ISOM 2700: Intro. to Operations Management

Sections L1 & L2

Fall, 2022

Instructor: **Prof. Dongwook Shin** (`dwshin@ust.hk`)
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Course Description & Objectives

Operations is one of the major functions in an organization, concerned with the transformation of inputs (e.g., raw material, labor, capital, and information) into outputs (goods and services). Operations management is an area of management concerned with analyzing and improving the transformation process. This course will give an overview of main topics in operations management, providing students with the managerial tools needed to analyze and improve organization's business processes efficiently and effectively. The lessons from this course are important for careers in a variety of business sectors, including entrepreneurship, finance, and marketing.

Course Schedule and Venues

- Section L1: Wed & Fri 4:30-5:50pm (Room LSK G012)

- Section L2: Wed & Fri 3:00-4:20pm (Room LSK G012)

Textbooks (optional)

- Cachon and Terwiesch, "Matching Supply with Demand", 4th Edition, International Edition, McGraw-Hill

- Jacobs and Chase, "Operations and Supply Chain Management: The Core", 5th Edition, International Edition, McGraw-Hill

Grading Policy

- The grade will count the assessments using the following proportions:

After-class quizzes	20%
Midterm exam	40%
Final exam	40%
Total	**100%**

- Both exams are offline/closed book/closed notes. Basic formula sheet will be provided by the instructor.

- The final exam is not cumulative; that is, it only covers the course material after the midterm exam.

- 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 may take a *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.

- There will be six after-class quizzes (on canvas) throughout the course, each with equal weight. The lowest grade will be dropped.

- Practice problem sets 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.

- Re-grading policy: The process of assigning the grades is intended to be one of unbiased evaluation. Students are encouraged to respect the integrity and authority of the professor's grading system and are discouraged from pursuing arbitrary challenges to it. If you believe an inadvertent error has been made in the grading of exams, a request re-grading may be submitted. In the event that you would like to request to re-grade:

  - Email the TA and *me* within **3 days** of receiving your grade, including a brief written statement of why you believe that an error in grading has been made. Last requests will not be entertained.

  - I will re-grade your assessment/examination **in its entirety**. That is, I will re-grade **all the items** in your assessment/examination.

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.

Course Outline

The schedule is tentative and subject to change. The learning goals below should be viewed as the key concepts you should grasp after each session, and also as a study guide before each exam, and at the end of the semester.

Module	Date	Contents	Note
	Sep 2	Introduction to OM	
Process Analysis	Sep 7	Fundamentals of Process Analysis	
	Sep 9	Application: The Goal	
Quality Mgmt.	Sep 14	Statistical Process Control I	
	Sep 16	Statistical Process Control II	
	Sep 21	Six Sigma	
Resource Mgmt.	Sep 23	Decision Tree Method	
	Sep 28	Resource Allocation via Linear Programming I	
	Sep 30	Resource Allocation via Linear Programming II	
	Oct 5	LP Excel Solver	Laptop in Class
Service Mgmt.	Oct 5	Basics of Service Management	
	Oct 7	Simple Queueing Models (M/M/s)	
	Oct 12	General Queueing Models	
	Oct 14	Simulating Service Systems	Laptop in Class
	Oct 19	Midterm Exam Review Session	
	Oct 20	Midterm Exam (Tentative)	
	Oct 21	No class	
Inventory Mgmt.	Oct 26	Newsvendor Problem	
	Oct 28	Economic Order Quantity (EOQ)	
	Nov 2	More on Inventory Models	
Demand & Revenue Mgmt.	Nov 4	Forecasting Methods	
	Nov 9	Capacity-based Revenue Mgmt.	
	Nov 11	Price-based Revenue Mgmt.	
Supply Chain Mgmt.	Nov 16	Introduction to Supply Chain Management	
	Nov 18	Bullwhip Effects	
	Nov 23	Supply Chain Coordination	
Best Practices in OM	Nov 25	TBD	
	Nov 30	Final Exam Review Session	
	TBD	Final Exam	