

The Hong Kong University of Science and Technology
Department of ISOM
ISOM 3780 Sustainable Supply Chain Management
Spring Semester 2025-2026

Number of Credits: 3 credits

Prerequisites: This is a required course for SGFN with prerequisites ISOM 2700

Classes: Wed 9:00 – 10:20 am (Room 6580)

Website: Please visit Canvas

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Course Description:

Sustainable supply chain management involves integrating operationally, environmentally and financially viable practices into the complete supply chain lifecycle, from product design and development, to material selection, manufacturing, transportation, warehousing, distribution, consumption, return and disposal. The objective is to foster organizations to optimize their cost savings and profitability with environmentally sustainable considerations. This is a hands on course, with heavy emphasis on case studies drawn from successful implementations of sustainable practices of global companies across the globe. Upon completion of the course, students will master the essential managerial and technical aspects of sustainable supply chain management.

Blending Learning:

This is a case-oriented course. Because of the case approach, students should prepare for a large amount of reading. In addition, a few supply chain games will be played in class. This course will enhance your learning experience by adopting a new blended learning approach. Our goal of using a blended approach is to leverage the best aspects of both face-to-face and online learning for your benefit. Instead of using classroom time for presentation of materials that you can easily learn on your own, we will use the class time to engage you in more in-depth discussions and deepen your understanding of the topics through cases and games. You will further enhance your understanding in certain topics by completing a group project on a real supply chain case. Students are required to follow the weekly online video schedule. Class meetings are opportunities for the students to apply what they have learned and to interact with their peers and instructors. Weekly class meetings are entirely participatory based, to encourage student engagement with an active learning approach. During weekly class meetings, students can engage in games, simulations, case studies, exercises, and a mix of these activities. Through this approach, the instructor is in a better position to evaluate the participation of students in case discussion based on the frequency and relevancy of their responses.

Intended Learning Outcomes:

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

1. Understand the philosophy, theory, and practice of supply chain management.
2. Understand the design, configuration and planning of supply chains.
3. Develop solutions to solve practical problems faced by supply chains.
4. Understanding sustainability goals and considerations in supply chain management.

5. Develop practice of sustainability that are practical and economical to supply chains.
6. Measurements, incentives, costs and benefits of sustainability upon supply chains.

Assessment Scheme: Your course grade is determined by

In-class Participation	2%	4 points
On-line Quiz	3%	6 points
Simulation Game	10%	20 points
Final project	15%	30 points
Quiz	30%	60 points
<u>Final exam</u>	<u>40%</u>	<u>80 points</u>
Total	100%	200 points

Assessment marks for individual assessed tasks will be released within two weeks of the due date.

Participation Points: During each in-class session (*excluding final project classes*), your active in-class participation will earn you one participation point. Only one participation point can be earned per class.

On-line quiz points: For online learning using the Canvas platform, you are required to complete the quizzes at the end of each learning module. Each correct answer will earn you 0.5 points. A maximum of 6 points can be earned during the semester.

Mapping of Course ILOs to Assessment Tasks:

Assessed Task	Mapped ILOs	Explanation
Simulation Game	ILOs1 - 5	This task assesses students' ability to explain and apply quality and process management concepts (ILOs 1 and 3), synthesizes a well-argued solution for a real-world problem (ILO 2) as a team (ILOs 4-5).
Final Project	ILOs1 - 6	[Example: The presentation and reflection (ILO 6) assess students' ability to critically examine quality and process management concepts (ILOs 1 and 3), synthesize a well-argued solution for a real-world problem (ILO 2) as a team (ILOs 4-5), demonstrating higher order thinking skills of analysis and evaluation.]

Examination: There will be one quiz and one final exam, both open-book and open-notes. The quiz will be held on Mar 18.

On-line Simulation Games: There are two on-line computer games to be played. The second one will be a final project. You are expected to organize a team with 4 members to play the games.

Final Project: At the end of the course your team will conduct a final project and present your findings. This will be a case about a company's supply chain for you to provide analysis and recommendations.

Free-riding Exclusion Policy: Free-riding occurs when a group member relies on other group members to complete group tasks and does not contribute to group work. If you feel that a member of your group is a free rider, please report to us. The group member will receive a zero once when the free-riding case is confirmed.

Use of Generative AI: You are prohibited from using generative artificial intelligence (AI) to produce any materials or content related to the assessment task.

Student Learning Resources: The required textbook is *Designing and Managing the Supply Chain – Concepts, Strategies, and Case Studies*, by Simchi-Levi, Kaminsky and Simchi-Levi, 2021 fourth edition, Irwin McGraw-Hill (E-ISBN: 9781259997709). The book is sold only as an e-book.

In addition, extra articles, cases that are not included in the textbook and lecture notes will be distributed both electronically and in class. Please visit the following web site in canvas for announcements and downloads.

Article:

1. “Rapid-Fire Fulfillment” by Ferdows, Lewis and Machuca, *Harvard Business Review*, November 2004.
2. “Don’t Tweak Your Supply Chain – Rethink it End to End” by H. L. Lee, *Harvard Business Review*, October 2010.

Cases: (Following the sequence)

1. Donner Manufacturing Company
2. Steel Works, Inc.
3. Lamson Corporation (R)
4. Toy World, Inc.
5. Sport Obermeyer, Ltd.
6. HP Deskjet Printer Supply Chain
7. Seven-Eleven Japan
8. Hemp
9. SF Express: From Delivery to E-Commerce
10. Supply Chain Hubs in Global Humanitarian Logistics
11. Pinduoduo

Course Schedule

- The deadlines of all online quizzes (Wednesdays 9:00 am) are already listed on canvas. Please observe the deadlines closely.

Week	L1 (Wed)	Content
Module 1: Basic Inventory Management in Sustainable Supply Chains		
1	Feb 4	In-class: Course Introduction Online: Continuous Review Inventory Control Reading: Sections 2.2.8, 2.2.9 of textbook
2	Feb 11	In-class: Facing Impending Stock-Out, Donner Case Online: Periodic Review Inventory Control: Steel Works Case and Service Level Reading: 2.2.10
3	Feb 18	Chinese New Year Holiday
Module 2: Sustainable Supply Chain Management Foundations		
4	Feb 25	In-class: Aggregate Planning - Lamson Game Online: What is Supply Chain Management? Reading: 1.1 - 1.7

5	Mar 4	In-class: Toy World, Inc. Online: Accurate Response: Sport Obermeyer, Ltd. Case of Chapter 2
6	Mar 11	In-class: Flexible Response: HP Case of Chapter 10 Online: Risk Pooling and Postponement Reading: 2.3, 6.2.1 - 6.2.3, 10.2.5, 10.2.7, 10.2.8, 10.4
7	Mar 18	<i>In-class: Quiz</i> Online: Supply Contracts Reading: 4.1 – 4.3
8	Mar 25	In-class: Beer Simulation Game (Bring notebook computer) Online: What is Sustainable Supply Chain Management?
Module 3: Designing and Configuring Sustainable Supply Chains		
9	Apr 1	In-class: Zara’s Fast Fashion Online: Seven-Eleven Japan Co. Case Reading: The “Rapid-Fire Fulfillment” article
10	Apr 8	Mid-Term Break Online: SF Express: From Delivery to E-Commerce
11	Apr 15	In-class: Analytics for the Sustainability of Unique Products: The Case of Hemp Online: Pinduoduo: Driving E-Commerce in Rural China to Improve Farmers’ Livelihoods
12	Apr 22	In-class: Supply Chain Hubs in Global Humanitarian Logistics Online: Sustainable Supply Chain Practices
Module 4: Final Projects		
13	Apr 29	In-class: Project Presentation
14	May 6	In-class: Project Presentation

Caveat The instructor reserves the right to modify the syllabus if deemed necessary.