courses in economics taken at other institutions may be applied toward the major.

Independent Research

Students are encouraged to explore advanced subjects in economics through independent research supervised by a faculty member. Typically, an independent research project will emerge after a student has taken an upper-division ECO course that provides a foundation of knowledge and a relationship with a faculty member. The student should formulate the research project in consultation with the supervising faculty member before the start of the semester in which the research is undertaken for credit through ECO 487. The project should culminate in a substantial written paper. Credit is variable, and will be awarded on the basis of the University's guideline that one credit should involve about four hours per week of work. Outstanding work will be featured in the annual university undergraduate achievement celebration.

Internships

Students are encouraged to explore opportunities for study in the context of an internship in a business, government, social service agency, or union setting. Note that an internship for credit through ECO 488 is an academic undertaking; it is not the same as involvement in what the employing agency may call an internship.

An ECO 488 internship for credit provides an opportunity for the student to integrate work experience into the Economics major by doing related readings, keeping a daily journal reflecting on the lessons learned at work, and writing an analytical paper under the supervision of an ECO Department faculty member. Essentially, an internship for credit is an independent research project undertaken in the context of a work environment that provides the student with access to data, people, and experience that will make the study of some economic issue possible. Students are encouraged to base the internship study on an upper-division ECO course that has provided basic knowledge and analytic tools appropriate to the work setting. Credit is variable, depending upon the time involved.

To enroll for internship credit in ECO 488, a student must have the approval of a supervising faculty member in the Department of Economics and permission of the internship manager in the University's Career Center. This will involve acknowledgment and cooperation from the employing agency. Permission must be arranged before the start of the semester in which the student enrolls in ECO 488. The academic component of the internship must be done at the same time as the work component in the business or agency in which the student works.

Honors in Economics

Qualified students can graduate with honors in Economics. As specified below, the requirements include an honors thesis approved by the Department's director of undergraduate studies. Qualified students interested in graduation with honors are urged to enroll in upper-division economics courses that provide them with the opportunity to write research papers which may be submitted for consideration as an honors thesis. For further information, students should contact the director of undergraduate studies for the Department of Economics.

Honors in Economics will be awarded to graduating seniors who have achieved the following:

1. A grade point average of at least 3.25 in the four required courses (A. 1., 2.), with no less than a B in any one of these courses.
2. A grade point average of at least 3.50 in any four electives in economics at the 300 level.
3. Six credits in economics at the 400 level.
4. An honors thesis, submitted to the director of undergraduate studies for honors evaluation.

**Sample Course Sequence for the Major in Economics**

A course planning guide for this major may be found here.

### FRESHMAN

FALL	Credits
First Year Seminar 101	1
WRT 101	3
MAT 122 or MAT 123 or AMS 151	3
SBC	3
SBC	3
SBC	3
Total	16

SPRING	Credits
First Year Seminar 102	1
WRT 102	3
MAT	3-4
ECO 108	4
SBC	3
SBC	3
Total	17-18

### SOPHOMORE

FALL	Credits
ECO 303	4
ECO 320	4
SBC	3
SBC	3
Elective	3
Total	167

SPRING	Credits
ECO 305	4
ECO 321	4
SBC	3
Upper-division elective	3
Elective	3
Total	17

### JUNIOR

FALL	Credits
Upper-division ECO	3
Upper-division ECO	3
Upper-division elective	4
SBC	3

SBC	3
Total	15

<b>SPRING</b>	<b>Credits</b>
Upper-division ECO	3
ECO elective or other approved course	3
Upper-division elective	3
SBC	3
SBC	3
Total	15

**SENIOR**

<b>FALL</b>	<b>Credits</b>
SBC	3
SBC	3
Upper-division elective	3
Upper-division elective	3
Elective	3
Total	15

<b>SPRING</b>	<b>Credits</b>
Upper-division ECO	3
ECO elective or other approved course	3
Upper-division elective	3
Elective	3
Elective	3
Total	15

# ECO

## Economics

### ECO 108: Introduction to Economics

An introduction to economic analysis. Microeconomics (the study of individual, firm, industry, and market behavior) and macroeconomics (the study of the determination of national income, employment, and inflation). This course has been designated as a High Demand/Controlled Access (HD/CA) course. Students registering for HD/CA courses for the first time will have priority to do so.

*Prerequisite: C or higher in MAT 122 or MAT 123 or AMS 151 or level 4 on the mathematics placement examination*

**DEC:** F  
**SBC:** SBS

4 credits

### ECO 303: Intermediate Microeconomic Theory

Analytical study of the behavior of fundamental economic units (consumer and the firm) and its implications for the production and distribution of goods and services. Emphasis on the use of economic theory to provide explanations of observed phenomena, including the analytical derivation of empirically verifiable propositions. This course has been designated as a High Demand/Controlled Access (HD/CA) course. Students registering for HD/CA courses for the first time will have priority to do so.

*Prerequisites: C or higher in ECO 108; C or higher in MAT 122 or MAT 123 or AMS 151 or placement level 4 on the mathematics placement examination*

**DEC:** F  
**SBC:** SBS+

4 credits

### ECO 305: Intermediate Macroeconomic Theory

The theory of national income determination, employment, distribution, price levels, inflation, and growth. Keynesian and classical models of the different implications of monetary and fiscal policy. This course has been designated as a High Demand/Controlled Access (HD/CA) course. Students registering for HD/CA courses for the first time will have priority to do so.

*Prerequisites: C or higher in ECO 108; C or higher in MAT 122 or MAT 123 or AMS 151 or placement level 4 on the mathematics placement examination*

**DEC:** F  
**SBC:** SBS+

4 credits

### ECO 310: Basic Computational Methods in Economics

A first course in the computational and graphical techniques for finding numerical solutions to a small set of economic models (such as the Edgeworth Box) based on concepts and constructs presented in the intermediate microeconomics course. Includes the foundations of programming (using a symbolic algebra language), and finding maxima of functions, finding equilibria of markets, and exploring and fitting functions graphically. Emphasis is put on understanding the connections between the concepts, the algebra, the computation, and the graphical presentation of economic models and on using the numerical models to perform experiments.

*Prerequisite: C or higher in ECO 303*

4 credits

### ECO 316: U.S. Class Structure and Its Implications

Investigation of the economic foundations of social class in the U.S. and connections among class, race, and gender. Consideration of both theoretical and empirical strategies to understand the working class, the middle class, and the capitalist class in contemporary U.S. society, including the implications of class analysis for social issues such as government economic policy formation, the "underclass" and welfare reform, globalization, living standards, the distributions of income and wealth, and economic ethics.

*Prerequisite: C or higher in ECO 108*

**DEC:** K  
**SBC:** SBS+

3 credits

### ECO 317: Marxist Political Economy

An analysis of capitalism as a social system of production and exchange, based on the economic writings of Karl Marx and others working in that broad tradition. The course begins with study of Marx's philosophical method, dialectical materialism, and applies this method to the historical development of capitalism and the operation of the modern capitalist economy. The course explores connections between economic power and political, cultural, and ethical issues.

*Prerequisite: C or higher in ECO 108*

3 credits

### ECO 320: Mathematical Statistics

An introduction to statistical methods and their properties that are useful in analysis of economic data. Topics include elements of probability theory and its empirical application, univariate and multivariate distributions, sampling distributions, limiting distributions, and point and interval estimation. Regular problem sets and occasional projects are required. Not for credit in addition to AMS 310. This course has been designated as a High Demand/Controlled Access (HD/CA) course. Students registering for HD/CA courses for the first time will have priority to do so.

*Prerequisites: C or higher in ECO 108; C or higher in MAT 122 or MAT 123 or AMS 151 or placement level 4 on the mathematics placement examination*

4 credits

### ECO 321: Econometrics

The application of mathematical and statistical methods to economic theory. Topics include the concept of an explanatory economic model, multiple regression, hypothesis testing, simultaneous equation models, and estimating techniques. Emphasis is placed on the application of econometric studies.

*Prerequisites: C or higher in ECO 320 or AMS 310; C or higher in ECO 108*

4 credits

### ECO 323: Applied Microeconomics

Exploration of the connection between economic theory and its applications, with a special emphasis on the use of econometric techniques. Real-life examples are used to examine how computer software and the internet allow us to better understand a problem, analyze a question, or find an answer. Computers are used intensively to learn about financial and business decisions, economic models, and econometric methodology. Models of inter-temporal choice, investment, investment under uncertainty, migration, retirement, housing decisions, economics of regulation, education, financial options, and many others are explored with real examples, often with real data and econometric tools. Students are expected to consult many sources and think analytically for problem sets, exams, and in class.

*Prerequisites: C or higher in ECO 303; C or higher in ECO 320 or AMS 310*  
*Advisory Prerequisite: ECO 321*

4 credits

### ECO 325: International Economics

Economic theory of international trade, protection, commercial policy, customs unions, capital movements, and international finance.

*Prerequisite: C or higher in ECO 303*

3 credits

### ECO 326: Industrial Organization

A study of the structure of firms and markets and interactions between them. Price theory, strategic theory and transaction costs analysis are used to illuminate the sources of and limitations on market power of firms. Some empirical evidence, drawn primarily from the U.S. economy, is explored. A brief introduction to antitrust policy and regulatory policy is included.

*Prerequisite:* C or higher in ECO 303

3 credits

### ECO 327: Health Economics

An application of microeconomics to the health sector of the economy. Topics include the demand for health care; the roles of hospitals, physicians, and HMOs in the supply of health care; the role of the government in the provision of health care; and the detriments of health care costs.

*Prerequisite:* C or higher in ECO 303

**DEC:** F  
**SBC:** SBS+

3 credits

### ECO 328: Regional Economics

An examination of the major theories of economic structure within a spatial context. Special attention is paid to economic growth within a spatial world, migration of firms and resources across space, the empirical modeling of these processes, and regional economic modeling. Topics include export base theory; input-output modeling, social accounting matrices (SAMs), computable general equilibrium models (CGEs) and regional econometric and conjoined models.

*Prerequisite:* C or higher in ECO 303

**DEC:** F  
**SBC:** SBS+

3 credits

### ECO 329: Urban Economics

Construction of models to explain aspects of cities, including existence, dynamics, and land use patterns. Concepts include Lorenz Curve, externalities, tipping points, bid-rent curves, and separation of economic activities. Uses algebra, pre-calculus, graphing, and calculus. Computer spreadsheets and scientific hand calculators used.

*Prerequisite:* C or higher in ECO 303

*Advisory Prerequisite:* MAT 131

3 credits

### ECO 334: Demographic Economics of Developing Countries

Problems related to both economics and demography. In scope, the material deals with both contemporary and historical situations in developing countries. Microeconomic aspects of the course concern fertility, marriage, divorce, and migration; macroeconomic aspects concern the implications for growth and development of various patterns of population increase.

*Prerequisites:* C or higher in ECO 320 or AMS 310; C or higher in ECO 303 and 305

**DEC:** J  
**SBC:** SBS+

3 credits

### ECO 335: Economic Development

An examination of problems and aspects facing developing countries in the transition from traditional, predominantly rural economic systems to modern, largely urban-oriented economies. Theories of economic growth and development are presented in the light of the actual experience of developing countries.

*Prerequisites:* C or higher in ECO 303; MAT 126 or 131 or 141 or AMS 151

3 credits

### ECO 337: Labor Theory

Microeconomic theory is used to investigate specific topics in the field of labor economics. Areas to be covered include the household's decision-making process and the supply of labor, investments in human capital and discrimination in the marketplace, the effect of market structure on the demand for labor, and the distribution of income.

*Prerequisite:* C or higher in ECO 303

3 credits

### ECO 345: Law and Economic Issues

An application of economic issues to major fields of law to study their effects on market and non-market behavior. The consequences that laws may have on the realization of efficient outcomes, as well as an exploration of the legal process from an economic perspective, are emphasized.

*Prerequisite:* C or higher in ECO 303

3 credits

### ECO 348: Analysis for Managerial Decision Making

Development of analytical techniques (such as linear programming and statistical decision theory) for making economic decisions, both in public and private enterprises. The student makes decisions on large-scale and detailed cases in realistic managerial situations and is introduced to the use of the computer. May

not be taken for credit after BUS 249. Not for credit in addition to the discontinued BUS 349.

*Prerequisite:* C or higher in ECO 303

4 credits

### ECO 351: Special Topics in Economics

May be repeated as the topic changes.

*Prerequisite:* C or higher in ECO 303

3 credits

### ECO 352: Special Topics in Economics

May be repeated as the topic changes.

*Prerequisite:* C or higher in ECO 303

3 credits

### ECO 353: Special Topics in Economics

May be repeated as the topic changes.

*Prerequisite:* C or higher in ECO 303

3 credits

### ECO 354: Special Topics in Economics

May be repeated as the topic changes.

*Prerequisite:* C or higher in ECO 303

3 credits

### ECO 355: Game Theory

Introduction to game theory fundamentals with special emphasis on problems from economics and political science. Topics include strategic games and Nash equilibrium, games in coalitional form and the core, bargaining theory, measuring power in voting systems, problems of fair division, and optimal and stable matching. This course is offered as both AMS 335 and ECO 355.

*Prerequisites:* MAT 126 or 131 or 141 or AMS 151; C or higher in ECO 303

**SBC:** SBS+

3 credits

### ECO 356: Special Topics in Economics

May be repeated as the topic changes.

*Prerequisite:* C or higher in ECO 303

3 credits

### ECO 357: Special Topics in Economics

May be repeated as the topic changes.

*Prerequisite:* C or higher in ECO 303

3 credits

### ECO 358: Topics in Developing Economies

Semester supplements to this Bulletin contain specific descriptions when course is offered. Topics may include titles such as The Economics of India and Chinese Economic Development. Designed for upper-division students, this course provides an in-depth study

of a specific topic relating to non-Western world civilizations. Students will be expected to demonstrate either a knowledge of a broad outline of world history, or the distinctive features of the history, institutions, economy, society, and culture of one non-Western civilization. May be repeated as the topic changes.

*Prerequisites: U3 or U4 standing; additional prerequisites announced with topic*

**DEC:** J

**SBC:** SBS+

3 credits

### **ECO 360: Money and Banking**

An introduction to modern monetary institutions and mechanisms, their relationship to the economy, and governmental policies in this area.

*Prerequisite: C or higher in ECO 108*

3 credits

### **ECO 362: Financial Economics**

An analysis of financial decision making inside the corporation, covering topics such as the choice of the dividend policy, the choice between equity and debt and the interaction between financing and investment decisions. We will also look at how market imperfections, in particular the existence of informational differences between managers and investors, influence the performance of corporations. Finally, we study the optimal policies to cope with market imperfections.

*Prerequisites: C or higher in ECO 303; C or higher in ECO 320 or AMS 310*

3 credits

### **ECO 364: Thinking Strategically**

A focus on the strategic interaction between several decision makers. Topics include: optimal decisions of firms interacting in markets with imperfect competition, the value of information under strategic conflict, optimal bidding strategies for various auction mechanisms (including online auctions), optimal networking design, Blackjack and others.

*Prerequisite: C or higher in ECO 303*

3 credits

### **ECO 373: Economics of Environment and Natural Resources**

Analysis of economic policies designed to deal with environmental problems. Issues involving the management of renewable and exhaustible resources such as timber and oil as well as the advantage of market-based solutions over the conventional demand approach are discussed.

*Prerequisite: C or higher in ECO 303*

**DEC:** H

**SBC:** STAS

3 credits

### **ECO 383: Public Finance**

Theories of taxation and the satisfaction of public wants; the nature of public goods; theory of public expenditure; effects of taxes on resource allocation and welfare; theories of tax incidence; fiscal and equity implications of alternative tax schemes; fiscal dynamics and growth; intergovernmental fiscal relations.

*Prerequisites: C or higher in ECO 303 and 305*

3 credits

### **ECO 385: U.S. Economic History**

The application of economic theory and statistical methods to analyze historical topics and themes. Topics may include the economic causes of the Revolutionary War; the economics of slavery; share cropping and debt peonage in the South after the Civil War; the economics of the resumption of the gold standard; the "cross of gold", the causes of the Great Depression, post World War II economic growth, and the causes and consequences of the Great Recession. Themes include an analysis of the American economic growth from the 1820's through today; the government's role in economic development; and the contributions of natural increase and migration to U.S. labor force and population increase.

*Prerequisite: ECO 303 and ECO 305  
Advisory Prerequisite: ECO 320*

3 credits

### **ECO 389: Corporate Finance**

Introduction to the main concepts and problems confronted by financial managers in the corporate world. Development and application of tools and methods for financial decision-making and analysis, including: discounting and present value; asset valuation; investment criteria; risk and return; risk management; cost of capital; debt and dividend policies; international financial management.

*Prerequisite: C or higher in ECO 303  
Advisory Prerequisite: C or higher in ECO 305*

3 credits

### **ECO 444: Experiential Learning**

This course is designed for students who engage in a substantial, structured experiential learning activity in conjunction with another class. Experiential learning occurs when knowledge acquired through formal learning and past experience are applied to a "real-world" setting or problem to create new

knowledge through a process of reflection, critical analysis, feedback and synthesis. Beyond-the-classroom experiences that support experiential learning may include: service learning, mentored research, field work, or an internship.

*Prerequisite: WRT 102 or equivalent; permission of the instructor and approval of the EXP+ contract ([http://sb.cc.stonybrook.edu/bulletin/current/policiesandregulations/degree\\_requirements/EXPplus.php](http://sb.cc.stonybrook.edu/bulletin/current/policiesandregulations/degree_requirements/EXPplus.php))*

**SBC:** EXP+

S/U grading

### **ECO 459: Write Effectively in Economics**

A zero credit course that may be taken in conjunction with any 300- or 400-level ECO course, with permission of the instructor. The course provides opportunity to practice the skills and techniques of effective academic writing and satisfies the learning outcomes of the Stony Brook Curriculum's WRTD learning objective.

*Prerequisite: WRT 102; permission of the instructor*

**SBC:** WRTD

S/U grading

### **ECO 475: Undergraduate Teaching Practicum I**

Work with a faculty member as an assistant in one of the faculty member's regularly scheduled classes. The student is required to attend all the classes, do all the regularly assigned work and meet with the faculty member at regularly scheduled times to discuss the intellectual and pedagogical matters relating to the course.

*Prerequisites: Permission of instructor and department*

**SBC:** EXP+

3 credits, S/U grading

### **ECO 476: Undergraduate Teaching Practicum II**

Work with a faculty member as an assistant in one of the faculty member's regularly scheduled classes. Students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not serve as teaching assistants in the same course twice.

*Prerequisite: C or higher in ECO 475; permission of instructor and department*

**SBC:** EXP+

3 credits, S/U grading

**ECO 487: Independent Research in Economics**

An independent project, developed out of advanced coursework in economics, designed in consultation with and supervised by a faculty member. The project should be formulated before the start of the semester in which the research will be done and should culminate in a substantial written paper. May be repeated.

*Prerequisites: At least one upper-division ECO course that forms the basis of research; permission of a supervising faculty member*

*0-6 credits*

**ECO 488: Internship in Economics**

An independent research project undertaken in the context of a work environment that provides students with access to data, people, and experience that make possible the study of a particular economic issue. Related readings, a daily journal, and an analytical paper under the supervision of a faculty member are required. Permission must be obtained before the start of the semester in which the student enrolls in ECO 488. May be repeated up to a limit of 12 credits, but only counts as one course toward major requirements.

*Prerequisites: C or higher in ECO 303 and 305; permission of supervising faculty member, Career Center Internship Manager, and sponsoring employing agency*

**SBC:** EXP+

*0-6 credits, S/U grading*