FINANCIAL MATHEMATICS (ADVANCED CERTIFICATE)

Department Website (http://math.nyu.edu)

NYSED: 28786 **HEGIS:** 1799.00 **CIP:** 27.0305

Program Description

In addition to the Master of Science program in Mathematics in Finance, the department offers an advanced certificate program in Financial Mathematics, which permits part-time students working in the industry to take just the courses most relevant to their interests and needs.

Admissions

All applicants to the Graduate School of Arts and Science (GSAS) are required to submit the general application requirements (https://gsas.nyu.edu/nyu-as/gsas/admissions/arc.html), which include:

- Academic Transcripts (https://gsas.nyu.edu/nyu-as/gsas/admissions/arc/academic-transcripts.html)
- Test Scores (https://gsas.nyu.edu/nyu-as/gsas/admissions/arc/test-scores.html) (if required)
- Applicant Statements (https://gsas.nyu.edu/nyu-as/gsas/admissions/arc/statements.html)
- Résumé or Curriculum Vitae
- Letters of Recommendation (https://gsas.nyu.edu/nyu-as/gsas/admissions/arc/letters-of-recommendation.html), and
- A non-refundable application fee (https://gsas.nyu.edu/admissions/arc.html#fee).

See Mathematics in Finance (https://gsas.nyu.edu/admissions/arc/programs/mathematics-in-finance.html) for admission requirements and instructions specific to this program.

Program Requirements

Students choose any 8 of the courses associated with the mathematics in finance curriculum, for a total of 24 credits.

Course	Title	Credits
Required Courses		
Mathematics in Finance Electives (chosen in close consultation with an academic adviser)		24
Total Credits		**24**

Sample Plan of Study

Course	Title	Credits
1st Semester/Term		
Elective		3
Elective		3
Elective		3
	Credits	**9**
2nd Semester/Term		
Elective		3
Elective		3
Elective		3
	Credits	**9**
3rd Semester/Term		
Elective		3
Elective		3
	Credits	**6**
	Total Credits	**24**

Learning Outcomes

Upon successful completion of the program, graduates will have:

1. Development of computer software skills, including facility with a high-level language such as Python, and the ability to work with financial databases.
2. Development of mathematical skills, including the tools from probability, statistics, and scientific computing that are most useful in quantitative finance.
3. Development of a broad understanding of financial markets and the many investment securities and instruments they encompass.
4. Development of familiarity with widely-used financial models for pricing, hedging, risk-management, asset allocation, and other applications of quantitative finance. This includes understanding the models' hypotheses and limitations.
5. Acquisition of specialized skills associated with selected quantitative career paths; examples of such skills include algorithmic trading, statistical arbitrage, and financial machine learning.

Policies

NYU Policies

University-wide policies can be found on the New York University Policy pages (https://bulletins.nyu.edu/nyu/policies/).

Graduate School of Arts and Science Policies

Academic Policies for the Graduate School of Arts and Science can be found on the Academic Policies page (https://bulletins.nyu.edu/graduate/arts-science/academic-policies/).