MASTER OF SCIENCE IN QUANTITATIVE AND COMPUTATIONAL FINANCE

The School of Industrial and Systems Engineering (ISYE) offers eight master's degrees:

- Master of Science in Industrial Engineering (MS IE);
- Master of Science in Operations Research (MS OR);
- Master of Science in Supply Chain Engineering (MS SCE);
- Master of Science in Statistics (MS STAT);
- Master of Science in Health Systems (MS HS);
- Master of Science in Quantitative and Computational Finance (MS QCF);
- Master of Science in International Logistics (MS IL) that is part of the executive program; and
- Master of Science in Computational Science and Engineering (MS CSE).

Three of these programs are interdisciplinary:

- MS QCF (joint with School of Mathematics, College of Business),
- MS STAT (joint with School of Mathematics) and
- MS SCE (joint with College of Computing, School of Mathematics).

All proposed master's degree programs require thirty semester credit hours with the exception of MS IL and MS QCF (thirty-six credit hours) and MS HS (thirty-three credit hours). None of these MS programs contains a thesis option.

A student seeking a master's degree must have a bachelor's degree and typically one earned in engineering, science, mathematics, or some other field that provides an adequate background for the successful completion of one of ISyE's programs. Students having backgrounds from unaccredited degree programs or in programs that are found lacking in relative substance can expect to first take preliminary coursework in order to elevate their preparation to the level required. The prerequisite coursework for the various master's degrees includes strong performance in probability, statistics, linear algebra, and calculus.

Every MS curriculum is based on core classes offered from the School of ISyE, as well as electives offered by ISyE and other Georgia Tech schools in engineering and science. The MS SCE, MS QCF, and MS IL are professional degree programs with separate curriculums from the other regular MS degrees.

MS Human-Integrated Systems

Program of Study

Code	Title	Credit Hours
Core Courses		
MGT 6078	Basic Finance and Investments	3
MGT 6081	Derivative Securities	3
MATH 6635	Numerical Methods in Finance	3
ISYE/MATH 6759	Stochastic Processes in Finance	3
ISYE/MATH 6767	Design and Implementation of Systems to Support	3
ISYE/MGT 6769	Fixed Income Securities	3
Targeted Electives		**6**
ISYE 6673	Financial Optimization Models	
MGT 6090	Management of Financial Institutions	
ISYE/MATH 6783	Statistical Techniques of Financial Data Analysis	
Capstone		
ISYE 6785	The Practice of Quantitative and Computational Finance	3
or MATH 6785	The Practice of Quantitative and Computational Finance	
or MGT 6785	The Practice of Quantitative and Computational Finance	
Free electives [1]		**9**
Total Credit Hours		**36**

[1] Select 2 courses at 6000-level or higher from Business, ISYE, CS, CSE, ECON, MATH or others which are appropriate

Program of Study (Internship/Practicum Track)

Code	Title	Credit Hours
Core Courses		
MGT 6078	Basic Finance and Investments	3
MGT 6081	Derivative Securities	3
MATH 6635	Numerical Methods in Finance	3
ISYE/MATH 6759	Stochastic Processes in Finance	3
ISYE/MATH 6767	Design and Implementation of Systems to Support	3
ISYE/MGT 6769	Fixed Income Securities	3
Targeted Electives		**6**
ISYE 6673	Financial Optimization Models	
MGT 6090	Management of Financial Institutions	
ISYE/MATH 6783	Statistical Techniques of Financial Data Analysis	
Capstone		
ISYE 6785	The Practice of Quantitative and Computational Finance	3
or MATH 6785	The Practice of Quantitative and Computational Finance	
or MGT 6785	The Practice of Quantitative and Computational Finance	
Design Elective [1]		**3**
COOP/Internship (Audit credit) [2]		
Free electives [3]		**6**
Total Credit Hours		**36**

[1] Choose one course with QCF Faculty Director approval

[2] To be taken after the students' first semester on campus (spring enrollees only) and after one of the above design courses; some mentorship provided by faculty advisor.

[3] Select 2 courses at 6000-level or higher from Business, ISYE, CS, CSE, ECON, MATH or others which are appropriate

Shared Credit Agreement with Master of Science in Quantitative and Computational Finance and Master of Science in Computational Science and Engineering

The Master of Science in Quantitative and Computational Finance (MSQCF) and Master of Computational Science and Engineering (MSCSE)* Shared Credit Agreement allows for students admitted through the agreement to double-count 12 credits between both degree programs, for a total of 54 credits to earn both degrees. Students will need to consult with an advisor to indicate in DegreeWorks which courses/credits are shared between the two degrees.

After completion of one semester of the program to which they have been admitted, students with a 3.5 GPA or above are eligible to apply through an internal application process to be evaluated for admission to the other program. (Special consideration may also be given to students admitted to both programs for their first term.) There is no penalty for not completing either degree should a student wish to drop the added major at a later point.

*Note: Industrial and Systems Engineering (ISYE) and Computational and Science Engineering (CSE) are the only home units of the MSCSE degree that are participating in the Shared Credit Agreement. The other home units are not participating at this time.