

FINANCIAL ENGINEERING

30 credits (12 months) | STEM | Full or part time | On campus or online

Financial engineers are a highly sought commodity for their ability to create algorithms that manage portfolios, limit risk and create value. At Stevens, the Financial Engineering program emphasizes the latest techniques in financial analytics, algorithmic trading and risk management. Here, you'll learn from faculty who are researching the interconnected, systemic nature of financial companies and markets in searching for ways to improve resilience and reliability.

CURRICULUM OVERVIEW

The Financial Engineering curriculum consists of a block of foundational courses, followed by a structured concentration allowing you to pursue a specialty of your choice.

FOUNDATIONAL COURSES

- Stochastic Calculus for Financial Engineers
- Pricing and Hedging
- Computational Methods in Finance
- Portfolio Theory and Applications
- Advanced Derivatives
- Applied Statistics with Applications in Finance

SPECIALIZATION

The following concentrations represent the most in-demand areas in the financial engineering industry. You may also work with your advisor to build a custom concentration by choosing a series of elective courses.

ALGORITHMIC TRADING STRATEGIES

- Design, Patterns and Derivatives Pricing
- Pricing and Hedging
- Market Microstructure and Trading Strategies
- Algorithmic Trading Strategies

FINANCIAL SERVICES ANALYTICS

- Foundations of Financial Data Science
- Practical Aspects of Database Design
- Statistical Learning in Finance
- Financial Systems Technology
- Data Visualization Applications

FINANCIAL RISK ENGINEERING

- Introduction to Risk Management
- Financial Enterprise Risk Engineering
- Stochastic Calculus for Financial Engineers
- Systemic Risk and Financial Regulation

FINANCIAL STATISTICS

- Applied Statistics with Applications in Finance
- Time Series and Applications to Finance
- Stochastic Calculus for Financial Engineers
- Statistical Learning in Finance

FINANCIAL COMPUTING

- Technical Writing in Finance
- C++ Programming in Finance
- Introduction to Bloomberg and Thomson Reuters
- Project in Financial Computing

CAPSTONE

Your degree culminates in a choice of capstone — a practical problem-solving course or a research-intensive option.

HANLON FINANCIAL SYSTEMS CENTER

Classes in the Financial Engineering program make generous use of the high-tech Hanlon Financial Systems Center and its two labs, which offer the latest in data analysis and visualization tools. The Hanlon Center allows for the analysis of real-time and historical data sets, with the computing power required to work with vast amounts of information. Courses prepare students to make better decisions about finance, from portfolio management to risk assessment, confidently and quickly.



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