ISOM2700 Operations Management
Fall 2025 (L4, L5, and L6)

Department of Information Systems, Business Statistics and Operations Management

COURSE:

ISOM2700 Operations Management (3-0-0:3)
Production and service operations viewed from the strategic, tactical and operational levels: capacity planning, process selection, impact of technology, location and layout, material and resource requirements, scheduling and quality control. Exclusion: ISOM2720 and IELM4100

Fall 2025
L4: Mon & Wed 9:00 – 10:20AM, LSKG012
L5: Mon & Wed 10:30 – 11:50AM, LSKG012
L6: Mon & Wed 12:00 – 13:20PM, LSKG012
Location: Room G012, LSKBB, Ground Floor

INSTRUCTOR:

Prof. Yiwen Shen (yiwenshen@ust.hk)
Office: LSK-4067; Phone: 2358-7581
Office hours: Tues 5PM to 6PM or by appointment, LSK-4067 and Zoom

TEACHING ASSISTANT:

Ryan Yang (imryang@ust.hk)
Office: LSK-4065; Phone: 2358-8543
Office hours: By appointment

TEXTS:

Learning materials available on Canvas.
Recommended textbook (optional)**:** Matching Supply with Demand by Cachon and Terwiesch

GRADING POLICY:

Final course grade will be determined by the following criteria and maximum point distribution:

Participation (5 out of 7)	5
Online quizzes (best 4 of 5)	20
Midterm exam	35
Final exam	40
Total	100

Participation:

- Total seven attendances will be recorded via iPRS. Each attendance will be given one point. You are allowed to miss two of them for personal reasons (not recommended).

Quizzes: Start from Week 3.

- Each online quiz consists of 12 multiple choice questions.
- Once you start the quiz, the timer will start automatically, and you must complete it within the time limit (one hour).
- The quiz for the week will be released on Monday morning. You

must complete the quiz by the due time (23:59 on Sunday) each week, as noted in the syllabus.
- No makeup quiz will be given, and the due time will be strictly followed.

Exam: The midterm covers only part A of the course while the final exam covers only part B. Both exams consist of 45 multiple choice questions and last for two hours. No makeup will be given. If you miss the midterm exam for a valid reason that is approved by the instructor in advance, you will have to take a 3-hour, 75-question comprehensive final exam instead.
You can bring a A4-sized, double-paged cheatsheet to the exam, which will be collected by proctors at the end of exam.

Regrading policy: Regrading request must be submitted within three days after the post of grade. The regrading will be based on the entirety of the quiz/exam. Paper checking sessions will be organized after exam.

COURSE GRADE DISTRIBUTION:

In determining the final course grade, your instructor will combine the three sessions and consider the recommended grade distribution at HKUST.

INTENDED LEARNING OUTCOMES:

This course is designed in such a way that, after completing it, you will 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 technological 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 http://www.bm.ust.hk/isom/.

TEACHING APPROACH

The instructor will cover all required contents as well as some optional topics in class. The lecture slides will be distributed before each class via Canvas. Additional reading materials and other learning resources are also posted on Canvas. Students are expected to learn the core concepts from concrete business problems, manage necessary

quantitative skills, and apply the managerial insights in other relevant settings. Students should complete on-line learning tasks on time and are encouraged to ask questions during the instructor-led, face-to-face session or Zoom meeting.

ACADEMIC INTEGRITY

Students at HKUST are expected to observe the Academic Honor Code at all times. Zero tolerance is shown to those who are caught cheating on any form of assessment and a zero mark will be given. In particular, any act of cheating on exam will automatically result in an F grade for this course.

Proposed Timeline of Class

Part A: Managing Business Process Flow	
Week 1 Sep 1 Sep 3	**Introduction to OM (Session 1)** **Process analysis** ■ A process view of organization (Session 2) ■ Little's Law and flow time analysis (Session 2)
Week 2 Sep 8 Sep 10 Add/Drop: Sep 13	**Bottleneck analysis** ■ Bottleneck and throughput analysis (Session 3) **OM and Finance** ■ Inventory turnover analysis, ROIC tree (Session 4) ■ Basic statistics concepts (Session 4)
Week 3 Sep 15 Sep 17	**Managing uncertainty in service system** ■ Basics of queueing system (Session 5) **Managing uncertainty in service system** ■ M/M/s queuing systems (Session 6)
Sep 21	Online Quiz 1 Due (11:59pm Sunday): cover Sessions 2, 3, 4
Week 4 Sep 22 Sep 24	**Queueing System** ■ Simulation method (Session 7) **Quality Management** ■ Variability in quality (Session 8) ■ Capability analysis (Session 8)
Oct 5	Online Quiz 2 Due: cover Sessions 5, 6, 7, 8
Week 5 Sep 29 Oct 6	**Quality management** ■ Conformance analysis (Session 9) ■ Acceptance sampling (Session 9) **Capacity planning** ■ Decision tree method and EVPI (Session 10)
Week 6 Oct 8 Oct 13	**Capacity planning and resource allocation** ■ Linear programming technique (Session 11) ■ Linear programming techniques (Session 12)

Week 7 Oct 15	**Mid-term review for Part A** (Session 13)
Oct 19	Online Quiz 3 Due: cover Sessions 9, 10, 11, 12
Week 7: Mid-term exam, 45 multiple-choice questions (for part A only) **Time: Oct 28 7PM – 9PM, Location: TBC**	
Part B: Matching Supply and Demand	
Week 8 Oct 20 Oct 22	**Forecasting** ■ Qualitative and quantitative approaches (Session 14) ■ Time series forecasting models (Session 14) **Inventory management** ■ Introduction to inventory management (Session 15) ■ Economic order quantity (EOQ) model (Session 15)
Week 9 Nov 3 Nov 5	**Inventory management** ■ Newsvendor model and applications (Sessions 16, 17)
Nov 9	Online Quiz 3 Due: cover Sessions 14, 15, 16
Week 10 Nov 10 Nov 12	**Revenue Management** ■ Capacity-based revenue management (Session 18) ■ Price-based revenue management (Session 19)
Week 11 Nov 17 Nov 19	**Supply Chain Management** ■ Introduction and win strategies (Session 20) ■ Incentive conflict: risk-sharing strategies (Session 21)
Nov 23	Online Quiz 4 Due: cover Sessions 16, 17, 18, 19
Week 12 Nov 24 Nov 26	■ Pricing in supply chain (Session 22) ■ Intro to Behavioral OM (optional) **Final review for Part B** (Session 23)
Final exam (for part B only, 45 multiple-choice questions, 2 hours, except for those who need to take the 75-question comprehensive exam for 3 hours)	

The instructor may make changes to the above syllabus depending on the progress of class.