OPS IN NYC is an experiential course in operations management for full-time MBA students at New York University’s Stern School of Business. Watch the course preview at: http://www.youtube.com/watch?v=8O4zdLHtmf8&feature=youtu.be

INSTRUCTORS

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OFFICE HOURS

By appointment. Please email hchernof@stern.nyu.edu and / or ksosulsk@stern.nyu.edu

CLASS MEETINGS (February 1 – May 3)

1) Wednesdays 1:30pm - 4:20pm (Room KMC XXX)

2) There is no class on 3/15 (Spring Break)

COURSE OVERVIEW

Operations Management is the design and management of processes that transform inputs into finished goods or services. This is an experiential course where we explore, observe, and analyze the operations of real firms in context. Our classroom for the course is NYC and its environs.

Throughout the course, we will

- view the firm’s operations from a technological dimension;
- uncover how firms produce quality outputs at a competitive cost structure;
- focus on the "physics" of materials, work and information flows;
- analyze the design and management of a firm's processes; and
- examine the firm’s ability to compete on quality, variety and speed.

In Ops in NYC, we experience operations in practice through site visits around the themes of food, finance, real estate, and transportation. The site visits focus on operational topics including process design and analysis, waiting lines, scheduling, inventory, quality, supply chain, operational risk, project management, simulation and optimization techniques in an urban context.
In addition to site visits, students participate in online activities and review brief video lectures by the operations management faculty.

LEARNING OUTCOMES

• **Identify and describe** the major areas of operations management and related strategies
• **Practice applying** operational concepts and techniques
• **Recognize** the operational challenges and opportunities present in diverse types of businesses
• **Analyze** the operational processes of firms
• **Experience** and observe the operating processes of firms in action

SITE VISITS

A main part of this course involved visiting organizations. Below is a list of site visits we visited last semester for the course. The site visits for Spring 2017 are still being scheduled.

• Maher Container Terminal
• Whole Foods
• Chipotle
• JetBlue Airlines
• NYC Taxi and Limousine Commission
• Fresh Direct
• Intersection

**Transportation.** Transportation will be provided to several site visits outside of Manhattan that are difficult to reach by public transportation.

**Start and end times.** The start and end times of the site visits will vary. Please arrive on time since the site visits may require a security check-in process.

**Photo id.** Always bring photo-id to each site visit.

**Pre-site visits.** There may be a few companies that you will be required to visit outside of class on your own time.

ATTENDANCE

You are required to attend all of the classes and site visits. That’s the whole point of this course. You will need to have a flexible schedule, since some site visits will have variable start and travel times. Absences may affect your grade.

GRADING

| Assignments (Cases and operations problems) | 30% |
| Pre-/Post Site Visit Challenge Papers | 10% |
| Pre and Post Trip Presentation and Discussion | 10% |
| Final Project | 20% |
| Final Exam | 30% |
ASSIGNMENTS (30%)

Weekly, students are required to complete the assigned readings, watch the online video lectures (if applicable), answer case questions, and complete the practice problems. This information will be announced weekly AND posted in NYU classes. Students will submit their assignments in NYU Classes.

PRE AND POST SITE VISIT CHALLENGE PAPERS (10%)

Pre and post site visit challenge papers will be assigned in advance of every site visit. For the pre-site visit challenge, **ALL students** will research the site and summit one-page summary that answers the questions that are assigned.

Following each site visit, for the post-site visit challenge, students will reflect on the key takeaways from the site visit. Specifically, they will identify the things learned related to operations management.

Students will submit the pre and post site visit challenges in class by the due dates specified by the professors.

PRE AND POST TRIP PRESENTATION AND DISCUSSION (10%)

In advance of each site visit, **two or more students will be assigned to lead the pre and post visit discussion**. Each student will be assigned to complete only one pre and post trip presentation and discussion. The assignments will be posted below once course registration closes for the course.

Pre-Site Visit

1) Each student will provide a 5-minute presentation (with the use of PowerPoint) of the key findings from your pre site visit challenge. In addition, list 3 questions that you have for the speaker (if applicable) at the site visit based on the operations management topic(s) being studied.
2) Students are encouraged to coordinate with each other to ensure there is not too much overlap in the presentation. Presentations must be sent to ksosulsk@stern.nyu.edu by 1pm on the day of the presentation.

Post-Site Visit

Each student will lead a 5-10 minute discussion of the site visit.

1) Provide an overview of the key takeaways from the site visit.
2) Conduct a discussion with the class around the answers to the questions you posed in your pre-site visit presentation. It is your responsibility during the site visit to be active and ask questions related to operations management of the speaker.
3) Update your pre-site presentation with the answers to the questions you posed. Presentations must be sent to ksosulsk@stern.nyu.edu by 1pm on the day of the presentation.

FINAL PROJECT: DIY Site Visit (20%)
Due 5/3

The purpose of this project is for you to select a company in NYC to study from an operations management perspective. You are expected to observe the operations of the company you select on location and identify opportunities for improvement for process improvement. We encourage you to begin by constructing a process flow chart for the main processes of the company.

Next, take an operations management consultant’s POV and propose the following:

- Problem definition: Define an underlying problem for the project
- Measure: Measure key aspects of the process based on data you collect
- Analysis: Analyze the data to identify root causes of the problem
- Improve: Propose and evaluate possible solutions to the problem
- Recommendations: Propose recommendations and next steps.

Requirements

1. Schedule a time to meet with the professors to discuss and pitch your project idea (A sign up sheet will be circulated)
2. Produce a short 2-minute video of the project.
3. Submit the link to your video 5/3. NYU Classes > Assignments > Final Project.

Project grading and assessment

You’ll be assessed on 1) appropriate choice of project 2) problem identification 3) appropriate solution 4) evidence (models/use of data) 5) Difficulty of the problem.

The videos will be shown in class on 5/3.

REQUIRED READINGS

Below are readings you are required to purchase for this course. There be additional readings listed in the weekly lessons in NYU Classes. There is no textbook for the course.

Chernoff, H. & Sosulski, K. Reengineering World Mobility: The Panama Canal Effect
Available at the NYU Bookstore.

Jetblue Airways: A new beginning (HBS)
David W. Hoyt; Charles A. O'Reilly; Hayagreeva Rao; Kerry J. Sulkowicz
Publication Date Sep 13, 2010
Product #: L17-PDF-ENG

Frameworks for General Management and Operations Consulting (HBS)
Publication Date 2006
Elliott Weiss
Product#: UV1456

CLASS WEBSITE AND COURSE RESOURCES

NYU Classes: We'll be using NYU Classes as the website for this course where you will find the materials needed for each week. Go to SternLinks > NYU Classes.

On NYU Classes, there will be a series of videos created by NYU Stern faculty on that will be assigned throughout the course in NYU Classes.
<table>
<thead>
<tr>
<th>Session</th>
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<th>Site Visit</th>
<th>Materials due</th>
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<td>1 - Class</td>
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<td>Introduction Types of Processes and Process Design and Analysis Supply Chain Management</td>
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<td>2 – Class</td>
<td>2/8</td>
<td>Process Analysis Supply Chains</td>
<td>Lunch @ Chipotle</td>
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<td>3 – Site 1</td>
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<td>Logistics</td>
<td>Maher Terminal</td>
<td>Site Handout</td>
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<td>4 – Class</td>
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<td>Queuing Theory Simulation Whole Foods (visit independently in advance of class)</td>
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<td>Quality</td>
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<td>8 – Class</td>
<td>3/29</td>
<td>Revenue Management Speaker: Maxime Cohen</td>
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<td>Strategic Scheduling and Priority Management</td>
<td>JetBlue</td>
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<td>10–Class</td>
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<td>Inventory Analytics Sensitivity Analysis</td>
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<td>• Pre-Site Visit: FreshDirect 5</td>
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<td>11– Site 5</td>
<td>4/19</td>
<td>Resource Allocation</td>
<td>Fresh Direct</td>
<td>Assignment 5 – Inventory</td>
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<td>12 – Class / Site 6</td>
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<td>The Consulting Process Project Management Intersection (pre site visit to MTA Kiosk and Link NYC)</td>
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<td>Post-Site Presentation 5</td>
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SITE VISIT DESCRIPTIONS

Maher Terminal

What is it? “Maher Terminals LLC is one of the largest multi user container terminal operators in the world…[Maher] has developed North America’s largest marine container terminal in the Port of New York and New Jersey. This highly efficient container terminal operation strategically located in the heart of one of the world’s most affluent consumer markets provides ample container throughput capacity to efficiently meet and exceed the current and longer term operating requirements of our ocean carrier customers.”

What we will study? At Maher Container Terminal we will learn about the major functions of a container terminal. We will use process analysis techniques to analyze the various processes at the container terminal. We will see Maher’s role as an efficient logistics center in the global intermodal supply chain by moving containers from ships to trucks and trains.

Whole Foods

What is it? “Who are we? Well, we seek out the finest natural and organic foods available, maintain the strictest quality standards in the industry, and have an unshakeable commitment to sustainable agriculture. Add to that the excitement and fun we bring to shopping for groceries, and you start to get a sense of what we’re all about. Oh yeah, we’re a mission-driven company too.” “Whole Foods Market was founded in Austin, Texas, when four local businesspeople decided the natural foods industry was ready for a supermarket format. Our founders were John Mackey and Renee Lawson Hardy, owners of Safer Way Natural Foods, and Craig Weller and Mark Skiles, owners of Clarksville Natural Grocery. The original Whole Foods Market opened in 1980 with a staff of only 19 people. It was an immediate success. At the time, there were less than half a dozen natural food supermarkets in the United States. We have grown by leaps and bounds since our first store opened.”

What we will study? We will study the waiting lines of Whole Foods. Specifically, we will observe and record arrivals of customers at the check-out, number of servers (cash registers), and service times.

NYC Taxi and Limousine Commission

What is it? “The New York City Taxi and Limousine Commission (TLC), created in 1971, is the agency responsible for licensing and regulating New York City's medallion (yellow) taxicabs, for-hire vehicles (community-based liveries and black cars), commuter vans, paratransit vehicles (ambulettes) and certain luxury limousines. The TLC licenses and regulates over 50,000 vehicles and approximately 100,000 drivers, and performs safety and emissions inspections of the 13,637 medallion taxicabs three times each year,

1  http://www.maherterminals.com/
2  http://www.wholefoodsmarket.com/company-info
3  http://www.wholefoodsmarket.com/company-info/whole-foods-market-history
as well as biennial inspections of all TLC-licensed For-Hire vehicles, making it the most active taxi and limousine licensing regulatory agency in the United States\(^4\).

**What we will study?** We will study the TLC and its three major divisions of enforcement, safety and prosecution. The operations topic we are studying is **quality** and **quality management**. The TLC is an organization that is continuously changing with technologies (hybrid vehicles, credit card scanners, GPS, and new systems to track the taxis). The operation is the largest of its kind with regard to the inspection station that does a full DMV inspection in addition to the TLC inspection. We will observe the process that a TLC licensed vehicle undergoes to ensure the safety of the driver and passengers. The TLC defines quality as safety and professionalism. The inspection station is one of many efforts for the TLC to ensure quality. Other efforts include taxi school and continuing education for drivers, high customer service from the prosecution division, and the enforcement of TLC regulations via the enforcement division.

**JetBlue Airlines**

**What is it?** “JetBlue Airways was founded in 1999 to provide low-cost flights to previously underserved markets. It would use technology both to improve the customer experience and to increase employee and aircraft productivity. The company was founded by David Neeleman, who had previously cofounded Morris Air, a low-cost airline based in Salt Lake City, Utah, which he sold to Southwest Airlines”\(^5\).

**What we will study?** We will learn about the irregular operations (unplanned events) and what it takes to keep an airline up and running. We will study consumer relations and keeping flights to schedule to ensure a high on time flight performance, which in includes analyzing the boarding and deplaning processes. These topics will be discussed and observed at the JetBlue gate at JFK airport.

**Fresh Direct**

**What is it?** FreshDirect is one of the nation’s leading online food brands, known for its convenient home delivery service and the manufacture of fresh, delicious food. Changing the way customers shop for groceries since 2002, the company uses a direct distribution model with in-house, overnight production that cuts out the middleman and helps FreshDirect offer farm-fresh food at low prices. Every product is 100% satisfactory guaranteed, every time. Since FreshDirect takes delivery directly from farms and manufacturers and delivers those products the very next day, compared to conventional grocery stores that move their products through much longer supply chains, the foods offered at FreshDirect are fresher and better quality at lower prices.\(^6\)

**What we will study?** We’ll learn the process flow for FreshDirect and focus their **logistics** and **scheduling of delivery trucks and routes**. We’ll undercover how the plant

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\(^5\) Jetblue Airways: A new beginning by David W. Hoyt; Charles A. O'Reilly; Hayagreeva Rao; Kerry J. Sulkowicz (2010).

\(^6\) FreshDirect case study for Ops in NYC by Audrey Messer (2014)
and transportation teams communicate, plan and deploy their assets to optimize order-processing and on-time delivery, which meets and exceeds customer expectations.

**Intersection**

**What is it?** Intersection is a technology and media company committed to transforming customer, visitor, and employee experiences in shared and urban spaces. Intersection is the result of a merger between Control Group and Titan and their acquisition by a consortium of investors led by Sidewalk Labs, a recently launched partnership between Dan Doctoroff and Google.

**What we will study?** We will study operations consulting in the context two Intersection projects: LinkNYC and MTA on The GO (OTG). The projects featured in the course involve the introduction of a new product to change a process or offer a new service entirely.