These courses are suggested and have been popular for MS&E, MSIE and MSOR students. If the course is your Program’s core course, it will not be counted as an elective.

This is not an exhaustive list. See Directory of Classes (http://www.columbia.edu/cu/bulletin/uwb/) for schedule and additional courses. Note that you must satisfy the pre-requisite requirements of each course prior to registration.

### Industrial Engineering and Operations Research

- IEOR E4000 Production Management (Core course for MSIE)
- IEOR E4207 Human Factors: Performance
- IEEM E4310 The Manufacturing Enterprise
- IEOR E4403 Advanced Engineering and Corporate Economics (Do not take IEOR E4003)
- IEOR E4404 Simulation (Core course for MSOR)
- IEOR E4407 Game Theoretic Models of Operation
- IEOR E4500 Applications Programming for FE
- IEOR E4507 Operations Management: applications to Healthcare
- IEOR E4520 Applied Systems Engineering
- IEOR E4550 Entrepreneurial Business Creation for Engineers
- IEOR E4572 Operations Research in Telecommunications
- IEOR E4573 Design Agile Project Management Engineering Lab
  ([Apply:](https://astro.ieor.columbia.edu/view.php?id=256))
- IEOR E4620 Pricing Models for Financial Engineering
- IEOR E4700 Intro to Financial Engineering
- IEOR E4705 Studies in Operations Research
- IEOR E4721 Global Capital Markets
- IEOR E4722 Algorithmic Trading * (advanced FE elective)
- IEOR E4723 Commodity Derivatives* (advanced FE elective)
- IEOR E4724 Risk Management, Financial System and Financial Crisis
- IEOR E4998 Managing Technological Innovation

(The following courses are closed: IEOR E4007, IEOR E4111, IEOR E4703 and IEOR E4707.)

### Economics (register via SSOL and review pre-requisites)

- ECON W4213 Advanced Macroeconomics
- ECON W4230 Economics of New York City
- ECON W4251 Industrial Organization
- ECON G4301 Economic Growth and Development I
- ECON G4301 Economic Development of Japan
- ECON W4370 Political Economy
- ECON W4412 Advanced Econometrics
- ECON W4465 Public Economics
- ECON W4480 Gender & Applied Economics
- ECON W4500 International Trade
- ECON W4700 Financial Crises
- ECON W4750 Globalization and its Risks
- ECON W4911 Seminar in Microeconomic Theory (All sections)
- ECON W4913 Seminar in Macroeconomic Theory (All sections)
- ECON W4918 Seminar in Econometrics
- All 5000 and above level courses
Business
Request courses online: [http://ieor.columbia.edu/mba-and-emba-course-request](http://ieor.columbia.edu/mba-and-emba-course-request)

International and Public Affairs
Request courses online:
[http://new.sipa.columbia.edu/students/courses-registration/cross-registration](http://new.sipa.columbia.edu/students/courses-registration/cross-registration)

Mathematics (register via SSOL and review pre-requisites)

- MATH W4041 Introduction to Modern Algebra I
- MATH W4042 Introduction to Modern Algebra II
- MATH W4043 Algebraic Number Theory
- MATH V4051 Topology
- MATH W4061 Introduction to Modern Analysis I
- MATH W4062 Introduction to Modern Analysis II
- MATH W4065 Honors Complex Variables
- MATH W4071 Intro to Math of Finance
- MATH G4073 Quantitative Methods in Investment Management
- MATH G4075 Mathematical Methods – Financial Price Analysis
- MATH G4076 Capital Markets & Investments
- MATH G4077 Computational Finance
- MATH G6209 Partial Differential Equations
- MATH G6428 Topics in Partial Differential Equations

Statistics (register via SSOL and review pre-requisites)

- STAT W4026 Applied Data Mining
- STAT W4200 Applied Statistics
- STAT W4201 Advanced Data Analysis
- STAT W4240 Data Mining
- STAT W4242 Introduction to Data Science
- STAT W4290 Statistical Methods in Finance
- STAT W4315 Linear Regression Models
- STAT W4400 Statistical Machine Learning
- STAT W4437 Time Series Analysis
- STAT W4440 Linear Regression/Time Series Methods

All 6000 and above level courses