Master of Science

OPERATIONS RESEARCH

The Master of Science in Operations Research (MSOR) program is designed to enable students to focus their studies in methodological areas such as mathematical programming, stochastic models, and simulation. The Department offers a variety of domain specific courses in areas including logistics, supply chain management, revenue management, financial engineering, risk management, entrepreneurship and organizational management.

Dr. Donald Goldfarb
Alexander & Hermine
Avanessians Professor

"Thanks to a first-rate education and a dedicated academic and career team, our MSOR graduates are uniquely positioned to succeed in the competitive global marketplace."

Meet an Admissions Officer

Mondays & Fridays
10:30-11:30am

RSVP
admit@ieor.columbia.edu

Application Deadline February 15

of the year of matriculation

We also offer Spring admissions for Master of Science in Operations Research

"Multiply your career prospects with an MSOR degree from Columbia. MSOR students begin the transformation of their career – whether in logistics and supply chain management, entrepreneurship, business analytics, or financial engineering – by meeting with their Career Placement Officer. The MSOR career management resources are curated to complement the core and elective curriculum. By taking advantage of sessions with your advisor, to formulate tactical jobsearch strategies, you'll be well-prepared to navigate the job search process."

Mercedes Kriesel
MSOR Career Placement Officer

"The MSOR curriculum gives students the tools to analyze data and do their work in a way that is more suited to the world outside today. The goal is that students should be able to use strong technical skills effectively as they pursue careers in various roles and industries."

Dr. Hardeep Johar
Professor

Course Highlights

Students can specialize in a number
of professional concentrations including:

Analytics
- Analytics on the Cloud
- Data Analytics
- Data Mining
- Demand & Supply Analytics
- Sports Analytics
- Tools for Analytics

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

Decision, Risk, & Analysis
- Business Analytics
- Dynamic Pricing
- Revenue Management
- Financial Engineering
- Operations Management
- Quantitative Risk Management

Financial & Managerial
- Asset Allocation
- Credit Risk & Credit Derivatives
- Capital Markets
- Foreign Exchange & Related Derivatives Instruments
- Quantitative Corporate Finance
- Structured & Hybrid Products
- Corporate Finance, Accounting & Investment Banking

Healthcare Management
- Health Analytics
- Human Resources Analytics
- Managerial Negotiations
- Operations Research in Public Policy
- Operations Strategy
- Systems Engineering, Tools & Methods
- Service Operations
- Healthcare Operations Management

Entrepreneurship & Innovation
- Data Driven Entrepreneurship
- Innovate Using Design Thinking
- Entrepreneurial Bootcamp
- Entrepreneurial Business Creation
- Launch Your Startup: Tech
- Lean LaunchPad
- Human-Centered Design & Innovation

Logistics & Supply Chain Management
- Dynamic Pricing
- Revenue Management
- Healthcare Operations Management
- Project Management
- Supply Chain Analytics
- Transportation Analytics & Logistics
- Quality Control & Management

Optimization
- Asset Allocation
- Computational Discrete Optimization
- Convex Optimization
- Demand & Supply Analytics
- Scheduling
- Game Theory