

# Master of Science in Finance - Quantitative (MSFQ)

## Degree Requirements

In the 18-month Master of Science in Quantitative Finance (MSFQ) program, students gain skills in mathematical and strategic decision making. Designed for students with a strong mathematical background, this technical curriculum is ideal if the student's career goals include working in financial services or related industries. Experiential learning is a degree requirement, so all MSFQ students will gain hands-on experience during their program.

Our quantitative finance program requires the completion of 39 credits, and it is STEM-designated for its focus on science, technology, engineering, and mathematics. The curriculum includes 33 required credits and 6 elective credits that focus on advanced quantitative skills, which provide students with a current and innovative approach to finance.

## Orientation Programs

All Specialized Master's Programs students kick off their degrees with a multipronged orientation program designed to prepare them for academic, personal and professional success.

Students will participate in SMP Start, orientation, and career orientation, and they will complete foundational courses during the summer prior to beginning their fall semester at Olin. **SMP Start** introduces everyone to the ins and outs of Washington University including policies and procedures, health and wellness, leadership opportunities and more. **SMP Orientation Week** includes workshops, events, and cohort overviews including introductions to faculty and advisors. This week is set up to help students with their final preparations before the start of their first semester. Finally, students complete **Career Stamp**, which serves as a catalyst for students to help them get started in their career search and preparation processes. These programs are packed with opportunities for students to bond with their program cohort and to connect with their peers in all of the Specialized Master's Programs.

Students new to the United States and non-native English speakers may have the opportunity to participate in **Passport**, during which they will acclimate to the Olin Business School culture and strengthen their English and business communication skills.

Simultaneously, students will complete online, asynchronous foundation courses to bolster their background and maximize their academic preparation before the start of their degree program.

## Curriculum

### Required Courses

Students must complete the following courses:

Code	Title	Units
FIN 500Q	Quantitative Risk Management	3
FIN 500R	Topics in Quantitative Finance	1.5
FIN 524	Options and Futures	1.5
FIN 524B	Derivative Securities	1.5
FIN 525	Fixed Income Securities	1.5
FIN 527	Financial Markets	1.5
FIN 532	Investment Theory	1.5
FIN 532B	Data Analysis for Investments	1.5
FIN 534	Advanced Corporate Finance I — Valuation	1.5
FIN 534B	Advanced Corporate Finance II — Financing	1.5
FIN 537	Advanced Derivative Securities	3
FIN 538	Stochastic Foundations for Finance	1.5
FIN 539	Mathematical Finance	1.5
FIN 552	Fixed Income Derivatives	1.5
MGT 537	Financial Industry Platform for MSFQ and MSFWAM Students	0
MGT 560F	Professional Business Communication	1.5
DAT 537	Data Analysis, Forecasting & Risk Analysis	3
DAT 561	Introduction to Python and Data Science	3

### Electives and Experiential Courses

Students select one of the following options:

#### Option A:

- 1.5 experiential course credits *plus*
- 4.5 elective credits from the approved list *plus*
- 1.5 additional approved elective credits

#### Option B:

- 3 experiential course credits *plus*
- 4.5 elective credits from the approved list

*Experiential course options:*

Code	Title	Units
MGT 501V	Applied Problem Solving for Organizations	1.5
MGT 502V	Applied Problem Solving for Organizations	1.5
MGT 551E	Internship, Business and Application	1.5
FIN 501P	CFAR Practicum	3

*Approved MSFQ elective courses:*

<b>Code</b>	<b>Title</b>	<b>Units</b>
DAT 500S	Machine Learning Tools for Prediction of Business Outcomes	3
DAT 560G	Database Design and SQL	1.5
DAT 560M	Big Data and Cloud Computing	1.5
CSE 412A	Introduction to Artificial Intelligence	3
CSE 417T	Introduction to Machine Learning	3
CSE 427S	Cloud Computing with Big Data Applications	3
CSE 502N	Data Structures and Algorithms	3
CSE 514A	Data Mining	3

*Additional approved elective options (if necessary):*

<b>Code</b>	<b>Title</b>	<b>Units</b>
FIN 557E	Introduction to Blockchain and Cryptocurrencies	1.5
FIN 558E	ESG Investing	1.5
MEC 531	The Global Economy	1.5
Other courses with Academic Director approval		