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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Core Courses</td>
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<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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<tr>
<td>MATH 6635</td>
<td>Numerical Methods in Finance</td>
<td>3</td>
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<td>ISYE/MATH</td>
<td>Stochastic Processes in Finance</td>
<td>3</td>
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<tr>
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<td>6769</td>
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| ISYE/MATH    | Design and Implementation of Systems to    | 3            |
|              | Support                                   |              |
| ISYE/MGT     | Fixed Income Securities                   | 3            |
|              | 6769                                       |              |

**Foundational and Technical Electives (Select 3 courses)** 9

- ISYE 6673     Financial Optimization Models
- MATH 6235    Stochastic Processes in Finance II
- MGT 6090      Management of Financial Institutions
- ISYE/MATH 6759 Stochastic Processes in Finance
- ISYE/MATH 6767 Design and Implementation of Systems to Support
- ISYE/MATH 6769 Fixed Income Securities
- ISYE/MATH 6783 Statistical Techniques of Financial Data Analysis
- ISYE/MATH 6785 The Practice of Quantitative and Computational Finance
- MGT 6785      The Practice of Quantitative and Computational Finance
- MGT 7061      Empirical Finance

**Free electives (Select 3 courses at 6000-level or higher)** 9

Total Credit Hours 36