An idea for social change. A policy decision. Service provision. Humanitarian assistance. In all of these cases, operations management encompasses the processes and decisions that are required for effective implementation and delivery. Operations management specifically involves the analysis, design, operation, and improvement of the systems and processes that deliver goods or services and ultimately outputs and outcomes. It is required to achieve the organization's mission, provide value to the organization's many stakeholders, and effectively translate policy into action. As such, operations management plays an important part of being an effective manager and policy implementer. Management, health and policy students can all greatly benefit from the theory and tools developed in this course, especially those who foresee being involved in operations or implementation at some stage of their career.

This course provides an introduction to operations management in the context of public, nonprofit, and health sectors. In this course, we will develop a lens for processes and systems in a variety of contexts along with an analytical toolbox to examine and understand these. This course can be divided into four main themes (with individual class topics listed under each):

- **Operations Strategy**
  - Operations Strategy
  - Consulting & Reengineering

- **Operations Analysis**
  - Process Analysis
  - Waiting & Queues

- **Operations Design**
  - Service Operations
  - Lean Production Systems
  - Supply Chain Management

- **Operations Planning & Control**
  - Inventory Management
  - Forecasting
  - Decision Analysis

These topics will be explored through readings, class discussions, lecture, assignments, and case studies from a wide variety of public sector application areas, including education, hospital administration, social services and more.
In this course, we will develop an understanding of operations management through lecture, reading, and the case study method.

**Course Grading Components**

Final grades are determined by the following course components:

- **Class Participation (10%)**
  Class participation consists of four main components: presence, promptness, preparation, and discussion participation. All class sessions will involve discussion, especially those centering on a case discussion. If you have thoroughly prepared, you should have no problems following and contributing to the discussion. Keep in mind that much of a leader’s communication is verbal, especially in operations settings. Therefore, developing your abilities to verbally state and support your positions is an important part of this class, in addition to listening and reflecting on the discourse.

- **Assignments (50%)**
  Assignments are an important part of this course as they solidify the concepts we learn in class. They will be framed in specific and varied settings of the public service realm. Team work is **encouraged** on assignments. Teams should be four or fewer students, and such teams should submit only one assignment. Each assignment will be equally weighted and will be due at the start of the corresponding class session.

- **Team Case Study Project (10%)**
  The University Health Services: Walk-In Clinic Case, which can be found in the course packet will be assigned as a small team project. Teams should be between two and four students. One project should be submitted per team.
  

- **Take-Home Final Exam (30%)**
  This exam will be completed individually.

**Prerequisites**

- **CORE-GP.1020** Managing Public Service Organizations (MPSO)
  This is a core course and the gateway to the broader management curriculum.

- **CORE-GP.1011** Statistical Methods for Public, Nonprofit, and Health Management or equivalent knowledge.

- **Strongly Co-Recommended** **NONCR-GP.0933** Excel II Workshop, which reviews shortcuts, sorting, filtering, conditional formatting, macros, charts, pivot tables, what-if analysis, forecasting, formulas, array formulas and more.
The **REQUIRED** readings for the class will come from the following sources:

1. **Course Packet**
   Available in digital format only. Inquire at the bookstore or at [www.XanEdu.com](http://www.XanEdu.com).

2. **NYU Classes**
   NYU Classes will be used to post readings and assignments throughout the semester. Students are encouraged to check it frequently. Many of the readings listed in this syllabus can be found online. In such cases, URLs are specified here and links can also be found on NYU Classes.

3. **E-Book**
   *Can be accessed using your NYU Login at [https://getit.library.nyu.edu/go/8039659](https://getit.library.nyu.edu/go/8039659) and following the Online Access links. This link is also available through the “E-Book: Forecasting” tool on NYU Classes.*

The **OPTIONAL** readings for the class will come from the following sources:

4. **Book (on reserve at Bobst)**
   *Note: This book was a required reading Spring 2013, but due to its high cost, it is now optional. For any concepts that you’d like to study further or that you may struggle to master in class and/or through the current readings, I’d strongly recommend referring to this book.*

5. **E-Book**
   *Can be accessed using your NYU Login at [https://getit.library.nyu.edu/go/8059637](https://getit.library.nyu.edu/go/8059637) and following the Online Access links.*

The specific readings are listed in this syllabus under *Detailed Course Outline.*
<table>
<thead>
<tr>
<th>#</th>
<th>Topics</th>
<th>Date</th>
<th>Due In Class*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>9/9</td>
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</tr>
<tr>
<td>2</td>
<td>Operations Strategy</td>
<td>9/16</td>
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</tr>
<tr>
<td>3</td>
<td>Process Analysis</td>
<td>9/23</td>
<td>(Assignment 1) Case Analysis: Transformation at the IRS</td>
</tr>
<tr>
<td>4</td>
<td>Lean Production Systems</td>
<td>9/30</td>
<td>(Assignment 2) Case Analysis: Virginia Mason Medical Center</td>
</tr>
<tr>
<td>5</td>
<td>Service Operations</td>
<td>10/7</td>
<td>(Assignment 3) Case Analysis: Metropolitan College</td>
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<tr>
<td></td>
<td><strong>FALL BREAK</strong></td>
<td>10/14</td>
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</tr>
<tr>
<td>6</td>
<td>Waiting &amp; Queues I</td>
<td>10/21</td>
<td>(Assignment 4) Service Blueprinting &amp; Service Operations</td>
</tr>
<tr>
<td>7</td>
<td>Waiting &amp; Queues II</td>
<td>10/28</td>
<td>(Assignment 5) Queuing I</td>
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<tr>
<td>8</td>
<td>Supply Chain Management</td>
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<tr>
<td></td>
<td>Introduction</td>
<td>11/4</td>
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</tr>
<tr>
<td>9</td>
<td>Forecasting</td>
<td>11/11</td>
<td>(Team Project) Case Analysis: University Health Services Clinic</td>
</tr>
<tr>
<td>10</td>
<td>Inventory Management</td>
<td>11/18</td>
<td>(Assignment 6) Forecasting</td>
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<tr>
<td></td>
<td><strong>THANKSGIVING BREAK</strong></td>
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<tr>
<td>11</td>
<td>Supply Chain Management</td>
<td>1/25</td>
<td>(Assignment 7) Case Analysis: People and Process: Improving Supply to Refugee Camps</td>
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<tr>
<td>12</td>
<td>Decision Analysis</td>
<td>12/2</td>
<td>(Assignment 8) Inventory Management</td>
</tr>
<tr>
<td>13</td>
<td>Quality Management: Six Sigma</td>
<td>12/9</td>
<td>(Assignment 9) Case Analysis: Six Sigma</td>
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<tr>
<td>14</td>
<td>Consulting &amp; Reengineering</td>
<td>12/11</td>
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<tr>
<td></td>
<td>Review &amp; Reflection</td>
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</table>

*Each assignment will be due at the start of the noted class session.
DETAILED COURSE SCHEDULE

Notes: The ⚖ symbol indicates analytical tools and/or methods. The 📊 symbol indicates the use of Excel. The ⚦ symbol indicates a topic or resource that provides exposure to technology solutions. Tech Tools listed are available in specific class folders in NYUClasses.

<table>
<thead>
<tr>
<th>Session 1</th>
<th>Introduction</th>
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</thead>
<tbody>
<tr>
<td>Date</td>
<td>September 9</td>
</tr>
<tr>
<td>Topics</td>
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</tr>
<tr>
<td>1.</td>
<td>Course Overview</td>
</tr>
<tr>
<td>2.</td>
<td>Self-Introductions</td>
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<tr>
<td>3.</td>
<td>Overview of Case Study Method</td>
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<tr>
<td>4.</td>
<td>Introduction to Operations Management</td>
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<tr>
<td>Preparation</td>
<td>NYU Classes</td>
</tr>
<tr>
<td></td>
<td>• How to Prepare a Case Discussion Handout</td>
</tr>
<tr>
<td></td>
<td>Optional</td>
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<tr>
<td></td>
<td>• Book: Jacobs &amp; Chase (2010), Chapter 1</td>
</tr>
<tr>
<td>Session 2</td>
<td>Operations Strategy</td>
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<tr>
<td><strong>Date</strong></td>
<td>September 16</td>
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<tr>
<td><strong>Topics</strong></td>
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</tr>
<tr>
<td>1.</td>
<td>Levels of Strategy</td>
</tr>
<tr>
<td>2.</td>
<td>Strategic Planning</td>
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<tr>
<td>3.</td>
<td>Comparative Advantage</td>
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<tr>
<td>4.</td>
<td>Logic Models, Production Processes, and Value-Add</td>
</tr>
<tr>
<td>5.</td>
<td>Introduction to Process Mapping</td>
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<thead>
<tr>
<th><strong>NYU Classes</strong></th>
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<tbody>
<tr>
<td>Preparation</td>
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<table>
<thead>
<tr>
<th>Optional</th>
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<tbody>
<tr>
<td>• Book: Jacobs &amp; Chase, Chapter 2</td>
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<table>
<thead>
<tr>
<th><strong>Additional Resources</strong></th>
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<tr>
<th><strong>Tech Tools</strong></th>
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<tr>
<td>= Creately</td>
<td>= Gliffy</td>
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<tr>
<td>= Edraw</td>
<td>= MS Visio</td>
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<tr>
<td>= SmartDraw</td>
<td>= draw.io</td>
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</tbody>
</table>
# Session 3: Process Analysis

<table>
<thead>
<tr>
<th>Date</th>
<th>September 23</th>
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</thead>
</table>

## Topics

1. (Operations Strategy) Case Discussion: Transformation at the IRS
2. Process Mapping
3. Process Terminology
4. Process Measurement and Performance
5. Process Management

## Course Packet


## Preparation

### NYU Classes


### Optional

- Book: Jacobs & Chase, Chapter 5

## Tech Tools

- Creately
- Edraw
- Gliffy
- MS Visio
- SmartDraw
- draw.io

## Due

*(Assignment 1)* Case Analysis: Transformation at the IRS
# Session 4  Lean Production Systems

**Date**  
September 30

## Topics
1. Case Discussion: Virginia Mason Medical Center
2. Applicability of Production Models in Service Systems
3. Managing and Improving Service Delivery Processes and Systems
4. Production Systems as Systems for Improvement

## Course Packet

## NYU Classes

## Optional
- Book: Jacobs & Chase, Chapter 8

## Additional Resources

## Due
**(Assignment 2)** Case Analysis: Virginia Mason Medical Center
# Session 5  Service Operations

<table>
<thead>
<tr>
<th>Date</th>
<th>October 7</th>
</tr>
</thead>
</table>

## Topics
1. (Process Analysis) Case Discussion: Metropolitan College
2. Service Blueprinting
3. Customer Perspectives and Expectations
4. Standard Service Models
5. Managing Customer-Introduced Variability

## Course Packet

## NYU Classes

## Optional
- Book: Jacobs & Chase, Chapter 7

## Additional Resources

## Due
- (Assignment 3)  Case Analysis: Metropolitan College
## Session 6  Waiting & Queues I: Managing Actual Wait Times

<table>
<thead>
<tr>
<th>Date</th>
<th>October 21</th>
</tr>
</thead>
</table>
| Topics       | 1. Review: Customer Introduced Variability  
              2. The Queuing System Components & Factors  
              3. Waiting Line Models ✹  
              4. Calculating Queue Performance Measures ✹  
              5. Modeling Queues Using Excel ✹ |
| Preparation  | Course Packet  
              Optional  
              - Book: Jacobs & Chase, Chapter 7A |
| Due          | (Assignment 4) Service Blueprinting & Service Operations |

## Session 5  Waiting & Queues II: Managing Perceived Wait Times

<table>
<thead>
<tr>
<th>Date</th>
<th>October 28</th>
</tr>
</thead>
</table>
| Topics       | 1. Calculating Queue Performance Measures ✹  
              2. Modeling Queues Using Excel ✹ ✹  
              3. Waiting and the Customer Experience |
| Preparation  | Course Packet  
              NYU Classes  
              - Video: Disneyland’s Management of Waiting Lines |
| Optional     |  
              - Book: Jacobs & Chase, Chapter 7A |
<p>| Due          | (Assignment 5) Queuing I |</p>
<table>
<thead>
<tr>
<th>Session 8</th>
<th>Supply Chain Management Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>November 4</td>
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</tbody>
</table>
| Topics    | 1. Supply Chains: Definitions and Strategic Issues  
            2. Play Antiretroviral (ARV) Supply Chain Game (Modified Beer Game)  
            3. ARV Game Debrief |
             • Book: Jacobs & Chase, Chapter 11, pp. 374-384  
             • Book: Jacobs & Chase, Chapter 12, pp. 396-402 |
# Session 10 Forecasting

<table>
<thead>
<tr>
<th>Date</th>
<th>November 11</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topics</strong></td>
<td></td>
</tr>
<tr>
<td>1. Components of Demand</td>
<td></td>
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<tr>
<td>2. Forecasting Methods</td>
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<tr>
<td>3. Time Series Forecasting Methods</td>
<td></td>
</tr>
<tr>
<td>a. Simple Linear Regression</td>
<td></td>
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<tr>
<td>b. Simple Moving Average (SMA)</td>
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<tr>
<td>c. Weighted Moving Average (WMA)</td>
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<tr>
<td>d. Exponential Smoothing (ES)</td>
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<tr>
<td>4. Seasonality and Trending</td>
<td></td>
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<tr>
<td>5. Forecasting Performance Measures</td>
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</tbody>
</table>

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<thead>
<tr>
<th><strong>NYU Classes</strong></th>
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<tbody>
<tr>
<td>Preparation</td>
<td></td>
</tr>
<tr>
<td>Stats Review Video: OLS <em>(by Prof. Shankar Prasad)</em></td>
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<thead>
<tr>
<th><strong>Optional</strong></th>
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<tbody>
<tr>
<td>Book: Jacobs &amp; Chase, Chapter 15</td>
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</table>


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<thead>
<tr>
<th><strong>Tech Tools</strong></th>
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<tbody>
<tr>
<td>StatTools MS Excel Add-On</td>
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</tbody>
</table>

| **Due** | [Team Case Study Project] Case Analysis: University Health Services Clinic |
# Session 10  Inventory Management

**Date**  November 18

**Topics**
1. Definition and Purposes of Inventory  
2. Multi-Period Inventory Models ✘  
   a. Fixed-Quantity Model (EOQ)  
   b. Fixed Time Period Model (Periodic Review)  
3. Safety Stock ✘  
4. Inventory Planning

**Course Packet**

**Preparation**
- Stats Review Video: The Normal Distribution *(by Prof. Shankar Prasad)*  
- Stats Review Video: Calculating z-Scores *(by Prof. Shankar Prasad)*  

**NYU Classes**
- Additional Reading in Logistics Cluster (above)  
- Book: Jacobs & Chase, Chapter 17

**Optional**

**Due** *(Assignment 6)*  Forecasting
# Session 11  Supply Chain Management

**Date**  
November 25

**Topics**
1. Supply Chain vs. Operations Management  
2. Uncertainty in Supply Chains  
3. Case Discussion: People and Process: Improving Supply to Refugee Camps

**Preparation**

**Course Packet**

**NYU Classes**

**Optional**

**Due**
*(Assignment 10)*  
Case Analysis: People and Process: Improving Supply to Refugee Camps

# Session 12  Decision Analysis

**Date**  
December 2

**Topics**
1. Decision Analysis Structuring  
2. Decision Trees ✗  
3. Sensitivity Analysis ✗

**Preparation**

**Course Packet**

**NYU Classes**

**Optional**
- Book: Jacobs & Chase, Chapter 4

**Tech Tools**
- PrecisionTree  
- SmartDraw  
- TreePlan

**Due**
*(Assignment 7)*  
Inventory Management
<table>
<thead>
<tr>
<th>Session 13</th>
<th>Quality Management: Six Sigma</th>
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<tbody>
<tr>
<td><strong>Date</strong></td>
<td>December 9</td>
</tr>
<tr>
<td><strong>Topics</strong></td>
<td>1. Six Sigma Core Principles</td>
</tr>
<tr>
<td></td>
<td>2. DMAIC Methodology ✗</td>
</tr>
<tr>
<td></td>
<td>3. Case Discussion: Six-Sigma at Academic Medical Hospital (A)</td>
</tr>
</tbody>
</table>

**Course Packet**

**NYU Classes**

**Optional**
- Zimmerman, B.L. (2010, April). What Do We Mean by 'Empowerment?' *Policy & Practice*. 68(2) 42.
- Book: Jacobs & Chase, Chapter 9

**Additional Resources**

**Tech Tools**
- Adaptive Microsoft Excel and Word Templates
- Minitab
- QETools MS Excel Add-On
- SPC for Excel
- SigmaXL MS Excel Add-On
- StatTools MS Excel Add-On

**Due**
- (Assignment 8) Case Analysis: Six Sigma
# Session 14  Consulting & Reengineering Reflection & Review

<table>
<thead>
<tr>
<th>Date</th>
<th>December 11</th>
</tr>
</thead>
</table>

## Topics
1. Re-engineering Toolkit
2. General and Operations Consulting Frameworks
3. Consulting and Problem Solving Approaches
4. Course Overview & Reflection

## Preparation

### Course Packet

### NYU Classes

### Optional
- Book: Jacobs & Chase, Chapter 13A

## Additional Resources

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**FINAL EXAM DUE** **FRIDAY, DECEMBER 20TH BY NOON**