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

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<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>Core Courses</td>
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</tr>
<tr>
<td>MGT 6078</td>
<td>Basic Finance and Investments</td>
<td>3</td>
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<tr>
<td>MGT 6081</td>
<td>Derivative Securities</td>
<td>3</td>
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<td>MATH 6635</td>
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<td>ISYE/MATH 6759</td>
<td>Stochastic Processes in Finance</td>
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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/MATH/ MGT 6785 The Practice of Quantitative and Computational Finance

Free electives 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)

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Design Elective 1

COOP/Internship (Audit credit) 2

Free electives 3

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