Graduate Programs

The graduate program in Economics, in the College of Arts and Sciences, emphasizes rigorous training in economic theory and quantitative methods and their creative applications. Both theoretical and empirical work is heavily based on mathematical modeling. In addition to core courses, students choose elective courses from the variety of fields offered in theoretical and quantitative applied economics. It is through these courses that breadth of economic knowledge is gained. Both Ph.D. and M.A. programs share most of the courses. If students choose the Advanced MA track they can also combine their MA degree with the Advanced Certificate in Data and Computational Science, or the Advanced Certificate in Finance. More details on the latter programs are provided below.

The program of study does not depend on prior knowledge of economics, though that is useful. Because of its emphasis on mathematical modeling, the graduate program is highly suitable for those whose undergraduate degrees are in physics, engineering, and mathematics. Those whose undergraduate degrees are in economics usually have to take a number of mathematics courses at a level not usually required for their undergraduate degree in order to be prepared for a graduate program.

Financial Support and application deadlines

Students in the M.A. program do not receive financial support and are expected to pay tuition. Ph.D. students may receive financial support for four years of study and a tuition waiver for the entire duration of their study subject to satisfactory progress in the program. Most of the time, we can provide support at least to fifth-year graduate students in good standing. The number of openings for the Ph.D. program is small and acceptance is very competitive. Students who do well in the advanced M.A. program (see M.A. program details) are prime candidates to be accepted into the Ph.D. program upon completion. Since the course requirements for both programs are almost identical they would only need to complete the teaching practicum and the research workshop (see Ph.D. program details) and can start their research immediately.

All admissions are for the academic year starting in September. Applicants to the Ph.D. program seeking financial aid are required to apply by January 15. Applications for the M.A. program are accepted until April 15 for foreign students and May 15 for domestic students.

Admission requirements of the Economics Department

All first year courses in the PhD program are mandatory and follow a two semester sequence, while the first semester courses of the MA program are also mandatory. Thus both programs admit students only for the Fall semester unless they have taken PhD level courses in another university. Minimum requirements to be considered for admission, in addition to the minimum Graduate School requirements, are as follows, although exceeding these requirements increases the probability of admission:

A. A bachelor’s degree, with an average of at least B in the undergraduate major subject, which need not be economics. Applicants with majors in mathematics, the physical sciences, or engineering are encouraged.

B. At least one year of introductory differential and integral calculus and at least one semester of linear algebra in courses whose level is that required for physics majors in research universities with proficiency demonstrated by a grade of at least B in the courses. Additional semesters of multivariate calculus are highly recommended. Further mathematics such as real analysis and topology are very helpful.

C. Letters of recommendation from three instructors or academic advisors. The referees should be able to evaluate the mathematical preparation and ability of the applicant.

D. Submission of results of the Graduate Record Examination (GRE) General Test (verbal, quantitative, and analytical parts). Applicants with quantitative scores below the 80th percentile are generally not admitted.

E. For foreign students, provide scores from the Test of English as a Foreign Language (TOEFL), or the IELTS. This is a hard requirement, no exceptions for non-native speakers even if you have obtained a degree in an English speaking university including US universities.

Stony Brook University Graduate Bulletin: www.stonybrook.edu/gradbulletin
Students should be aware that admitted students generally exceed these requirements. However, students who do not meet or exceed all these requirements may apply if they think that their preparation as a whole shows they are capable of succeeding in the graduate program.

Department of Economics

The Department of Economics is a highly active and research-oriented department that emphasizes excellence in the core areas of economics: Microeconomic Theory, Macroeconomics, and Applied Economics. The department enjoys a worldwide reputation for excellence in Game Theory thanks to the Stony Brook Center for Game Theory in Economics, which was founded in 1989. With the continuous support from the NSF during more than 30 years, the center has organized the most important yearly conference in game theory in the profession. It has attracted many Nobel laureates in economics, such as, Robert Aumann, John Nash, Eric Maskin, Alvin Roth, and Lloyd S. Shapley. The department also has a prominent group of researchers in the other core areas, who are currently studying some of the most pressing economic issues affecting our societies. These include the effects of aging on the social insurance system, the relationship between the current financial crisis and the housing sector, the consequences of urbanization in developing countries, and the economic consequences of the COVID pandemic. The research on some of these issues has appeared in general interest journals like Nature and Science, top economic journals as well as popular media like the New York Times and the US News and World Report.

Requirements for the M.A. Degree in Economics

**Fall year I**
- ECO500 Microeconomics I
- ECO510 Macroeconomics I
- ECO520 Mathematical Statistics
- ECO590 Mathematical foundations of contemporary Economic Theory

**Spring year I**
- Elective in Economics
- Elective in Economics
- Elective in Economics
- Elective in Economics
- Elective in Economics

Basic MA Program: For the basic program students in the second year will take three additional courses, including ECO597 master's project and two of the electives offered in the Fall semester (please see list below). No courses are offered in the summer.

**Elective courses:**
- ECO604 Game Theory I (F)
- ECO605 Game Theory II (S)
- ECO610 Advanced Macroeconomic Theory I
- ECO612 Computational Economics & Dynamic Modeling
- ECO613 Computational Macroeconomics
- ECO636 Industrial Organization I (F)
- ECO637 Industrial Organization II (S)
- ECO640 Advanced Labor Economics Theory I (F)
- ECO641 Advanced Labor Economics Theory II (S)
- ECO642 Demographic Economics I
- ECO643 Demographic Economics II
- ECO645 Health Economics I
- ECO646 Health Economics II (S)

Requirements for the Ph.D. Degree in Economics

The goal of the Ph.D. program is to develop the capability of each student to conduct independent research and analysis. To this end the program has three phases: (1) a general foundation in economic theory and quantitative methods starting from the basics but done in a very mathematical way, (2) specialization in two or more fields of theoretical or applied economics, and (3) independent research culminating in the doctoral dissertation. These are not totally distinct phases but indicate the natural order of progression. Coursework is supplemented by independent study and research seminars. Throughout the program students have advisors to consult in developing a study plan that best meets their needs.

The Ph.D. degree requirements are as follows:

**A. Course Requirements**

A minimum of 15 courses in economics (including core courses) must be completed, with a grade of B or better in each elective course. Included in the elective courses must be at least two in each of two approved pairs of courses forming fields (listed below). However, the Ph.D. committee may approve a waiver of part of the 15-course requirement for students with graduate work elsewhere.

1. Core Courses: The courses that provide the foundation in economic theory (micro and macro) and quantitative analysis (mathematical methods, statistics, and econometrics) are referred to as core courses. Comprehensive examinations are taken in microeconomics, macroeconomics, and econometrics at the end of the first year of study.

2. Elective Courses and Fields of Specialization: In addition to core courses, normally at least six elective courses must be taken, including two pairs of courses, where each pair forms an approved field. It is usual but not necessary that a dissertation topic be chosen from one of these fields of specialization. The two elective fields must be satisfactorily completed by the end of the sixth semester. Each field may be completed on the basis of an average grade of B+ or higher in the courses in that field. Fields currently offered by the department are composed of courses in game
theory, industrial organization, applied econometrics, labor economics, health economics, demographic economics, computational methods, and computational macroeconomics.

**B. Workshops and Seminars**

Each student takes at least one research workshop in the fifth semester. The purpose of this workshop is to provide a structured introduction to research methodology. In addition, participation in program seminars and research workshops is considered an essential part of a student's progress toward the doctorate. Seminars in economic theory, applied micro, and macroeconomics are presented on a regular basis by faculty, visitors, and graduate students. Workshops oriented toward thesis research are conducted by faculty and students working in related areas.

**C. Advancement to Candidacy**

Advancement to candidacy for the Ph.D. is achieved by satisfactory completion of most course requirements specified in item A. Advancement to candidacy normally must be achieved by the end of the fourth semester.

**D. Dissertation**

A dissertation, presenting the results of original and significant research, must be approved. An examination on a dissertation proposal research must be passed by the end of the sixth semester of study. The examination is both written and oral, and its syllabus is to be determined by the student’s dissertation committee in consultation with the student. Final approval of the dissertation will be by a committee including the candidate’s principal advisor, two other department members, and one member from another department. The results of the dissertation will be presented at a colloquium convened for that purpose.

**E. Teaching**

PhD students in economics who are funded on state lines serve as teaching assistants (TAs) for classes taught by departmental faculty and instructors. For all PhD students, regardless of source of funding, the department of economics requires that they take the teacher training course ECO 698.

**F. Time Limit**

The time limit for a doctoral degree is seven years for a student who has a previous graduate degree or 24 credits of graduate study in such a degree program. For all other students, the time limit for a doctoral degree is seven years after completion of 24 graduate level credits at Stony Brook University.

**G. Dismissal Policy**

A student may be dismissed from the program at the end of any semester in which he or she does not achieve a semester or cumulative B average or fails to meet the pertinent requirements for the Ph.D. as specified.

Faculty of Economics department

**Professors**

- Brusco, Sandro, Ph.D., 1993, Stanford: Mechanism design, corporate finance, political economy.
- Cárceles-Poveda, Eva, Ph.D/MA Program Director Ph.D., 2001, Universitat Pompeu Fabra: Macroeconomics, financial economics, int’l economics.
- Conesa, Juan Carlos, Ph.D., 1999, University of Minnesota: Macroeconomics; computational economics.
- Dubey, Pradeep, Ph.D., 1975, Cornell University: Game theory; mathematical economics.
- Manea, Mihai, Ph.D, 2009, Harvard University: Game Theory, Social and Economic Networks
- McGarry, Kathleen, Professor and Chair, PhD, Stony Brook University, Health Economics, Public Economics, Economics of Aging
- Montgomery, Mark, Ph.D., 1982, University of Michigan: Economic demography; development economics; econometrics.
- Eran Shmaya, Ph.D., 2007, Tel Aviv University: Game theory, probability, information theory, decision theory.
- Stern, Steven, Ph.D., 1985, Yale University: Labor economics; econometrics; economics of aging and disability.
- Tauman, Yair, Ph.D., 1978, Hebrew University, Jerusalem: Industrial organization; game theory.

**Associate Professors**

- Benitez-Silva, Hugo, Ph.D., 2000, Yale University: Labor economics, computational economics.
Zhou, Yiyi, PhD., 2012, University of Virginia: Industrial Organization, applied econometrics.

Assistant Professor
Millard, Robert, Ph.D., University of Western Ontario, Research Interests: Labor Economics, Health Economics

Lecturers
Quella Isla, Nuria, Ph.D., 1995, New York University: Economic growth and development; environmental economics; international economics.
Yunn, Bora, Ph.D., 2018, University of Minnesota: Macroeconomics, International Economics

NOTE: The course descriptions for this program can be found in the corresponding program PDF or at COURSE SEARCH.