

ISYE 6673: Financial Optimization

Course Information

Instructor: Constance Crozier (constance@gatech.edu)

Course Prefix and Number: ISYE 6673

Term: Fall 2026

Course Description

This course exposes students to a wide variety of optimization models used in finance and equips them with the theoretical foundations and computational tools necessary to solve these models in practical settings. Topics include optimization theory, financial applications such as portfolio optimization and asset-liability management, and implementation using tools such as Gurobi.

Course Learning Outcomes

By enrolling in this course, students will:

- Develop the ability to formulate financial problems as optimization models
- Understand core optimization theory including convexity and duality
- Apply optimization techniques to financial applications
- Implement optimization algorithms using computational tools
- Analyze and interpret optimization results in financial contexts

Required Course Materials

No required textbooks are specified. Students are expected to have working knowledge of Python, familiarity with optimization tools such as Gurobi, and background knowledge in linear algebra, calculus, probability, and financial instruments.

Grading Policy

Homework: 25%

Computational Exercise (Hackathon): 5%

Midterms: 40%

Final Exam: 30%

Attendance Policy

Students are expected to attend all scheduled lectures and participate in required in-class activities.

Academic and Research Honesty/Integrity Statement

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards and adhere to the Academic Honor Code.

Accommodations for Students with Disabilities

Students requiring accommodations should contact the Office of Disability Services as soon as possible to obtain an accommodations letter and coordinate with the instructor.