Course Outline

Course Code	: DAO2703A
Course Title	: Operations and Technology Management
Class Date	: From 14/1/2026 To 15/4/2026
Semester	: Semester 2, Academic Year AY25/26
Faculty	: Joel Goh
Department	: Analytics & Operations
Email	: joelgoh@nus.edu.sg
URL	: https://joelgoh.net
Telephone	: 6601-6218
Course Schedule	: Wednesdays, 8:30am – 11:30am
Meeting Venue	: To be determined

Overview

This is an introductory BBA-level course that discusses the central role of effective Operations Management in driving organizational success. We introduce quantitative methods for analyzing operational models and qualitative frameworks for assessing their effectiveness. Examples of the former include: Process analysis, queuing models, and inventory management.

Operations refers to the collection of actions that a firm (or an organization) takes to channel its assets, resources, and capabilities into outputs of value. For most for-profit firms, this output can be a physical product, or a service, or both. From this definition alone, it is evident that a firm's operations are central to its identity, existence, and sustainability. Although not every manager will have direct control over a firm's operating processes, all managers are, invariably, indirect stakeholders in the operations of a firm, its subsidiaries, and/or its partners.

This course highlights the necessity for every manager, in any role, industry, and context, to be an effective operating manager, which we define as someone who is able to understand of the processes of a firm in order to assess its operations thoughtfully, identify root causes of operational failure or sub-optimality, and develop recommendations for impactful and sustainable improvement.

In comparison to the base version of the course DAO2703, this course will involve a substantially heavier focus on case-based classroom discussion. Consequently, active class participation and attendance are vital in this course: Students who enroll in this course must come prepared to engage their classmates in in-class discussion and debate.

Course Objectives

1. Quantitative methods for operational analysis, including: Process analysis, inventory management, queueing models.

2. Qualitative frameworks to assess operational effectiveness and alignment with strategic goals
3. Improved skill and confidence in engaging peers in case discussions and persuasion.

Pre-requisites

Although this class does not have a formal pre-requisite, for students who plan to take this course, I **strongly recommend** that you have familiarity with concepts of elementary probability at the level of DAO1704 or DAO1704X, including, but not limited to:

1. Defining and manipulating random variables,
2. The concepts of expectations, variance, distribution (cdf), and density (pdf), as applied to random variables,
3. Performing computations on elementary probability distributions such as normal distributions, exponential distributions, and discrete distributions, and
4. Developing a basic Monte-Carlo simulation in MS Excel.

Students who are unfamiliar with the concepts above should consider taking DAO2703 instead.

In addition, some exposure to the following topics would be helpful, but not necessary:

1. Elementary calculus, including the concept of an integral and a derivative,
2. Maximization or minimization of a (real-valued and differentiable) function using first-order conditions, and
3. Distinguishing between maxima and minima of a function using second-order conditions.

Assessment

Assessment Components	Weightage
Class participation	40%
Individual assignment	30%
Group assignment	25%
Peer Evaluation	5%

TENTATIVE Schedule (subject to change)

Introduction to Operations & Analytics

Week 1	January 14, 2026	Benihana of Tokyo

Production Systems

Week 2	January 21, 2026	The Donner Company
Week 3	January 28, 2026	National Cranberry Collective

Service Operations

Week 4	February 4, 2025	University Hospitals Neurology Narayana Health
Week 5	February 11, 2025	Oberoi Tessei
Week 6	February 18, 2025	*No Class* Lunar New Year
Recess Week	February 25, 2023	*No Class*

Innovation Processes

Week 7	March 4, 2025	Innocentive IDEO

Queueing Models

Week 8	March 11, 2025	Queueing Models

Inventory Management

Week 9	March 18, 2025	Economic Order Quantity
Week 10	March 25, 2025	Sport Obermeyer

Supply Chains

Week 11	April 1, 2025	Toyota Motor Manufacturing Barilla
Week 12	April 8, 2025	ITC eChoupal Crocs
Week 13	April 15, 2025	Coca-Cola Vietnam

Optional Reading

1. Cachon, G. and Terwiesch, C., 2018. Matching supply with demand: An introduction to operations management, 4th Edition. Mcgraw-Hill.

Absence Policy

A successful case discussion hinges on the active preparation and participation of every member of the classroom. When a student is absent from class, other students are deprived of the opportunity to hear his/her unique perspective and insights on the case. Consequently, this module adopts a strict absence policy that aims to encourage students to be judicious about their absences.

For every class session that you miss, *regardless of the reason*, where it is possible, (a) please inform me of your intended absence ahead of time, and (b) if we are discussing cases that session, please submit a 2-3 page (double-spaced) case analysis of the case(s) that were discussed in class that day, responding to the assignment questions for that class session. Please submit this writeup by **5pm on Friday** on the week of the class session that you have missed. Please reach out to me if you need an extension on this.

This module considers two distinct types of absences: (1) excused absences, and (2) unexcused absences. If the case writeup is submitted, you will receive full credit on your attendance score for that class session for an excused absence and partial credit on your attendance score for an unexcused absence. No credit will be awarded if the case writeup is not submitted.

There are only three categories of absences that the instructor is empowered to automatically "excuse":

1. Personal medical illness,
2. Family emergencies, or
3. Representing the country/university/school in a competition.

Importantly, instructors are generally **not** empowered to automatically excuse absences that fall out of these three categories, even though they may be for compelling reasons such as: interviews, recruiting, networking, or social events.

Therefore, if you need to be absent for a reason that does not fall into any of the three categories listed above but would like for your absence to be considered as an "excused" absence, please write to the BBA office, which is empowered to make this determination. Their decision will be final and binding.

Academic Honesty & Plagiarism

Academic integrity and honesty is 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. Students should adopt this rule - 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 being presented as entirely your own work. This is a minimum standard. In case of any doubts, you should consult your instructor.

Additional guidance is available at:

- Administrative Policies
- http://www.nus.edu.sg/registrar/administrative-policies-procedures/acceptance-record#NUSCodeofStudentConduct
- http://nus.edu.sg/osa/resources/code-of-student-conduct