ACADEMIC ADVISING, FALL 2018

MS in INDUSTRIAL ENGINEERING
AGENDA

1. Your Arrival
2. Degree Overview and Requirements
3. Program Overview
4. Waiver Exams
5. Suggested Electives Based on Interest
6. Faculty Advisors
7. Next Steps
YOUR ARRIVAL

• Monday August 13 - Columbia IEOR Beer & BBQ at Brooklyn Brewery
• Thursday August 16 - Columbia MSIE Program Kick-Off [MANDATORY]
• Friday August 17 - Columbia Engineering Welcome Day
• Monday August 20 - Classes begin! [MANDATORY]
DEGREE OVERVIEW

1. Master of Science in Industrial Engineering

2. Awarded by The Fu Foundation School of Engineering and Applied Science, Columbia University

3. Expected Completion: August or December 2019

4. Expected Degree Conferral: October 2019 or February 2020
DEGREE REQUIREMENTS

1. 30 credits: Four required core courses plus electives, 18 points must be IEOR courses
2. MSIE core: IEOR E4108, IEOR E4150, IEOR E4004-003/004, IEOR E4106
3. ENGI E4000-013 is an MS degree requirement
4. No Pass/Fail courses
5. All courses must be completed at Columbia
6. Remain in good standing
7. Academic integrity
MSIE PROGRAM

For the Fall 2018 semester, register for the following:

1. IEOR E4108 Supply Chain Management & Design
2. IEOR E4150 Intro to Probability & Statistics*
3. IEOR E4004 (Section 003 or 004) Optimization Models and Methods
4. ENGI E4000-013 Professional Development
5. One or two electives

*If you are waived of IEOR E4150, then you should register for: IEOR E4106 Stochastic Models
IEOR E4150

• IEOR E4150 Introduction to Probability and Statistics is a foundational core course; inadequate preparation will lead to difficulty completing the program.
• You have an option to take the course in the fall or request a waiver.
• We will review your request to waive and respond within (10) business days.
• To request a waiver, fill out the form: https://goo.gl/forms/TXUqWoxuio69VLWh1
  • Deadline to request the waiver: August 20, 2018
  • Date of the waiver exam: August 27, 2018
HELPFUL SUGGESTIONS

1. Be conservative and observe pre-requisite requirements.

2. If you are waived from taking IEOR E4150, you should take IEOR E4106 in the Fall so you are prepared to take electives in the spring.

3. Do *not* take more than (2) of the courses in the same term; each course builds on the next:
   – IEOR E4150 Probability and Statistics
   – IEOR E4106 Stochastic Models
   – IEOR E4404 Simulation
   – IEOR E4700 Introduction to Financial Engineering
DESCRIPTION OF COURSES

The Department offers a variety of courses in theory and professional applications. Topics range from financial engineering, health operations management, business analytics, decision risk analysis and many more.

Learn more about our course offerings below.

Downloadable PDF of IEOR Fall Course Schedule

https://ieor.columbia.edu/ieor-courses
and expand for course description and/or syllabus

Fall 2018
IEOR E4003: Corporate finance for engineers, 3.0 pts
Fall 2018
IEOR E4004: Optimization models and methods, 3.0 pts
Fall 2018
IEOR E4007: Optimization Models and Methods for Financial Engineering, 3.0 pts

OPTIMIZATION MODELS AND METHODS
This graduate course is only for MS&E, IE and OR students. This is also required for students in the Undergraduate Advanced Track. For students who have not studied linear programming. Some of the main methods used in IEOR applications involving deterministic models: linear programming, the simplex method, nonlinear, integer and dynamic programming.
INTEREST IN ANALYTICS

FOUNDATIONAL:
• IEOR E4501 Tools for Analytics
• IEOR E4523 Data Analytics

ELECTIVES:
• IEOR E4506 Designing Digital Operating Models
• IEOR E4525 Machine Learning for Financial Engineering & Operations
• IEOR E4540 Data Mining
• IEOR E4650-001/002 Business Analytics
• DROM B8131-060 Sport Analytics (Open late August)
IEOR E4501 PYTHON WAIVER

- IEOR E4501 Tools for Analytics is a required pre-requisite course for the Analytics concentration
- You have an option to take the course in the fall or request a waiver in order to take higher level electives
- We will review your request to waive and respond within (10) business days.
- To request a waiver, fill out the form: https://goo.gl/forms/xFJB87Vt4E8HHDOj1
- Deadline to request the waiver: August 20, 2018
- Date of the waiver exam: August 24, 2018
INTEREST IN FINANCE

HIGHLY SUGGESTED, FOUNDATIONAL:
• IEOR E4403 Quantitative Corporate Finance
• IEOR E4711 Global Capital Markets

OPTIONAL:
• IEOR E4576 Derivatives Marketing and Structuring (1.5)
• IEOR E4578 Corporate Finance, Accounting & Investment
• IEOR E4700 Intro to Financial Engineering*
• IEOR E4620 Pricing Models for FE**
• IEOR E4500 Applications Programming for FE***
• DROM B8116-060 Risk Management (Open late August)

* Requires IEOR E4106
** Requires IEOR E4700; can be taken simultaneously as IEOR E4620
*** Requires programming proficiency & opens in late August
INTEREST IN CONSULTING

- IEME E4310 The Manufacturing Enterprise
- IEOR E4000 Operations Management
- IEOR E4407 Game Theoretic Models
- IEOR E4711 Global Capital Markets
- IEOR E4555 Design and Agile Project Mgmt. Eng. Lab (Application Required; Deadline: August 3rd)
- IEOR E4998 Managing Tech. Innovations
- DROM B8107-060/061 Service Operations (Open late August)
- DROM B8510-061 Managerial Negotiations (Open late August)
INTEREST IN MANAGEMENT

- IEOR E4550 Entrepreneurial Business Creation
- IEOR E4998 Managing Tech. Innovation
- IEOR E4506 Designing Digital Operating Models
- DROM B8107-060/061 Service Operations (Open late August)
- DROM B8510-061 Managerial Negotiations (Open late August)
INTEREST IN ENTREPRENEURSHIP

• IEOR E4403 Quantitative Corporate Finance
• IEOR E4550 Entrepreneurial Business Creation
• IEOR E4555 Design and Agile Project Mgmt. Eng. Lab (Application Required; Deadline: August 3rd)
• IEOR E4578 Corporate Finance, Accounting & Investment
• IEOR E4998 Managing Tech. Innovations
• DROM B8510-060/061 Managerial Negotiations (Open late August)
SPECIAL BUSINESS ELECTIVES

The following courses are special courses from the Business School. MSIE students may select at most (1) of the four courses in late August.

- DROM B8107-060/061 Service Operations
- DROM B8131-060 Sports Analytics
- DROM B8510-0061 Managerial Negotiations
- DROM B8116-060 Risk Management
Dr. Shipra Agrawal

Dr. Agrawal will meet with her advisees early September. For early registration inquiries, please email the IEOR Academic Affairs Team.
YOUR ACTION ITEMS

1. Login to SSOL [https://ssol.columbia.edu/](https://ssol.columbia.edu/) to register on July 30.
2. Register for your courses (core & electives)
3. Ask questions on our Canvas page.
4. Like! the IEOR Advising Facebook Page [https://www.facebook.com/IEORAdvising/](https://www.facebook.com/IEORAdvising/)
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