COLUMBIA ENGINEERING | Industrial Engineering and Operations Research

MASTER OF SCIENCE
OPERATIONS RESEARCH

The Master of Science in Operations Research (MSOR) is a 30-credit STEM program for students to concentrate in areas such as mathematical programming, stochastic models, and simulation, through domain specific courses in logistics, supply chain management, revenue management, financial engineering, risk management, entrepreneurship, and general management. Operations Research courses have been offered at Columbia since 1952.

"The MSOR program is a world-class graduate program that equips students with advanced skills in data analysis, process optimization, and decision-making, preparing them for impactful roles across a wide range of technical industries. The success of the program is reflected in the job placement of our students."

Dr. Fabrizio Lecci
Director, MSOR Program

Operations Research is an applied science that is concerned with quantitative decision problems that generally involve the allocation and control of limited resources. Such problems arise, for example, in the operations of industrial firms, financial institutions, health care organizations, transportation systems, energy and resources, and government. An operations research analyst develops and uses mathematical and statistical models to help solve decision problems.

Application Deadline
Priority: January 15 | Regular: February 15
https://ieor.columbia.edu/operations-research-msor

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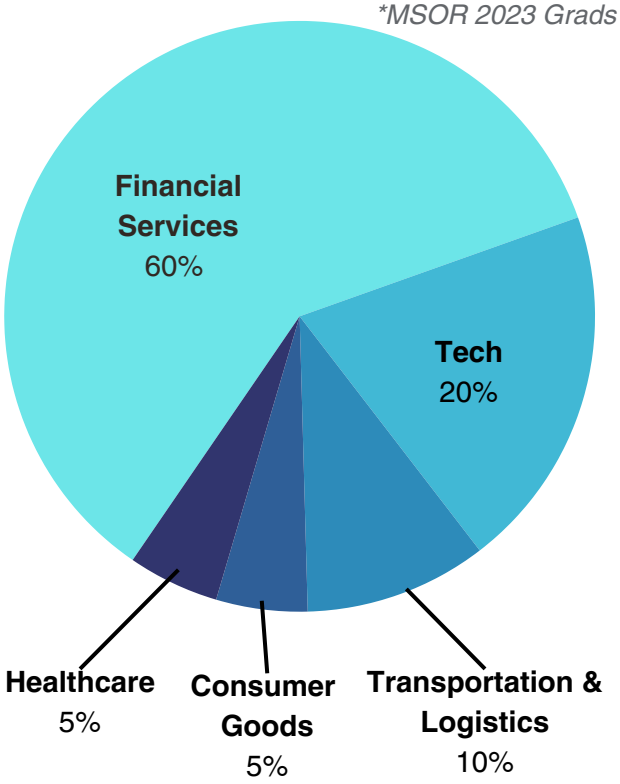
"Operations research and industrial engineering graduate students are quant-savvy, analytics-savvy, and highly motivated! It's no wonder why many employers seek out our students to fulfill their companies' long-term goals."

Cindy Mejia
Career Placement Officer, MSOR

Career Outcomes for Alumni

**MSOR 2023 Grads*



Course Highlights

Analytics
- Analytics on the Cloud
- Data Analytics
- Data Mining

Entrepreneurship
- Data-Driven Entrepreneurship
- Innovate Using Design Thinking
- Entrepreneurial Bootcamp

Financial Markets & Management
- Asset Allocation
- Credit Risk & Credit Derivatives
- Capital Markets

Healthcare Management
- Health Analytics
- Human Resources Analytics
- Managerial Negotiation

Logistics & Supply Chain Management
- Dynamic Pricing
- Revenue Management
- Supply Chain Analytics

Machine Learning & Artificial Intelligence
- Applications of OR & AI Techniques
- Computing for Business Research
- Deep Learning

Optimization
- Asset Allocation
- Computational Discrete Optimization
- Convex Optimization

Stochastic Modeling
- High-dimensional Probability with Applications
- Quantitative Risk Management
- Reinforcement Learning

For more information, visit ieor.columbia.edu

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