

# Syllabus of Fudan University

Department: Management Science

Date: Spring 2024

<b>Course Code</b>	MANA130008.01				
<b>Course Title</b>	Operations Management				
<b>Credit</b>	3	<b>Practice Credit</b>		<b>Experiment(including computer) Credit</b>	
<b>Credit Hours/Week</b>	54	<b>Practice Credit Hours</b>		<b>Experiment(including computer) Credit Hours</b>	
<b>Course Nature</b>	<input type="checkbox"/> Specific General Education Courses <input type="checkbox"/> Core Courses <input type="checkbox"/> General Education Elective Courses <input type="checkbox"/> Basic Courses in General Discipline <input type="checkbox"/> Professional Compulsory Courses <input checked="" type="checkbox"/> Professional Elective Courses <input type="checkbox"/> Others				
<b>Course Objectives</b>	The course will introduce you to concepts and techniques related to the design, planning and control and improvement of the operations function of a firm in the digital era. Furthermore, the course discusses the dynamic challenges in the digital era of operations management				
<b>Course Description</b>	Operations Management (OM) plans and coordinates all activities in the process of producing and delivering products (goods and services). Effective operations management is a key ingredient of success in most industries. Achieving operations excellence is one of the most essential strategies to improve efficiency and to gain a competitive advantage. This course will cover a mix of qualitative and quantitative methods that provide the necessary tools to make intelligent decisions in operations.				
<b>Course Requirements:</b>					
The classroom is a laboratory in which you can test your ability to present your analysis, recommendations, and implementation plans. Active participation in all discussions is essential to derive the full benefit of this course. In addition, students need to finish 4 homework sets and 2 case studies, and also take the final exam.					
<b>Teaching Methods:</b>					
The course is a mix of lectures, case studies, and games. The lectures are meant to explain supply chain models and concepts making use of both qualitative and quantitative methods. Qualitative methods involve theoretical frameworks, conceptual analysis, and evaluation of solution strategies whereas quantitative methods involve mathematical analysis, probability theory and basic concepts of microeconomics. Case studies depict a business scenario at a certain existing company, in which complex supply chain management decisions need to be taken.					

**Instructor's Academic Background:**

The instructor, Jelmer Pier van der Gaast, is an assistant professor in the Department of Management Science at the School of Management, Fudan University. He received his PhD in 2016 at the Erasmus University Rotterdam, The Netherlands. Afterward, he worked as a postdoctoral researcher at the department of Operations, Faculty of Economics and Business, at the University of Groningen, The Netherlands. His research interests include: warehouse operations, stochastic processes, and urban logistics. He has published his research in several academic journals including Transportation Science, Queueing Systems, and Operations Research.

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**Members of Teaching Team**

<b>Name</b>	<b>Gender</b>	<b>Professional Title</b>	<b>Department</b>	<b>Responsibility</b>
Jelmer Pier van der Gaast	Male	Professor	Management Science	Teaching

Course Schedule (Please supply the details about each lesson):

Week	Teaching content
1	Overview of the course. Introduction of Operations Management.
2	Process Fundamentals: Understand the concept of processes in operations management.
3	Quality Management I: The cost of quality in operations management. Introduction to the six-sigma philosophy.
4	Quality Management II: Students conduct the cookie experiment to learn how to plot control charts to control the quality of cookies.
5	Constraint Management: Explain the theory of constraints and discuss the funnel experiment.
6	Lean Systems: Explain Toyota production system, 5S, JIT.
7	Supply Chain Strategies: Discuss the role of each driver in creating strategic fit between the supply chain strategy and the competitive strategy. Play the beer game.
8	Waiting Line Models I: An introduction to queueing theory via real-world examples.
9	Waiting Line Models II: Continue introducing queueing theory via real-world examples. Recap of the first part of the course.
10	Midterm and Inventory Management I: Discuss inventory theory without

	uncertainty.	
11	Inventory Management: Discuss inventory theory with uncertainty.	
12	Forecasting: Introduce the commonly used forecasting approaches in business.	
13	Newsvendor Model: Introduce the concepts of the newsvendor model.	
14	Newsvendor Model: Explain supply chain contracts.	
15	Revenue Management: Using airline industry and hotel industry to explain revenue management.	
16	Course Review.	
17-18	Final Exam Period	

The design of class discussion or exercise, presentation, practice, experience and so on:

- The students need to work in teams on two case studies.
- There are four exercise sets.
- There will be two games played in class for hands on experience and understanding.

If you need a TA, please indicate the assignment of assistant:

The TA needs to do grading and also assist the students when playing the games.

**Grading & Evaluation (Provide a final grade that reflects the formative evaluation process):**

There are five components to your final grade:

Class participation 8%

Problem sets (4\*3%) 12%

Group case reports (2\*5%) 10%

Exam I (Mid-term): Managing Processes 30%

Exam II (Final): Managing Supply Chains 40%

### **Group Case Reports**

You will need to form a group with some of your class members to work on case reports.

Groups must consist of three to five members each. Please hand in one hardcopy of your group report including all members' names in class.

Specific case preparation questions will be posted on eLearning two weeks in advance of a case due date. The case reports should be concise and focus on the preparation questions. State clearly your assumptions, analysis and recommendations.

### **Practice Problem Sets**

Four practice problem sets will be distributed in this course. The feedback from these exercises should help you evaluate your progress in understanding the course materials.

### **Exams**

There will be two exams (mid-term and final) in this course. Both exams will be closed book. A review session will be provided for the final exam. The exams are not cumulative and cover the two parts of the course, respectively. Make-up exams will not be offered unless there is a documented serious illness or extreme personal circumstances.

### **Textbook (Including Author, Title, Publisher and Publishing time):**

<b>Textbook</b> : Operations Management - Processes and Supply Chains.
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<b>Editor:</b> L. J. Krajewski, L. P. Ritzman, and M. Malhotra
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<b>Publisher:</b> Pearson/Prentice Hall
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<b>ISBN:</b> 978-1-292-40986-3
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<b>Publish Date:</b> 2022
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### **Teaching Materials & References**

Table column size can be adjusted according to the content.