

# ISOM 2700 Operations Management Spring 2026

## CLASS SCHEDULE

**Section L2:** Tuesday and Thursday, 9:00am – 10:20am, Rm 2406 (lift 17-18)

**Section L3:** Tuesday and Thursday, 16:30pm – 17:50pm, Rm 2504 (lift 25-26)

## INSTRUCTOR

**Prof. Lijian Lu**

Office: LSK 4068

Office hours: Wed. 5 p.m. – 6 p.m. and by appointment

Email: [lijianlu@ust.hk](mailto:lijianlu@ust.hk)

## TEACHING ASSISTANT

**Ms. Stacy Deng**

Office: LSK 4065

Office hours: Tue. 12 p.m. – 1 p.m. and by appointment

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## COURSE OVERVIEW & OBJECTIVE

Operations is one of the primary functions of a firm, concerned with the transformation of inputs (e.g., raw material, labor, capital, and information) into outputs (goods or services). Whereas marketing focuses on the demand for the product, finance provides the capital for the product, and operations produces and delivers the product, including procurement, production, distribution, warehousing, and retailing, with the objective of creating competitive advantage for the enterprise.

This course provides a foundation for understanding the operations of a firm. We concentrate on a small number of powerful themes that have emerged recently as the central building blocks of world-class operations. We also present a sample of operations management tools and techniques that have been proved extremely useful over the years. Our objective by the end of the course is to provide you with the analytical skills and managerial insights necessary to critically analyze a firm's operations decisions and practices.

Such knowledge is important for careers in a variety of areas, including general management, entrepreneurship, investment banking (e.g. business restructurings, mergers and acquisitions), venture capital (e.g. evaluating new business plans) and management consulting (business restructuring improvement).

Unlike many courses in the core, which tend to treat the firm as a "black box", we will be primarily concerned with "opening up" the black box and discovering what makes a firm "tick" - or, for that matter, "stop ticking". In contrast to your management courses, our focus is on the technological rather than human dimension of a firm's internal operations - though there are obvious connections between the two that we will explore. In contrast to the measurement focus of your accounting courses, our concern is to understand what elements of a firm's operations enable it to produce quality outputs at a competitive cost structure. That is, we will focus on how the "physics" of material, work and information flows and the design and management of a firm's processes interact to determine a firm's cost structure and its ability to compete effectively in terms of non-cost measures such as quality, variety and speed.

### **TEXTBOOKS (optional)**

1. Cachon and Terwiesch, "Matching Supply with Demand", 4th Edition, International Edition, McGraw-Hill.
2. Jacobs and Chase, "Operations and Supply Chain Management: The Core", 4th Edition, International Edition, McGraw-Hill.

### **GRADING POLICY**

Final course grade will be determined by the following criteria:

Online quizzes (5+1)	20%
Midterm Exam	40%
Final Exam	40%
<b>Total</b>	<b>100%</b>

Grade	Description
A	Excellent performance: Demonstrates a comprehensive grasp of subject matter, expertise in problem-solving, and significant creativity in thinking. Exhibits a high capacity for scholarship and collaboration, going beyond core requirements to achieve learning goals.
B	Good performance: Shows good knowledge and understanding of the main subject matter, competence in problem-solving, and the ability to analyze and evaluate issues. Displays high motivation to learn and the ability to work effectively with others.
C	Satisfactory performance: Possesses adequate knowledge of core subject matter, competence in dealing with familiar problems, and some capacity for analysis and critical thinking. Shows persistence and effort to achieve broadly defined learning goals.
D	Marginal pass: Has threshold knowledge of core subject matter, potential to achieve key professional skills, and the ability to make basic judgments. Benefits from the course and has the potential to develop in the discipline.
F	Fail: Demonstrates insufficient understanding of the subject matter and lacks the necessary problem-solving skills. Shows limited ability to think critically or analytically and exhibits minimal effort towards achieving learning goals. Does not meet the threshold requirements for professional practice or development in the discipline.

1) **5+1 Quizzes:** For week 3 to week 12 only.

- Each online quiz consists of 10 questions.
- Once you start the quiz, the timer will start automatically and you must complete it within the time limit.
- The quiz for the week will be released on Monday. You must complete the quiz by the due time (**23:59 on Saturday**) each week.
- No makeup quiz will be given. The quiz for the week will be waived only if you have a valid reason, such as medical emergency.
- The quiz with the lowest grade will be dropped, i.e., your quiz's grade will be based on 5 quizzes.

2) **Exam:** Midterm and final exam last 2 hours each. No makeup exam for the midterm exam will be given. If you miss the midterm exam for a valid and verifiable reason approved by the instructor in advance, you will have to take a 3-hour cumulative final exam (covering entire course) and the weight of the mid-term will be added to the final exam. Otherwise, a zero mark will be assigned as your mid-term grade.

- You are allowed to use learning materials in both exams, more information will be available in due course.

3) Practice problems will be provided throughout the course to help students improve their understanding of course material. The practice problems are not counted toward the final grade, so there is

no need to submit solutions to the practice problems, although it is highly encouraged to solve the problems individually.

- 4) **Recording Policy:** The class is not an online learning course. The recording will **NOT** be provided if you miss the class. However, recordings will be provided during the add/drop weeks
- 5) **AI Policy:** Students may use generative AI tools to aid learning, but these tools are **NOT** permitted during exams, which are close-note and close-book.

## **LEARNING GOALS**

At the end of this course, students should be able to

1. Describe the design and delivery of product/service in different organizations, and evaluate the systems for measurement and improvement of operations. [1,4]
2. Identify and select crucial variables and measurements in decision modeling. [1]
3. Identify and describe operations management as one of the core business functions. [3]
4. Integrate operations management with other business functions to support a coherent corporate strategy. [3]
5. Determine how operation management decisions impact other business functions. [3]
6. Identify a wide range of contemporary and pervasive global business issues, as well as cultural and technology advancement that impact the management of operations. [4, 6]
7. Apply a range of appropriate quantitative and qualitative methods and tools to solve business problems in which the management of operations is a critical issue. [4,7]
8. Discuss the role of operations management in sustainability and social responsibility. [8]

\*The numbers at the end of each learning goal correspond to those learning goals and objectives for the BBA-OM Program. For details, please visit our department web site at [BBA in Operations Management | HKUST Department of ISOM](#).

## **ACADEMIC INTEGRITY**

Students at HKUST are expected to observe the Academic Honor Code at all times (see <http://rpghandbook.ust.hk/student-conduct-and-academic-integrity#honor> for more information). Zero tolerance is shown to those who are caught cheating on exam. In addition to receiving a zero mark on the exam involved, the final course grade will appear on your record with an X, to show that the grade resulted from cheating. This X grade will stay with your record until graduation. If you receive another X grade, you will be dismissed from HKUST.

## **TEACHING APPROACH**

The general teaching approach is lecturing, case discussions, as well as problem solving and demonstrations in the classroom. Lecture notes, additional reading articles, and learning resources are posted on Canvas. For many topics, we will start with an example (which can be a real business problem or a simplified version) with concrete numbers and clearly defined questions that are often of managerial relevance. Then we provide rigorous Excel spreadsheet analysis to solve the problem and discuss managerial insights based on the analysis.

## **COURSE OUTLINE**

This course has the following four modules, each of which consists of several topics that are connected to some extent and share the common theme of the module.

### **1) Managing Process and Resource**

- Process analysis and its applications;
- Quality management;
- Resource management.

### **2) Managing Service System**

- Coping with variability of service system;
- Separating vs. pooling servers;
- Queuing models;
- Simulating service system.

**Midterm Exam\*:**

**Time: 25 March 2026 (Wed) 7:30pm –9:30pm**

**Location: TBD**

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### **3) Matching Supply with Demand**

- Economic order quantity (EOQ) model;
- Newsvendor model;
- Demand forecasting and revenue management.

#### 4) Managing Supply Chain

- Value of flexibility and postponement;
- Information distortion: Bullwhip effect;
- Supply chain coordination via contract.

**Final Exam: TBD**

# ISOM 2700 Operations Management

## Prof. Lijian Lu, Spring 2025 Course at A Glance

#	Date	Module	Topics	Notes
1	Feb 3		- Introduction to Operation Management	
2	Feb 5	Process Analysis	- Fundamentals of Process Analysis <ul style="list-style-type: none"> <li>o Process Analysis</li> <li>o Bottleneck Analysis</li> <li>o Little's Law</li> </ul>	
3	Feb 10		- Applications: The Goal	
4	Feb 12	Quality Management	- Statistical Process Control	
5	Feb 24		- Six Sigma	
6	Feb 26	Resource Management	- Decision Tree Method	
7	Mar 3		- Resource Allocation via Linear Programming	
8	Mar 5		- LP Excel Solver	Laptop in Class
9	Mar 10	Service Ops Management	- Coping with Variability of Service Systems	
			- Queue Model (M/M/s)	
10	Mar 12		- Queue Models - Value of Pooling	
11	Mar 17		- Simulating Service Systems	Laptop in Class
12	Mar 19		Demand Forecasting	
	Mar 24	Midterm Exam	<b>Midterm Exam Review Session</b>	
	<b>Mar 25</b>		<b>Midterm Exam</b>	
	Mar 26		<b>No class</b>	
13	Mar 31	Inventory Management	- Inventory Management: Economic Order Quantity (EOQ)	
14	Apr 2		- Inventory Management: Newsvendor Model	
15	Apr 9		- More on Inventory Management	

16	Apr 14	Revenue Management	- Revenue Management: Capacity-based Model	
17	Apr 16		- Revenue Management: Price-based Model	
18	Apr 21	Supply Chain Management	- Intro to Supply Chain Management	
19	Apr 23		- Flexibility and postponement	
20	Apr 28		- Bullwhip effects	
21	Apr 30		- Supply Chain Coordination via Contracts	Laptop in Class
22	May 5		Best OM practice	
	May 7		<b>Final Exam Review Session</b>	
	<b>TBD</b>		<b>Final Exam</b>	

#	Due Date
Quiz 1	Feb 22 (23:59pm)
Quiz 2	Mar 01 (23:59pm)
Quiz 3	Mar 08 (23:59pm)
Quiz 4	Apr 19 (23:59pm)
Quiz 5	May 3 (23:59pm)
Quiz 6	May 10 (23:59pm)