MSOR & MSIE PROGRAMS
SPRING 2016
AGENDA

• Welcome
• Degree Overview & Requirements
• Academic Expectations
• Waiver Process
• Academic Advising
• Registration
• Orientation Week Overview
• Next Steps
WELCOME

DR. JENNY S. MAK

EXECUTIVE DIRECTOR
DEGREE OVERVIEW

• Master of Science
  – Operations Research
  – Industrial Engineering

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

• Expected Completion:
  – December 2016 or May 2017

• Expected Degree Conferral:
  – February 2017 or May 2017
DEGREE REQUIREMENTS

• 30 credits
  – Four required core courses plus electives

• MSOR CORE: SIEO W4150, IEOR E4004, IEOR E4106 & IEOR E4404

• MSIE CORE: SIEO W4150, IEOR E4000, IEOR E4004 & IEOR E4106

• No Pass/Fail Courses

• All courses must be completed at Columbia

• Remain in good standing

• Academic integrity
ACADEMIC PERFORMANCE

• Achieve grades of B- or higher in core courses of Program
• Cumulative GPA equivalent to a B- every term enrolled
• Poor performance leads to serious problems in completing the Program
MSIE PROGRAM

• Spring 2016 Semester
  – SIEO W4150 Intro to Probability & Statistics
  – IEOR E4004 Deterministic Models
  – Elective(s) [or IEOR E4106]*

• Fall 2016 Semester
  – IEOR E4106 Stochastic Models*
  – IEOR E4000 Production Management
  – Elective(s)
MSOR PROGRAM

• Spring 2016 Semester
  – SIEO W4150 Intro to Probability & Statistics
  – IEOR E4004 Deterministic Models
  – Elective(s) [and IEOR E4106]*

• Fall 2016 Semester
  – IEOR E4106 Stochastic Models*
  – IEOR E4404 Simulation
  – Elective(s)
SIEO W4150 WAIVER EXAM

• SIEO W4150 is a core requirement
• All students who wish to waive the class must submit a request to waive
• Inadequate preparation will lead to difficulty completing the program
• You have an option to take the course in the spring or request a waiver (examination)
• If you are waived from taking SIEO W4150, you should take IEOR E4106 in the Spring so you are prepared to take electives in the fall.
HELPFUL SUGGESTIONS

• Be conservative, and observe pre-requisite requirements.
• If you are waived from taking SIEO W4150, you should take IEOR E4106 in the Spring so you are prepared to take electives in the fall.
• Do not take the following set of courses in the same term:
  – SIEO W4150, IEOR E4106, IEOR E4404
  – SIEO W4150, IEOR E4106, IEOR E4700
  – IEOR E4106, IEOR E4404, IEOR E4700
COURSES BY PROFESSIONAL AREAS OF INTEREST

1. Analytics & Data
2. Consulting
3. Entrepreneurship
4. Finance and Financial Engineering
5. Operations Management
ANALYTICS & DATA

- DROM B8122-060 MSE Game-Theoretic Business Strategy
- IEOR E4211 Applied Consulting (MSOR & MSIE only)
- IEOR E4525 Machine Learning for OR & FE
- IEOR E4574 Business Analytics for Operations Research
- IEOR E4575 Designing Digital Operating Models *new*
- IEOR E4571 Python Based Data Analytics
- IEOR E4725 Big Data in Finance *new*
CONSULTING

- DROM B8122-060 MSE Game-Theoretic Business Strategy
- DROM B8510-060 Managerial Negotiations
- IEOR E4211 Applied Consulting (MSOR & MSIE only)
- IEOR E4412 Quality Control & Management
- IEOR E4510 Project Management
- IEOR E4505 Operations Research in Public Policy
Entrepreneurship

- FINC B8307-003 Advanced Corporate Finance
- IEOR E4560 Lean Launch Pad
- IEOR E4998 Managing Tech. Innovation & Entrepreneurship
FINANCE & FINANCIAL ENGINEERING

• FINC B8307-003 Advanced Corporate Finance*
• IEOR E4700 Introduction to Financial Engineering
• IEOR E4602 Quantitative Risk Management
• IEOR E4630 Asset Allocation
• IEOR E4718 Introduction to the Implied Volatility Smile
• IEOR E4725 Big Data in Finance
• IEOR E4733 Algorithmic Trading
• IEOR E4734 Foreign Exchange and Related Derivatives
• IEOR E4736 Experimental Finance

*FINC and DROM courses do not count towards the 18 IEOR credit requirement.
OPERATIONS MANAGEMENT

• DROM B8108-060 Supply Chain Management
• DROM B8122-060 MSE Game-Theoretic Business Strategy
• DROM B8123-060 MSE Demand and Supply Analytics
• IEOR E4412 Quality Control and Management
• IEOR E4405 Production Scheduling
• IEOR E4505 Operations Research in Public Policy
• IEOR E4510 Project Management
• IEOR E4575 Designing Digital Operating Models
• IEOR E4600 Applied Integer Programming
• IEOR E4601 Dynamic Pricing and Revenue Management
The following courses are special courses from the Business school exclusive to Departmental students. You may only add (1) of them due to limited seats:

- DROM B8108-060 Supply Chain Management
- DROM B8122-060 MSE Game-Theoretic Business Strategy
- DROM B8123-060 MSE Demand and Supply Analytics
- DROM B8510-060 Managerial Negotiations
- FINC B8307-003 Advanced Corporate Finance
You may submit a request for additional courses from the Business School. The instructions are found on our website.
You may submit a request for additional courses from SIPA. The instructions are found on our website.
YOUR ACTION ITEMS

• Activate your UNI
• Login to SSOL https://ssol.columbia.edu/
• Register for your courses
• Review your tuition e-Bill
• Submit your final program plans to advising@ieor.columbia.edu by 1/29/16
• Review academic calendar http://registrar.columbia.edu/academic-calendar/6
IEOR WEEK 1 OVERVIEW

• DAY 1: Tuesday 1/12
  – 11-2PM, Department Orientation

• DAY 2: Wednesday 1/13
  – 10-4PM, Welcome Day

• DAY 3: Thursday 1/14
  – 10-12PM, SIEO W4150 Waiver Exam
  – 2-4PM, Career Overview & Resumes

• DAY 4: FRIDAY 1/15
  – 12-1PM, Academic Q&A with Advisor
QUESTIONS?

Industrial Engineering & Operations Research

Review the M.S. Graduate Student Handbook.
THE IEOR OFFICE

ROOM 315 MUDD

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www.ieor.columbia.edu