



STERN SCHOOL OF BUSINESS

COURSE SYLLABUS

OPMG-UB 1.004

SPRING 2026

**(Close to Final Draft: still subject to minor revisions.
Assignments still to be modified)**

OPERATIONS MANAGEMENT

MEETINGS: OPMG-UB 1.004 Tuesday/Thursday 11:00 AM - 12:15 PM

ROOM: Zoom

INSTRUCTOR: Michael Pinedo, Room KMC 8-65, (212) 998-0287
mpinedo@stern.nyu.edu

OFFICE HOURS: Monday 3:00 – 5:00 pm in person; room KMC 8-65
(Other times by Zoom and/or by email appointment)

TEACHING FELLOW:

OFFICE HOURS: TBD (in person in Room KMC 8-174) and
by appointment



COURSE MATERIALS

CUSTOM TEXT (Optional): There are many textbooks covering the basics of Operations Management (e.g., Heizer, Render, and Munson; Stevenson and Kull; Jacobs and Chase). However, it is not necessary to purchase any such text book.

CASEBOOK (Required): containing two Harvard Cases. This Case Book has to be purchased at the bookstore.

- NATIONAL CRANBERRY
- L.L. BEAN, INC.

CASEPACKET (Downloadable from Brightspace): The following list of documents includes NYU, Columbia and Stanford Cases and Readings. This packet is downloadable from Brightspace under *Content/Case Packet*.

- ANALYSIS OF OPERATIONS
- KRISTEN'S COOKIES CASE
- PANAMA CANAL CASE (NYU Case)
- FCN SECURITIES DEMO (A), (B) AND (C)
- NETWORK CASES
- WAITING LINE MANAGEMENT TABLE
- THE RITZ-CARLTON CASE (Columbia University Case)
- THE BRIDGESTONE-FIRESTONE CASE (NYU Case)
- THE ACBC BANK CASE (NYU Case)
- FIRST CITY NATIONAL BANK CASE (NYU Case)
- XENON CASE (NYU Case)
- BLUE SKY AIRLINES (INFORMS Case)
- DELL DIRECT (Stanford Case).

Not all the cases above are going to be discussed in detail in class. For example, the Bridgestone-Firestone Case and the Dell Direct case will not be discussed or mentioned in class. (You still may want to read them since they are not uninteresting.)

RECOMMENDED READING: *The Goal*, Third Edition (Buy in Bookstore), Eliyahu M. Goldratt and Jeff Cox, North River Press, Inc. 2004.

VIDEOS: In the last two pages of this syllabus (pages 13 and 14) there are a number of links to Youtube videos developed by faculty in our department on seven of the topics that are going to be covered in the course. Each topic has three videos associated with it. You may want to watch the first two videos of each one of the topics. The first one is an *Introduction* in the topic; the second one describes a problem in the particular area, referred to as *Problem Walkthrough*; the third one describes a possible *Assignment* (however, none of the assignments in the videos have to be done for this course).



BRIGHTSPACE: We will be using *Brightspace* a fair amount. Most of the time you will have to go to *Content*. In *Content* (which consists of a number of units) you most often will go to the units: 1-Syllabus, 2-Case Packet, 3-Documents for the 6 Modules, 4-Practice Questions and Answers.

COMPUTER SOFTWARE: EXCEL

HOMEWORK

You will be assigned homework for each topic. The 6 homework assignments are due on the dates (sessions) where the assignments appear in the syllabus. Their due dates are Sessions 6, 9, 12, 17, 21, and 26. Only assignments that are specifically designated as **Submit** are to be *uploaded at the beginning of class on Brightspace in the appropriate folder under Assignments*. Each homework assignment can be maximum 2 pages of text (1.5 spaced); it may contain one or two extra pages with figures or tables. Make sure to keep a copy of all homework submitted.

Homework will be graded on a scale between 0 and 3; it will not be accepted late. The assignments have to be prepared individually in order to receive credit. Please write clearly or (preferably) word process your homework. You are allowed to discuss the general issues concerning the homework with one another. However, the details concerning the homework and the writing up of it, you have to do by yourself (so no two homeworks can look exactly alike).

QUIZZES

A quiz might be given in any session. The quiz will relate to facts given in a case and study questions asked in the syllabus.

HOW TO PREPARE FOR CLASS DISCUSSIONS

Please read the cases carefully. Use the study questions supplied in the syllabus as a guide. Be prepared to be called-upon to present the facts of the case, or to carry out the analysis indicated by the study questions. To encourage class participation I will stop during each session two or three times for a couple of minutes to allow you to ask questions. If no questions are asked then I may ask the class questions. Class attendance and participation will be graded on the scale of (0,2), where 1 is for attending without participating, 1.5 is for contributing some to class discussion, and 2 for a substantial contribution to class discussion.

FINAL EXAM DATE

December (...), ...:00 – ...:50



GRADING

Class Participation, Attendance, Quizzes	10%
Homework	20%
Mid-Term Examination	30%
Final Examination	40%

(You are allowed to bring to the mid-term and to the final one sheet (just one sheet!) of paper with notes. You may use both sides of the sheet. You have to hand in the cheat sheet after the exam and please put your name on it.)

GRADING INFORMATION

At NYU Stern, we strive to create courses that challenge students intellectually and that meet the Stern standards of academic excellence. To ensure fairness and clarity of grading, the Stern faculty have adopted a grading guideline for core courses with enrollments of more than 25 students in which approximately 35% of students will receive an “A” or “A-“ grade. In core classes of less than 25 students, the instructor is at liberty to give whatever grades they think the students deserve, while maintaining rigorous academic standards.

ACADEMIC INTEGRITY

Our undergraduate Academics Pillar states that we take pride in our well-rounded education and approach our academics with honesty and integrity. Indeed, integrity is critical to all that we do here at NYU Stern. As members of our community, all students agree to abide by the NYU Stern Student Code of Conduct, which includes a commitment to:

- Exercise integrity in all aspects of one's academic work including, but not limited to, the preparation and completion of exams, papers and all other course requirements by not engaging in any method or means that provides an unfair advantage.
- Clearly acknowledge the work and efforts of others when submitting written work as one's own. Ideas, data, direct quotations (which should be designated with quotation marks), paraphrasing, creative expression, or any other incorporation of the work of others should be fully referenced.
- Refrain from behaving in ways that knowingly support, assist, or in any way attempt to enable another person to engage in any violation of the Code of Conduct. Our support also includes reporting any observed violations of this Code of Conduct or other School and University policies that are deemed to adversely affect the NYU Stern community.

The Stern Code of Conduct and Judiciary Process applies to all students enrolled in Stern courses and can be found here: <https://www.stern.nyu.edu/uc/codeofconduct>. To help ensure the integrity of our learning community, prose assignments you submit to Brightspace will be submitted to Turnitin. Turnitin will compare your submission to a database of prior submissions to Turnitin, current and archived Web pages, periodicals, journals, and publications. Additionally, your document will become part of the Turnitin database.



We expect every student to be familiar with the Stern School of Business Code of Conduct and Judiciary Process. Some of the ways in which the code applies to this course are discussed below:

- The code stipulates that no student will lie, cheat, copy or otherwise behave in an unfair manner to obtain academic advantage over other students.
- As per the code, an individual's name on a report **should be included** only if they have contributed to the analysis. If an individual has not contributed to the analysis in an intellectual manner, it is a violation of the honor code to include his or her name.
- Furthermore, you may not refer to case write-ups from classes offered in earlier semesters.
- The premise of the code is that ideas should be attributed to their source. Therefore, please acknowledge the main source(s) of data, facts, and ideas (other than from the instructor or textbook) in all your written work and when you make a presentation. If you use material from a source other than the lecturer, the textbooks or the lecture notes, you must attribute the source. For example, say, "I discussed this with the TA." Or "I obtained this from the following website."
- You may discuss the homework with your classmates, TA or me. The discussion is limited to "how to solve" type of questions. The actual solution must be done individually. (So two homeworks may not look exactly the same.) Do not be worried of getting the answer incorrect in the homework. Most of the points will be given for using the correct approach.

GENERAL CONDUCT AND BEHAVIOR

Students are also expected to maintain and abide by the highest standards of professional conduct and behavior. Please familiarize yourself with Stern's Policy in Regard to In-Class Behavior & Expectations (<http://www.stern.nyu.edu/portal-partners/current-students/undergraduate/resources-policies/academic-policies/index.htm>) and the NYU Student Conduct Policy (<https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/university-student-conduct-policy.html>).

STUDENT ACCESSIBILITY

If you will require academic accommodation of any kind during this course, you must notify me at the beginning of the course (or as soon as your need arises) and provide a letter from the Moses Center for Student Accessibility (212-998-4980, mosescsa@nyu.edu) verifying your registration and outlining the accommodations they recommend. For more information, visit the CSA website:

<https://www.nyu.edu/students/communities-and-groups/student-accessibility.html>

STUDENT WELLNESS

Classes can get stressful. I encourage you to reach out if you need help. The NYU Wellness Exchange offers mental health support. You can reach them 24/7 at 212 443 9999, or via the "NYU Wellness Exchange" app. There are also drop in hours and appointments. Find out more at:

<http://www.nyu.edu/students/health-and-wellness/counseling-services.html>



Name Pronunciation and Pronouns

NYU Stern students now have the ability to include their pronouns and name pronunciation in Albert. I encourage you to share your name pronunciation and pronouns this way. Please utilize this link for additional information: [Pronouns & Name Pronunciation](#)

Religious Observances and Other Absences

NYU's Calendar Policy on Religious Holidays states that members of any religious group may, without penalty, absent themselves from classes when required in compliance with their religious obligations. You must notify me in advance of religious holidays or observances that might coincide with exams, assignments, or class times to schedule mutually acceptable alternatives. Students may also contact religiousaccommodations@nyu.edu for assistance.

NYU Stern is committed to ensuring an equitable educational experience for all students regardless of identity or circumstances and strives to recognize the obligations its students have outside of Stern. Please review all class dates at the start of the semester and review all course requirements to identify any foreseeable conflicts with exams, course assignments, projects, or other items required for participation and attendance. If you are aware of a potential conflict, please contact me as soon as possible to discuss any potential conflicts to determine whether/how they can be accommodated.

Except for religious observances or other absences that may be required in compliance with nondiscrimination law, this class otherwise requires attendance and participation and cannot accommodate conflicts. Please review all class dates at the start of the semester and review all course requirements to identify any foreseeable conflicts with exams, course assignments, projects, or other items required for participation and attendance. If you are aware of a potential conflict, it is strongly recommended that you do not take this class.

Inclusion Statement

This course strives to support and cultivate diversity of thought, perspectives, and experiences. The intent is to present materials and activities that will challenge your current perspectives with a goal of understanding how others might see situations differently. By participating in this course, it is the expectation that everyone commits to making this an inclusive learning environment for all.



CLASS SCHEDULE

MODULE 1: Introduction to Operating Systems - Process Design and Analysis

**Jan 20 (Tues) SESSION 1: INTRODUCTION – OPERATIONS AS A SOURCE OF
COMPETITIVE ADVANTAGE**

1. Introduction to Operations Management – Course Introduction and Overview.
2. We will discuss Operations at UPS. Read the document on UPS and Fedex Airhubs, available on Brightspace under Content/Documents/Module 1. Watch the video “UPS Operations” available under Content/External Links. Read also the Economist article “Just in Time Lobsters” also available under Content/Documents/Module 1.
3. Read the first 12 pages of *Analysis of Operations*. Available on Brightspace under Content/Case Folder
4. Recommended reading: *The Goal* by E.M. Goldratt

**Jan 22 (Thurs) SESSION 2: PROCESS DESIGN - TYPES OF OPERATING PROCESSES
(PRODUCT-PROCESS MATRIX)**

1. Read again *Analysis of Operations* (under Content/Case Folder)
2. Watch the videos *Process Analysis and Capacity* (for the links, see the last two pages of this syllabus).

Jan 27 (Tues) SESSION 3: PROCESS ANALYSIS – KRISTENS COOKIES CASE

1. Read, analyze and be prepared to discuss the Kristen's Cookie Company case (Content/Documents/Case Folder) utilizing the six key questions at the end as a guide. In particular, prepare the question: What are the cycle time, throughput time or flow time, and capacity of each operation and the whole production system? Use also the *Practice Questions for Kristen's Cookies* which you can download from Brightspace (Content/Case Folder) as a guide for your analysis of the case.
2. **Practice Question:** Assume that Kristen and her roommate are working every evening exactly 4 hours and 30 minutes (not one minute longer). Assume that all orders that come in are custom made for **two** dozen cookies:
 - a) How many orders can Kristen and her roommate fulfill in one evening?
 - b) What is the minimum number of trays that Kristen and her roommate need to ensure a smooth operation?

**Jan 29 (Thurs) SESSION 4: PROCESS ANALYSIS AND DESIGN OF SERVICE
OPERATIONS**

1. Continuation Kristen's Cookies
2. Read *Operations in Financial Services* (under Content/documents/Module 1)



Feb 3 (Tues) SESSION 5: PROCESS ANALYSIS AND SERVICE DESIGN CASES

1. Read, analyze, and be prepared to discuss the Panama Canal case (Content/Case Folder). Read also the *Panama Canal Readings* which is under Content/Documents/Module 1. There are also many videos on the Panama Canal on Youtube.
2. Prepare the following questions for discussion in class. In the questions below, assume in questions (a) and (b) below that *the canal only operates in one direction* (in reality, the canal works for half a day in one direction and for half a day in the reverse direction and there is a setup time and cost involved in reversing the direction).
 - (a) Describe the canal as an operating system and draw a process flow diagram. List the various steps (stages) of the transit process.
 - (b) Try to compute the capacity of the Gaillard (Culebra) Cut while it is operating in one specific direction. Which (shipping) parameters and which dimensions of the cut determine the capacity of the cut? (To answer this question, look at Example 4 on page 19 of the *Analysis of Operations* document.)
 - (c) Suppose that the Culebra Cut has to reverse direction. How much capacity is lost because of the reversal?
 - (d) Describe all the similarities (and differences) between the Panama Canal case and the Kristens Cookies case.

Feb 5 (Thurs) SESSION 6: PROCESS ANALYSIS -- NATIONAL CRANBERRY CASE

1. Read the National Cranberry case and draw a process flow diagram for the process fruit operation of RP #1.

Homework 1 (Submit):

 - a) Assume the arrival rate of wet berries is 800 bbl/hr and the arrival rate of dry berries is 700 bbl/hr (from 7 am till 7 pm). What are the implications for the operations of the plant?
 - Identify any possible bottleneck(s) in the process and explain how the locations of the bottlenecks depend on the respective arrival rates of wet and/or dry berries.
 - Should the fifth dumper have been purchased? Justify your answer. Under which conditions would the purchase of the fifth dumper have been justified?
 - b) NCC is considering selling either one or two dumpers to create more space for trucks waiting to unload. In addition, NCC is considering reserving one dumper for trucks bringing dry berries and have the three (or two) remaining dumpers for the trucks bringing wet berries. Evaluate each one of these alternatives and give your recommendation.

Submit this analysis at the beginning of the class.



MODULE 2: Optimal Resource Allocation

Feb 10 (Tues) SESSION 7: THE BASIC LINEAR PROGRAMMING (LP) PROBLEM

1. Read *Introduction to Linear Programming* (available on Brightspace under Content/Documents/Module 2.)
2. Prepare in advance for discussion in class: *Problems to be formulated as LPs* (available on Brightspace).

Feb 12 (Thurs) SESSION 8: SOLUTION TECHNIQUES: GRAPHICAL METHOD AND ENUMERATION OF CORNER POINTS

1. Read once more *Introduction to Linear Programming* (available on Brightspace)
2. We will discuss the Graphical Method and the Corner Point Enumeration method in class. We furthermore get into sensitivity analysis and shadow pricing.
3. Solve the five problems in the document *LP Basic Problems* that is posted on Brightspace in Module 2.

Feb 19 (Thurs) SESSION 9: LP SOLUTIONS AND SHADOW PRICES

We will discuss shadow prices

1. [Homework 2 \(Submit\)](#): Solve and submit Problems 1 and 3 of Homework #2 that is posted on Brightspace (Content/ ... /Module 2/Assignment 2).

Feb 24 (Tues) SESSION 10: LP MODEL APPLICATIONS IN EXCEL

1. Linear Programming Modeling Applications in Excel

MODULE 3: Time Based Competition

Feb 26 (Thurs) SESSION 11: PROJECT MANAGEMENT

1. Read *Critical Path Method* by Anderson and Hales (available on Brightspace under Content/Documents/Module 3)
2. Read FCN/Securities Demo (A) (available in the Case Packet on Brightspace).

March 3 (Tues) SESSION 12: PROJECT MANAGEMENT (Continued)

1. Read, analyze and be prepared to discuss the other four project management network cases (exercises) assigned in class: FCN (B), FCN (C) (on Brightspace), Specialty Contractors, and Aerospace Components (on Brightspace).
2. [Homework 3 \(Submit\)](#): Draw the network for Allied Distributing Equipment (on Brightspace in the Case Packet) and determine the Critical Path. Is the Critical Path unique or are there more than one Critical Paths?



March 5 (Thurs) **SESSION 13:** Review Session (Modules 1, 2, and 3)

March 10 (Tues) **SESSION 14:** Midterm Exam (Covering Modules 1, 2, and 3)

MODULE 4: Managing Quality as a Strategic Issue

March 12 (Thurs) **SESSION 15:** QUALITY – DEFINITION AND BASIS FOR COMPETITION

1. Preview of the next half of the course.
2. Read *Statistical Process Control* by Nelson Fraiman (available on Brightspace)

March 24 (Tues) **SESSION 16:** STATISTICAL QUALITY CONTROL

1. Read *Statistical Process Control* by Nelson Fraiman (available on Brightspace)
2. Read the *Ritz-Carlton Case* (available on Brightspace)

March 26 (Thurs) **SESSION 17:** QUALITY IMPROVEMENT

1. Read, analyze and be prepared to discuss quality control issues at Ritz- Carlton.
2. **Homework 4 (Submit):** Consider the Ritz-Carlton case. The Excel file ritz.xls contains a listing of subset of all defects reported in the DQPR for the Ritz-Carlton Buckhead over a given period. The subset contains all defects for twelve categories of defects that directly impact the customer and are identified as causes for customer dissatisfaction. Analyze this data file and answer the following questions in at most 2 pages due at the start of class:
 - (a) How is quality defined at R-C? Does the data in the file ritz.xls indicate any significant quality problems?
 - (b) Which category or categories of defects do you expect will show a decline in complaints over time? Explain why you expect that.
 - (c) If you were to select a category of defect to address from the DQPR data, which category would you address? Why?
 - (d) For whatever defect category you selected, construct a P-chart to help identify days on which some “assignable cause” of added defects arose.
 - (e) Using the results of your analysis and any other relevant tools of quality, as well as your common-sense knowledge of hotel operations, generate hypotheses about possible root causes of the category that you selected.

March 31 (Tues) **SESSION 18:** QUALITY ANALYSIS, MEASUREMENT, IMPROVEMENT

1. Read the Ford Firestone Case (ACBC Bank) case (available on Brightspace).
2. Prepare for discussion in class Exercises 1, 2, 7 and 8 of the ACBC case.
Which factor(s) have the largest effect on the total expected losses?
Watch the videos “Quality” (the links are on the last two pages of this syllabus).



MODULE 5: Inventory Concepts and Models

April 2 (Thurs) SESSION 19: INVENTORY / LOGISTICS

1. Read *Economic Order Quantity Model* by Schwarz (available on Brightspace)
2. Watch the Video on “Inventory” (for the link, see the last two pages of this syllabus).

April 7 (Tues) SESSION 20: THE ROLE OF INVENTORY - THE TRADITIONAL VIEW

Read, analyze and be prepared to discuss the Xenon case (on Brightspace)

April 9 (Thurs) SESSION 21: INVENTORY MANAGEMENT UNDER UNCERTAINTY

1. **Homework 5 (Submit):** Consider the Xenon Case.
 - a) Consider the case with 4 regional warehouses with nonrandom demand. Compute the reorder point for one of the warehouses when the lead time L is 7 weeks.
 - b) Consider now the case with one centralized warehouse with nonrandom demand. Compute the reorder point when the lead time L is 11 weeks.
2. Read, analyze and be prepared to discuss the L.L. Bean Inc. case.

April 14 (Tues) SESSION 22: SUPPLY CHAIN MANAGEMENT - REVENUE MANAGEMENT

1. Watch the video “Supply Chain Management” (for link, see the last page of syllabus)
2. Read the Dell Direct Case (available on Brightspace).
3. Read again the L.L. Bean case.

April 16 (Thurs) SESSION 23: INVENTORY IN ACTION: THE BEER GAME

ROOM: Kantor Board Room (KMC- 11th floor) (likely to be cancelled this semester)

April 21 (Tues) SESSION 24: PERISHABLE INVENTORIES – REVENUE MANAGEMENT

1. Read the LL Bean case again and also the *Blue Sky Airlines* Case (available in the case packet on Brightspace)
2. **Practice Question:** The excel file LLBean.xls (download) contains demand and forecast data for 84 items. Suppose that these are the data that L.L. Bean will use to plan their next season. Consider an item that retails for \$43 and costs LL Bean \$23. The liquidation price for this item is estimated to be \$19. The sales forecast for this item is 12,000 units. What order quantity should L.L. Bean choose for this item?

MODULE 6: Time-to-Market & Responsiveness

April 23 (Thurs) SESSION 25: THE EFFECTS OF UNCERTAINTY - WAITING LINES

1. Read *Queueing Management and Models* (available on Brightspace under Content/Documents/Module 6)
2. Watch the videos “Queueing” (for the links, see the last two pages of this syllabus)



April 28 (Tues) SESSION 26: QUEUING THEORY IN ACTION

Read, analyze, and be prepared to discuss the First City National Bank case (on Brightspace). The following study questions will help:

- a) Considering the data supplied for arrival and service times, how would you calculate an average arrival rate and service rate?
- b) As Mr. Craig, what characteristics of this queuing system would you be most interested in observing?
- c) What is the best number of tellers to use?
- d) Calculate the waiting time for a customer (time spent in the queue before service) and determine which of the two line configurations you would recommend? Support your result with the appropriate quantitative queuing analysis.

April 30 (Thurs) SESSION 27: CONTINUATION OF QUEUEING

1. Read again *Queueing Management and Models*.

Homework 6 (Submit): The registration area has just opened at a large convention of building contractors in Singapore. There are 450 people arriving per hour (exponential interarrival times), and their cost of waiting in queue is valued at **\$40** per person per hour. The Singapore Convention Bureau provides servers to register guests. The cost (salary) of a server is 32 dollars per hour. It takes about 50 seconds to register an attendee (exponentially distributed). A single waiting line with multiple servers is set up.

- a) What is the minimum number of servers for this system?
- b) What is the optimal number of servers for this system from a cost perspective?
- c) What is the cost for the system, per hour, with the optimum number of servers?
- d) What is the server utilization rate with the minimum number of servers?

May 5 (Tues) SESSION 28: USE OF SIMULATION AS PROBLEM SOLVING TOOL - REVIEW OF COURSE MATERIAL (Modules 4, 5, and 6)

2. Read *Intro to Simulation* by J. Banks (available on Brightspace)
3. Consider the First City National Bank case again (on Brightspace). By hand, simulate 25 arrivals (track them through the bank) using the inter-arrival time distribution and service time distribution given in the case, with three tellers, for each of the two line arrangements. Identify assumptions that are necessary? What are the advantages of using simulation to study this operation? What are the limitations? Which alternative arrangement of teller lines should Mr. Craig select based on the simulations?

FINAL EXAM DATE:, May, AM



VIDEO LINKS

Below there are a number of links to youtube videos developed by faculty in our department on seven of the topics that are going to be covered in the course. Each topic has three videos associated with it. You may want to see the first two videos of each one of the topics. The first one is an *Introduction* in the topic. The second one describes a problem in the particular area, referred to as *Problem Walkthrough*. The third one describes a possible *Assignment*.

1- Process Analysis and Capacity

https://www.youtube.com/watch?v=kqWozEjl_kw&index=1&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A

<https://www.youtube.com/watch?v=3A7FW9b-uSw&index=2&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>

2- Quality

https://www.youtube.com/watch?v=3HBx_N7_tz0&index=18&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A

<https://www.youtube.com/watch?v=UU1i9EJerKI&index=17&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>

3- Inventory

<https://www.youtube.com/watch?v=kGPr9oeN0MQ&index=10&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>

<https://www.youtube.com/watch?v=JCt1IVSjsuM&index=11&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>



4- Supply Chain Management

<https://www.youtube.com/watch?v=Gf-d5mII0zs&index=9&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>

<https://www.youtube.com/watch?v=I3daWQOaHc8&index=8&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>

5- Revenue Management

<https://www.youtube.com/watch?v=yutHhJgSC-4&index=13&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>

<https://www.youtube.com/watch?v=4SfMx3pVMgo&index=15&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>

6- Queueing

<https://www.youtube.com/watch?v=EXimUhimeTw&index=4&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>

<https://www.youtube.com/watch?v=ptFIL2UaKkA&index=5&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>

7- Simulation

<https://www.youtube.com/watch?v=jNEE7ywKODM&index=19&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>

<https://www.youtube.com/watch?v=2oT9cuf3CZ8&index=20&list=PLue8TeHAyWZEwHr6D1fcC-zrdxM9DiQ4A>



