

ISOM 2700: Operations Management — Fall 2026

3 Units | Department of Information Systems, Business Statistics and Operations Management

Section L8:	Wednesdays & Fridays, 4:30 – 5:50 PM	Room 4619
Section L9:	Wednesdays & Fridays, 3:00 – 4:20 PM	Room 2306
Name: Prof. Suri Gurumurthi Email: imsuri@ust.hk Office Hours: Room 5016B M-W 10-12PM		TA (both sections): Yang (Ryan) Ran Email: imyrang@ust.hk Office Hours: By appointment

Course Description

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.

Key Term Dates (HKUST Academic Calendar Fall 2026)

Milestone	Date
Fall Term Commences:	Tuesday, 1 September 2026
First Class (both sections):	Wednesday, 2 September 2026
Add/Drop Period:	1 – 14 September 2026
Midterm Examination:	Thursday 22 or Friday 23 October 2026 (no class that Friday)
Last Class (both sections):	Friday, 27 November 2026
Last Day of Fall Term Classes:	Monday, 30 November 2026
Study Break:	1 – 5 December 2026
Fall Term Final Examinations:	7 – 19 December 2026

Intended Learning Outcomes (ILOs)

By 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]

Assessment and Grading

This course will be assessed using criterion-referencing and grades will not be assigned using a curve. Detailed rubrics for each assignment are provided below, outlining the criteria used for evaluation.

- A 90-100 (percent)
- B 80-90 (percent)
- C 70-80 (percent)
- D 60-70 (percent)
- F 60 and below (percent)

Assessments:

Canvas quizzes and spreadsheet exercises are released with their module and fall due at **11:59 PM Hong Kong time on the Sunday after that module is covered**. Nothing is due during the Add/Drop period. Every due date is listed in the course schedule at the end of this syllabus and appears on the Canvas calendar.

Assessment Task	Contribution to Overall Course grade (%)	Due date
Canvas module quizzes and spreadsheet exercises	20%	Sundays, 11:59 PM — see the schedule below
Midterm Exam (Part A: Modules 1–7)	40%	Thursday 22 or Friday 23 October 2026
Final Exam (Comprehensive: Modules 1–12)	40%	Fall Finals Period (7–19 Dec 2026)

Grading Rubrics

[Detailed rubrics for each assignment will be provided. These rubrics clearly outline the criteria used for evaluation. Students can refer to these rubrics to understand how their work will be assessed.]

Final Grade Descriptors:

Grades	Short Description	Elaboration on subject grading 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.]

Course AI Policy

You are allowed to use AI to learn about select Operations Management issues and topics and solution methods. However, you are prohibited from using AI to complete the in-class quizzes or on-canvas quizzes. Also the use of AI is strictly prohibited during exams.

Communication and Feedback

Assessment marks for individual assessed tasks will be communicated via Canvas within two weeks of submission. Feedback on assignments will include [specific details, e.g., strengths, areas for improvement]. Students who have further questions about the feedback including marks should consult the instructor within five working days after the feedback is received.

Resubmission Policy

No late work will be accepted 1 week after the due date, unless there is a medical exemption. There will be a penalty of 1/7th of the assessment grade for every day that it is late.

Required Texts and Materials

All required materials are already posted to Canvas. Students are expected to read the slides before class and also optionally read through the Canvas modules related to each set of lecture slides if they seek further examples on the materials presented in the slides.

Academic Integrity

Students are expected to adhere to the university's academic integrity policy. Students are expected to uphold HKUST's Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to Academic Integrity | HKUST – Academic Registry for the University's definition of plagiarism and ways to avoid cheating and plagiarism.

Course Schedule & Modular Outline (All 12 Modules)

Module & Part	Core Conceptual Topics	Key Deliverables & Quizzes
Part A: Managing Business Process Flow (Modules 1–7)		
Module 1 — Operations Strategy	• What is Operations Management? • Elements of Operations Strategy • Objectives for Operations Management • Operational Performance Measures • Order-Winning vs Order-Qualifying	Module 1 Quiz
Module 2 — Process Selection & Product Design	• Different process types & uses • Product design activities • New product development strategy • Process modularity & design • Service operations & strategy • Service Profit Chain	Module 2 Quiz
Module 3 — Quality Management (Conceptual)	• Foundations of quality management • Garvin's dimensions of product quality • Gap Model of service quality • Basic tools of quality management	Quality Review
Module 4 — Statistical Process Control (SPC)	• Acceptance sampling plans • Statistical process control • Process capability & Six Sigma quality	Module 4 Spreadsheet (SPC)
Module 5 — Capacity & Related Optimization Decisions	• Capacity dimensions & bottlenecks • Capacity breakeven analysis • Decision trees & value of perfect information • Linear programming technique • Product mix optimization problems	Module 5 Quiz
Module 6 — Process Flow Measures	• Defining capacity in terms of flow • Batch vs unit processing examples • Economies of scale in processes • Cycle time of a process	Module 6 Spreadsheet Exercise Module 6 Quiz
Module 7 — Process Flow & Bottleneck Analysis	• Little's Law • Bottleneck management • Impact of product mix on capacity • Project lead times & critical path • Psychology of waiting • Waiting line models & simulation • Queue configuration problems	Module 7 Spreadsheet Exercise
Midterm Exam (Part A only)	Thursday 22 or Friday 23 October 2026 — In-person; 50 questions; 2 hours No make-up midterm exam offered	Midterm Examination (40% of Final Grade)
Part B: Matching Supply and Demand & AI Operations (Modules 8–12)		
Module 8 — Demand Management & Forecasting	• Qualitative & quantitative approaches • Basic time series forecasting models • Forecasting errors	Module 8 Spreadsheet Exercise
Module 9 — Inventory Management	• Inventory classification & management needs • Basic inventory models: order quantity & reorder point	Module 9 Spreadsheet Exercise

	• Safety stock & service levels	
Module 10 — Short Life Cycle Products & Revenue Management	• Newsvendor problem • Revenue management with capacity controls • Capacity reservation & protection levels	Module 10 Revenue Management Spreadsheet Exercise
Module 11 — Supply Chain Management & Lean Operations	• Supply chain structure & behavior • Supply chain coordination • Revenue management in supply chains • Just-in-time (JIT) & Kanban • Sustainability case examples	Module 11 Supply Chain Spreadsheet Exercise
Module 12 — Operations in the Age of AI	• What AI Changes, and What It Does Not • Forecasting and Inventory: Better Estimates, Same Trade-offs • Process Quality and Predictive Maintenance • Pricing, Moving Bottlenecks & Human-in-the-Loop AI Governance	AI Case Review
Final Exam (Comprehensive)	Fall Finals Period (7–19 Dec 2026) — Covers Part A (Modules 1–7) & Part B (Modules 8–12)	Final Examination (40% of Final Grade)