

# DUAL DEGREE IN ECONOMICS (M.A.) AND DATA SCIENCE (M.S.)

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## Admissions

The dual degree in economics (M.A.) and data science (M.S.) has the same admissions requirements as the M.A. in economics and the M.S. in data science.

These requirements are:

- completed online application
- three letters of recommendation for non-Fordham students; two for Fordham students
- official transcripts from all prior undergraduate and/or graduate institutions
- statement of intent
- official GRE test scores
- official TOEFL or IELTS scores for non-native English speakers.

Students will initially be admitted to either the M.A. in economics or the M.S. in data science and then apply for the dual degree (the other M.A./M.S.) once they are approximately 18 credits into their graduate study (i.e., completed four courses and are currently registered for at least two more).

Application to the second degree will only require an application form, a short statement of intent, and transcripts, with no fee for the application.

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## Economics Prerequisites

An undergraduate degree in a field emphasizing economics and/or quantitative skills is expected, such as a degree in economics or international political economy, or a degree in math, finance, psychology, computer science, or business with a minor in economics. The following courses or equivalent should be taken prior to beginning the M.A. in economics program:

- Intermediate-level Macroeconomics and Microeconomics
- Math for Economists OR Calculus I and Linear Algebra
- Statistics I and Statistics II (Statistical Decision Making)

If these classes were not completed with a previous degree, then the required classes will be added to a student's admission. These classes must be taken in the first semester or prior to beginning the program (e.g., during the summer or the previous semester).

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## Data Science Prerequisites

- Applicants with undergraduate degrees in non-computer science areas are welcome.
- An undergraduate degree in a field emphasizing quantitative skills is expected, such as a degree in computer science, information science, engineering, math, physical science, health science, business, economics, psychology, social science, or urban and city planning.

- Knowledge of discrete math, probability, and statistics, including permutations, combinations, descriptive statistics, and basic probability concepts.
- Basic programming knowledge and familiarity with Python programming are expected. This knowledge can be acquired via completion of CISC 5380 Programming with Python.

Admitted students **who seek to bypass** CISC 5380 Programming with Python **must take** a placement examination, which is administered by the department prior to the beginning of each entry term. The exam covers the fundamentals of Python programming language. Students who earn a grade lower than a B are required to enroll in CISC 5380 Programming with Python in their first semester of study. This bridge course can be taken concurrently with courses that fulfill degree requirements.