

# Freshman Registration Fall 2019

## Degree Options in Economics

The Economics department currently offers major and minor degrees in Economics, as well as joint majors with Mathematics and Computer Science.

- The major degrees (major in Economics, joint majors with Math or Computer Science) teach Economics as a quantitative field, with the necessary prerequisites in Mathematics and Statistics. These formal tools are used for theoretical modeling, empirical (data-based) research, and policy analysis.
- The Economics minor gives a comprehensive introduction to key concepts of Economic thought and institutional knowledge, without relying on advanced mathematical techniques.

Students in the Economics major may be eligible for departmental honors, subject to a GPA requirement and after completing the honors sequence (honors tutorial and honors thesis), which involves designing and completing a research project under faculty supervision. If you consider eventually seeking honors, we strongly recommend starting the major sequence as early as possible so that you will be able to complete at least one advanced (300-level) elective before beginning the honors sequence.

## Combinations with Other Fields

The various degree options in Economics can be combined with minors or majors in other fields, where Economics is most compatible with other quantitative fields like Mathematics, Computer Science, or Data Science, as well as other social sciences as e.g. Politics, or the Business Studies minor. Combinations may be of the following forms:

1. Economics major and minor in other field: these combinations are in principle possible with any other minor at the college due to the modular structure of minor and major degrees.
2. Economics minor and major in other field: If the major is in another quantitative field (e.g. Math, Computer Science, Data Science), there is a lot of overlap in quantitative requirements with the *major* in Economics, so for those fields we strongly recommend that students combine such a field with the Economics *major* rather than the minor,

either as a joint or double major, or a major in Economics with a minor in that second field.

3. Economics major and major in other field (double major): Due to the overall number of credits needed to complete two full majors, this option will generally not leave much flexibility for coursework outside of these two majors and be primarily attractive to students who want to focus exclusively on those two fields.
4. Joint major between Economics and other fields: joint majors are self-contained programs offered in cooperation between Economics and other departments. Currently there exist joint major programs with Mathematics and with Computer Science.

We generally recommend that students interested in combining Economics with Math or Computer Science do the joint major. For other quantitative fields such as Data Science, it is most advantageous to combine the Economics major with a minor or major in that other field. Other social sciences combine well with both major and minor in Economics, and the decision should depend on whether the student wants to invest in the strong quantitative component of the major.

## Economics major

Given the sequential nature of the economics major, students are strongly advised to begin the major as early as possible. Normally, at least six full semesters are required to complete the major. Since prerequisites for each course in the sequence are strictly enforced, it is not possible for students to complete the economics major in fewer than five semesters. There are several reasons why students should start the major early:

- Many advanced (300-level) electives are not offered in all semesters, or may fill up before all students register. Since each of these electives takes Intermediate Micro or Macro as prerequisites, students should complete Intermediate Micro at least one year before their intended graduation date.
- Students may fail, and have to repeat, a course in the sequence. A required course may not be offered at a Global site if a student plans to spend a semester abroad. Any of these may delay completion of the major sequence.
- Some students may decide to switch from Economics to a different major, especially if they find the Math prerequisites or Intermediate Micro courses too challenging. At that point, any completed coursework could still be applied towards an Economics minor. However if those students delay that decision they may have fewer options for alternative majors left that could be completed in regular time.
- Students interested in pursuing honors should aim to complete at least one advanced (300-level) elective before starting the honors tutorial in the Fall of their senior year. Usually students will devise an honors thesis project based on problems and methods from a 300-level elective.

Students can choose from two concentrations: policy or theory. The **policy concentration** is intended for the student who is primarily interested in applying economic analysis to an understanding of economic problems and policies. Mathematics is used to build an understanding of economic theory.

The **theory concentration** is intended for the student who wishes to begin the formal study of economic reasoning with an emphasis on mastering the analytical tools. This concentration relies on a higher level of abstraction and focuses on techniques of economic analysis rather than on the understanding of specific economic problems or institutions.

For either concentration, the major requires six **core courses** in Economics: Micro and Macroeconomics at the Principles level (ECON-UA 1 and 2), Statistics (ECON-UA 18, or 20 for the theory concentration), Micro and Macroeconomics at the Intermediate level (ECON-UA 10 and 12, or ECON-UA 11 and 13 for the theory concentration), and Econometrics (ECON-UA 266). In addition students have to take four **elective courses** in Economics, at least two of which must be advanced electives (course numbers 300-399) that require Intermediate Micro and Macroeconomics as a prerequisite.

The Intermediate courses in Micro and Macroeconomics (ECON-UA 10-13) all require Mathematics for Economics I and II (MATH-UA 211,212), as well as Introduction to Macroeconomics and Introduction to Microeconomics (ECON-UA 1,2) as prerequisites. If you plan to major in Economics, you should therefore register for the following courses as soon as possible:

	COURSE 1	COURSE 2
<b>Semester 1</b>	<b>Introduction to Microeconomics (ECON-UA 2)</b>	<b>Mathematics for Economics I (MATH-UA 211)</b>
<b>Semester 2</b>	<b>Introduction to Macroeconomics (ECON-UA 1)</b>	<b>Mathematics for Economics II (MATH-UA 212)</b>

**Students with acceptable AP, A Level, IB or equivalent credits in economics can place out of one or both of the Introductory Economics courses.** Acceptable credits are: 4 or 5 on AP Micro or AP Macro; B or higher on the A Levels in Economics; 6 or 7 on the IB High Level in Economics. For more information, or for any other credit by examination, students should meet with a CAS advisor. **Students with AP, A-level, IB or equivalent Calculus credits are still required to complete Mathematics for Economics I and II.**

## The Policy Concentration

The policy concentration is intended for the student who is primarily interested in applying economic analysis to an understanding of economic problems and policies. Mathematics is used to build an understanding of economic theory. The introductory and intermediate courses provide the student with a solid foundation of economic theory with an emphasis on economic applications. The elective courses allow students to focus on specific problems and topics that match their interests and career plans. For a complete description of the major requirements, refer to the latest version of the CAS Bulletin.

At least **10 courses** are to be taken in the Department of Economics. In addition, all economics majors are required to take Mathematics for Economics I and Mathematics for Economics II (MATH-UA 211, 212). These two mathematics courses are designed especially for economics majors and must be taken at NYU by all economics policy majors. We strongly recommend that students take Introduction to Microeconomics (ECON-UA 2) and Mathematics for Economics I (MATH-UA 211) in the same semester to obtain the maximum benefit from these courses.

## Sample Three-Year Plan for Policy Concentration

	COURSE 1	COURSE 2	COURSE 3	COURSE 4
Semester 1	Introduction to Microeconomics (ECON-UA 2)	Mathematics for Economics I (MATH-UA 211)	Any additional non-econ course	Any additional non-econ course
Semester 2	Introduction to Macroeconomics (ECON-UA 1)	Mathematics for Economics II (MATH-UA 212)	Any additional non-econ course	Any additional non-econ course
Semester 3	*International Economics (ECON-UA 238), or Urban Economics (ECON-UA 227), or Money and Banking (ECON-UA 231)	Intermediate Microeconomics (ECON-UA 10)	Any additional non-econ course	Any additional non-econ course
Semester 4	Statistics (ECON-UA 18)	Intermediate Macroeconomics (ECON-UA 12)	Any additional non-econ course	Any additional non-econ course
Semester 5	Intro to Econometrics (ECON-UA 266)	Any 200-level elective (ECON-UA 2xx)	Any additional non-econ course	Any additional non-econ course
Semester 6	Any 300-level elective (ECON-UA 3xx)	Any 300-level elective (ECON-UA 3xx)	Any additional non-econ course	Any additional non-econ course

\* Students may take more than one of these three courses. One of them will count towards the core course requirement and the other can count towards the 200-level elective requirement.

## The Theory Concentration

The theory concentration is intended for the student who wishes to begin the formal study of Economic reasoning with an emphasis on mastering the analytical tools. This concentration relies on a higher level of abstraction and focuses on techniques of economic analysis rather than on the understanding of specific economic problems or institutions. It is particularly well suited for students who intend to pursue a Ph.D. degree in economics or higher degrees in quantitative fields such as finance. For a complete description of the major requirements, refer to the latest version of the CAS Bulletin.

At least **10 courses** are to be taken in the Department of Economics. In addition all economics theory majors, who are not interested in taking additional courses in the math department, are required to take Mathematics for Economics I and Mathematics for Economics II (MATH-UA 211, 212). We strongly recommend that students take Introduction to Microeconomics (ECON-UA 2) and Mathematics for Economics I (MATH-UA 211) in the same semester to obtain the maximum benefit from these courses. Note that Mathematics for Economics I (MATH-UA 211) is a prerequisite for Mathematics for Economics II (MATH-UA 212).

### Sample Three-Year Plan for Theory Concentration

	COURSE 1	COURSE 2	COURSE 3	COURSE 4
Semester 1	Introduction to Microeconomics (ECON-UA 2)	Mathematics for Economics I (MATH-UA 211)	Any additional non-econ course	Any additional non-econ course
Semester 2	Introduction to Macroeconomics (ECON-UA 1)	Mathematics for Economics II (MATH-UA 212)	Any additional non-econ course	Any additional non-econ course
Semester 3	Microeconomic Theory (ECON-UA 11)	Any 200-level elective (ECON-UA 2xx)	Any additional non-econ course	Any additional non-econ course
Semester 4	Macroeconomic Theory (ECON-UA 13)	Analytical Statistics (ECON-UA 20)	Any additional non-econ course	Any additional non-econ course
Semester 5	Intro to Econometrics (ECON-UA 266)	Any 300-level elective	Any additional non-econ course	Any additional non-econ course
Semester 6	Any 200-level elective (ECON-UA 2xx)	Any 300-level elective (ECON-UA 3xx)	Any additional non-econ course	Any additional non-econ course

## Joint major in Economics and Mathematics

Nine economics courses in the theory concentration and nine mathematics courses are required.

### Sample Three-Year Plan for Economics for the Joint Major with Mathematics

	COURSE 1	COURSE 2	COURSE 3	COURSE 4
Semester 1	Introduction to Microeconomics (ECON-UA 2)	Mathematics for Economics I (MATH-UA 211)	Any additional non-econ course	Any additional non-econ course
Semester 2	Introduction to Macroeconomics (ECON-UA 1)	Mathematics for Economics II (MATH-UA 212)	Any additional non-econ course	Any additional non-econ course
Semester 3 (FALL)	Any 200-level elective (ECON-UA 2xx)	Mathematics for Economics III (MATH-UA 213)	Any additional non-econ course	Any additional non-econ course
Semester 4 (SPRING)	Analytical Statistics (ECON-UA 20)		Any additional non-econ course	Any additional non-econ course
Semester 5 (FALL)	Microeconomic Theory (ECON-UA 11)	Introduction to Econometrics (ECON-UA 266)	Any additional non-econ course	Any additional non-econ course
Semester 6	Macroeconomic Theory (ECON-UA 13)	Any 300-level elective (ECON-UA 3xx)	Any additional non-econ course	Any additional non-econ course
Semester 7	Any 300-level elective (ECON-UA 3xx)			

Of the nine mathematics courses, the following five are required: MATH-UA 211, MATH-UA 212, MATH-UA 213, MATH-UA 140, and MATH-UA 325. Four additional courses must be completed from the following choices: MATH-UA 141, MATH-UA 224, MATH-UA 233, MATH-UA 234, MATH-UA 235, MATH-UA 240, MATH-UA 248, MATH-UA 250, MATH-UA 252, MATH-UA 262, MATH-UA 264, MATH-UA 270, MATH-UA 282, MATH-UA 326, MATH-UA 343, MATH-UA 344, or MATH-UA 363.

## Joint major in Economics and Computer Science

Nine economics courses in the theory concentration, nine computer science course, and four mathematics courses are required. Students should choose the economics courses listed above for the Joint Major in Economics and Mathematics.

Of the nine computer science courses, the following five are required: CSCI-UA 101, CSCI-UA 102, CSCIUA 201, CSCI-UA 202, and CSCI-UA 310. Plus four computer science electives at the 400 level. One of these electives may be replaced by Linear Algebra (MATH-UA 140), or by ECON-UA 310, ECON-UA 337, ECON-UA 365, or ECON-UA 375.

The mathematics requirements are: MATH-UA 120, MATH-UA 211, MATH-UA 212, and MATH-UA 213.

## Minor in Economics

Students may minor in economics in either concentration. Six economics courses are required for the minor.

### Minor in Economics with Policy Concentration

Students who pursue a minor in economics in the Policy Concentration should take the following courses:

- Introduction to Microeconomics (ECON-UA 2 ),
- Introduction to Macroeconomics (ECON-UA 1 ),
- Statistics (ECON-UA 18),
- International Economics (ECON-UA 238),
- any other two economics electives for which the student has the prerequisites.

### Minor in Economics with Theory Concentration

Students who pursue a minor in economics in the Theory Concentration should take the following courses:

- Introduction to Microeconomics (ECON-UA 2 ),
- Introduction to Macroeconomics (ECON-UA 1 ),
- Mathematics for Economists I and II (MATH-UA 211 and MATH-UA 212),
- Analytical Statistics (ECON-UA 20) – offered only in the Spring,
- Either Microeconomics (ECON-UA 11) in the Fall **or** Macroeconomics (ECON-UA 13) in the Spring, and
- Any other two electives in economics for which the student has the prerequisites.