# Course Outline

**Course Code** : DAO2703
**Course Title** : Operations and Technology Management
**Class Date** : 12 Aug 2024 – 15 Nov 2024
**Semester** : Semester 1, Academic Year 2024/2025
**Faculty** : Dr **Chen** Kim Heng (Course Coordinator); Dr **Qi** Mei
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## Overview

Operations and Technology Management (OTM) is a classic functional area of management that deals with the problems of production in all kinds of enterprises. It focuses on the productive system of the enterprise, which we define as the means by which resource inputs are transformed into useful outputs of goods and services.

While Operations and Technology Management is a traditional functional field, and while this course will follow an outline built around the traditional foundational topics of OTM, we will nevertheless attempt to highlight some of the more current issues that are relevant within these topics. In view of this, the course will consider issues pertaining to both manufacturing and services-oriented systems, highlight the strategic aspects of operations, evaluate the significance and implications of advanced process technologies like robotics, AI and flexible manufacturing systems, and explain the strategic significance of practices such as those of Japanese manufacturing techniques and philosophies like Just-in-Time and Total Quality Management, and those relating to the Theory of Constraints.

## Course Objectives

The primary objectives of the course are to provide students with an introduction to, and an understanding of, the substantive knowledge which has developed over the years in the field of Operations and Technology Management, and to highlight the current relevance and strategic significance of the operations function in any given enterprise.

## Assessment

| Assessment Components | Weightage |
|---|---|
| Tutorial Participation | 15% |
| Project Presentation | 15% |
| Project Report | 15% |
| Final Exam (Closed Book) | 50% |
| Peer Evaluation | 5% |

**Course Topics**

1. Introduction to Operations Management
2. Operations Processes and Technologies
3. Process Analysis
4. Aggregate Planning
5. Material Requirements Planning
6. Operations Scheduling
7. Inventory Management I
8. Inventory Management II
9. Waiting Line (Queue) Management
10. Quality Management
11. Lean Operations
12. Operations Strategy

A detailed Course Schedule and Contents (including Tutorials) will be made available closer to the start of the Semester. Tutorial sheets containing questions for discussion and problems for practice will be made available for each tutorial.

Students are expected to come to lectures and tutorials prepared for the topic of the week by working on the Readings that will be indicated in the detailed Course Schedule and the Tutorial sheet for the week.

**General Guide & Reading**

Textbook:

- Stevenson, William J. and Thomas J. Kull. Operations and Supply Chain Management, 15th ed., McGraw Hill, 2024.

Optional Textbook:

- Cachon, Gerard and Christian Terwiesch. Matching Supply with Demand: An Introduction to Operations Management, 5th ed., McGraw Hill, 2024.

**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