Course Outline

Course Code : DOS3714
Course Title : Sustainable Operations Management
Class Date : 12 Jan 2026 – 17 Apr 2026
Semester : Semester 2, Academic Year 2025/2026
Faculty : **Chen** Kim Heng
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Overview

This course explores and integrates the principles of sustainability into the strategic decisions of operations across various industries. It covers topics related to environmental sustainability, social responsibility, and economic viability. Stakeholders—including employees, customers, investors, local communities, and governments—are becoming more environmentally conscious and are mounting pressure on organizations to pursue sustainable development. We will explore how an organization can shape its operations through environmental strategies such as waste reduction, pollution prevention, and product stewardship to improve environmental performance while also contributing to business success. Methodologies and tools such as environmental management systems (EMS), life cycle analysis (LCA), green buildings, green product design, green procurement and production, as well as remanufacturing and servitization will also be introduced. In addition, students will learn how to craft and incorporate a successful sustainable operations strategy into an organization's business strategy, improvement planning, product and process design, supply management, risk management, and both internal and external reporting systems.

Course Objectives

By the end of this course, students should be able to:

- Understand the concept of sustainability and the principles of sustainable operations management.
- Develop strategies and tools for achieving sustainability in production, operations, and supply chain management.
- Define, plan, and assist in operations improvement projects focused on waste reduction, pollution prevention, or product stewardship.
- Assist in launching sustainable operations programs across diverse industries and organizations.

Assessment

Assessment Components	Weightage
Class Participation	15%
Assignments	30%
Project Presentation	10%
Project Report	15%
End-of-semester Assessment	20%
Peer Evaluation	10%

Course Topics

1. Introduction to Sustainability
2. Sustainability and Measurements
3. Sustainability and New Product Design
4. Sustainability and Procurement
5. Sustainability and Production
6. Sustainability and Logistics, Physical Distribution and Packaging
7. Reverse Logistics Management and Closed-Loop Supply Chain
8. Special Topics

General Guide & Reading

Cases and reading materials will be provided.

Prerequisite

DAO2703 (Operations and Technology Management)

Academic Honesty & Plagiarism

Academic integrity and honesty are essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity & honesty at all times. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources.

Plagiarism is 'the practice of taking someone else's work or ideas and passing them off as one's own' (The New Oxford Dictionary of English). The University and School will not condone plagiarism.

Artificial Intelligence (AI) tools such as ChatGPT do not require specialist knowledge to use. Many of these AI tools are commonly used in social media, for example, to create content and disguise and refine content created from programmes like ChatGPT. We understand that students will be drawn to using these AI Tools, as they would for any other electronic aid.

However, to be clear, normal academic rules still apply. As noted in the Code of Student Conduct:
"The University takes a strict view of cheating in any form, deceptive fabrication, plagiarism and violation of intellectual property and copyright laws. Any student who is found to have engaged in such misconduct is subject to disciplinary action by the University."

With respect to AI tools (e.g., ChatGPT and image generation tools), your instructor will clarify whether the use of these tools as inputs into your assignment development process is acceptable. AI is a technology that requires skill to use, and knowledge about when and how to use it. If you use ChatGPT or any other such AI tool in your work, you must provide a proper representation of how you used the tool and what prompts you used to generate output. Failure to cite its use constitutes academic misconduct.

Further, as with any information source, be aware that minimal efforts yield low quality results. You will need to refine your work and fact check the output, as you would double-check information from any source. Further, you should be selective in how and when you use such tools instead of using it for each and every assignment you create.

To summarise:

1. Always check with your instructors on what are the permitted uses of AI tools.
2. Have a discussion at the start of a course about the use of AI.
3. Where permitted, acknowledge your use of AI.
4. You remain responsible for the quality of your work and its appropriate representation.
5. Failure to follow the above steps can lead to a concern about plagiarism (academic dishonesty).

As always, you have the obligation to make clear to the assessor which is your own work, and which is the work of others. Otherwise, your assessor is entitled to assume that everything being presented for assessment is entirely your own work. This is a minimum standard.

Additional guidance is available at:

- Admission Condition: https://www.nus.edu.sg/registrar/administrative-policies-procedures/acceptance-record#NUSCodeofStudentConduct
- NUS Code of Student Conduct: http://nus.edu.sg/osa/resources/code-of-student-conduct
- Academic Integrity Essentials: https://libguides.nus.edu.sg/new2nus/acadintegrity#s-lib-ctab-22144949-4
- Guidelines on the Use of AI Tools For Academic Work: https://libguides.nus.edu.sg/new2nus/acadintegrity#s-lib-ctab-22144949-3