Annexe A: New/Revised Course Content in OBTL+ Format

Course Overview

Expected Implementation in Academic Year (New format)	AY2026-2027
Semester/Trimester/Others (specify approx. Start/End date)	Semester 2
Course Author * Faculty proposing/revising the course	Ashish Kabra
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Course Title	Sustainability, Business, and Operations Management
Course Code	AB5401
Academic Units	3
Contact Hours	39
Research Experience Components	Not Applicable

Course Requisites (if applicable)

Pre-requisites	
Co-requisites	
Pre-requisite to	
Mutually exclusive to	
Replacement course to	
Remarks (if any)	

Course Aims

The United Nations adopted the Sustainable Development Goals (SDGs) in 2015 as a universal call to action to end poverty, protect the planet, and ensure that, by 2030, all people enjoy peace and prosperity. (https://www.undp.org/sustainable-development-goals)

In this class, we will study the facets of different sustainability challenges the world is facing to understand the root causes of the issues behind each of the goals and their intersectional nature - the role of businesses and other stakeholders, including policy, global institutions, customers, and people at large, in creating the crises and in mitigating them. We will study some of the business solutions that have succeeded and failed, and the gaps that remain.

Who should take the course?
Anyone with an interest in business models and designing solutions that get to the root cause of the issues. Having taken the core operations management class would be required as a prerequisite for the class.

Through this class, the students would have a broad understanding of
- the various sustainability challenges we face
- the interconnected nature of these challenges
- the specific role and potential of businesses in addressing these challenges.

Throughout the class, we will also feature alternative business models, including social enterprises and co-operatives, and their potential to deliver better outcomes for the majority.

Course's Intended Learning Outcomes (ILOs)

Upon the successful completion of this course, you (student) would be able to:

ILO 1	Apply systems thinking to analyse sustainability challenges (using the UN Sustainable Development Goals (SDGs) framework), their underlying causes, the roles of key stakeholders, and their interconnections.
ILO 2	Explain how different business models address sustainability challenges across diverse industry contexts.
ILO 3	Evaluate and justify business model solutions for addressing specific sustainability challenges, considering their effectiveness, limitations, and broader societal impact.

Course Content

This class will include a mix of

- pre-class readings,
- lectures,
- student presentations,
- guest lectures by practitioners,
- case discussions,
- and group projects

The main topics covered include

1. Overview of Key Operations Management Frameworks/Models & Foundations-1: Systems Thinking and Models
2. Foundations -2: Units of Economy: Households and Consumers, Markets, Commons (shared resources), State, and Policies
3. Circular Business Models: Promise and Perils
4. Business Models Design: Ownership and Financing models
5. Applications: Food and Food Supply Chains
6. Applications: Sustainable cities
7. Applications: Responsible consumption and production
8. In-class Project mini-presentations. Applications: Labour Violations, Wage models: Gig work, Marketplaces
9. Applications: Energy business models
10. Applications: Healthcare business models
11. Applications: Business models for Climate action and adaptation
12. Applications: Humanitarian Operations
13. In-class Project Presentation

Reading and References (if applicable)

Most of the assigned reading materials and class notes will be provided online on NTULearn (http://ntulearn.ntu.edu.sg)

(Optional) Regenerative Economics, Jennifer Brandsberg-Engelmann, https://www.regenerativeeconomics.earth/regenerative-economics-textbook/textbook-table-of-contents

Planned Schedule

Week or Session	Topics or Themes	ILO	Delivery Mode	Activities	Readings
1	Overview of Key Operations Management Frameworks/Models Foundations -1: Systems Thinking and Models	ILO1	In-person	in-class discussion	Lecture notes; videos
2	Foundations -2: Units of Economy: Households and Consumers, Markets, Commons (shared resources), State, and Policies	1	In-person	in-class discussion	Lecture notes; videos
3	Circular Business Models: Promise and Perils	1,2,3	In-person	in-class discussion	Lecture notes; videos
4	Business Models Design: Ownership and Financing models; (Revenue sharing models; Leasing vs. selling; Co-operatives; Micro-financing)	2,3	In-person	case discussion	Lecture notes; videos; Case
5	Applications: Food and Food Supply Chains (SGD#1 No Poverty, #2 Zero Hunger) (# indicate SDG goals)	2,3	In-person	case discussion	Lecture notes; videos; Case

Week or Session	Topics or Themes	ILO	Delivery Mode	Activities	Readings
6	Applications: Sustainable cities (SDG#11 Sustainable cities and communities)	2,3	In-person	case discussion	Lecture notes; videos; Case
7	Applications: Responsible consumption and production (SDG#12) (Traceablity; Incentives)	2,3	In-person	case discussion	Lecture notes; videos; Case
8	In-class Project mini-presentations Applications: Labour Violations, Wage models: Gig work, Marketplaces (SDG#8 Decent Work and Economic Growth) (Business Models, Regulations)	2,3	In-person	case discussion	Lecture notes; videos; Case
9	Applications: Energy business models (SDG #7 Affordable and Clean Energy) (Renewable Energy; Just Transition)	2,3	In-person	case discussion	Lecture notes; videos; Case
10	Applications: Healthcare business models (SDG #3 Good Health and Well-Being)	2,3	In-person	case discussion	Lecture notes; videos; Case

Week or Session	Topics or Themes	ILO	Delivery Mode	Activities	Readings
11	Applications: Business models for Climate action and adaptation (SDG #13 Climate action) (Parametric insurance to prevent extreme heat exposure at work)	2,3	In-person	case discussion	Lecture notes; videos; Case
12	Applications: Humanitarian Operations (#16 Peace, justice and strong institutions)	2,3	In-person	case discussion	Lecture notes; videos; Case
13	In-class Project Presentation and Interviews with the Instructor	1,2,3	In-person	Presentation, Off-class Interviews	

Learning and Teaching Approach

Approach	How does this approach support you in achieving the learning outcomes?
In-Class activities	Please read the assigned reading and cases prior to the class. The lecture sessions will have considerable opportunities for interaction and discussion based on the readings and case as the context. This will allow you to think critically and share your ideas with the class. Critical thinking, reviewing materials, and clarifying your doubts will prepare you for doing well on case and class material discussion, group project and instructor interview, and also dealing with open-ended nature of assesments. Class participation will be based on the overall contribution across each of the class sessions.
Group Project	The group project will be executed in two parts. The first part would involve identification of team and a proposing and presenting a project plan. This would be briefly presented in the class and would recieve instructor and peer feedback. The second part would involve a final group presentation as well as interviews with instructor. The group project would focus on a specific local business model and discuss the broader strcuture, its successes, challenges, limitations and proposals. Deep knowledge of context would be rewarded

Assessment Structure

Assessment Components (includes both continuous and summative assessment)

No.	Component	ILO	Related PLO or Accreditation	Weightage	Description of Assessment Component	Team/Individual	Rubrics	Level of Understanding
1	Continuous Assessment (CA): Class Participation()	1,2,3	CCT, C	30		Individual	Holistic	Extended Abstract
2	Continuous Assessment (CA): Presentation(Group Project - mini-presentation)	1,2,3	PSDM, PE, C, TIS	10		Team	Holistic	Extended Abstract
3	Continuous Assessment (CA): Presentation(Group Project - Final Presentation.)	1,2,3	PSDM, PE, C, TIS	30		Team	Holistic	Extended Abstract
4	Continuous Assessment (CA): Oral Test(Interview with Instructor regarding group presentation)	1,2,3	C	30		Individual	Holistic	Extended Abstract

Description of Assessment Components (if applicable)

Class Participation
Attendance will be recorded at the start of each class and count towards 10% of the grade. Class participation will account for 20% of the final grade. Each class will require active participation and advance preparation. The students will be expected to have critically read the cases and any pre-class readings. Students will be called in (either through warm or cold calling method), and their cumulative contribution will count towards the class participation grade

Group Project - Mini Presentation
Students will be assessed on a short presentation and short write-up on defining a class project, the proposed plan, and clearly articulating individual responsibilities of groupmates. Peer review of your group mates will be used in the evaluation.

Group Project - Final Presentation
Students will be assessed based on an in-class presentation of the group project. Emphasis will be placed on clear framing and articulation of key arguments, conciseness, and answering in-class follow-up questions from peers

and the instructor. Peer review of your group mates will be used in the evaluation.

Oral Test
Students will be assessed on displaying ownership of the overall project and answering project-related questions from the instructor

Formative Feedback

1. A discussion group will be set up for students to communicate with each other and with the instructor. Any emails from students to the instructor will be directed here for discussion unless they are confidential.
2. You will receive written feedback on your group project and instructor interviews. A grading rubric will be provided a few weeks before each component is due.
3. Class attendance grades will be updated soon after each class for students to keep track.

NTU Graduate Attributes/Competency Mapping

This course intends to develop the following graduate attributes and competencies (maximum 5 most relevant)

Attributes/Competency	Level
Critical Thinking	Basic
Project Management	Basic
Care for Society	Intermediate
Care for Environment	Intermediate

Course Policy

Policy (Academic Integrity)

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values. As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. On the use of technological tools (such as Generative AI tools), different courses / assignments have different intended learning outcomes. Students should refer to the specific assignment instructions on their use and requirements and/or consult your instructors on how you can use these tools to help your learning. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Policy (General)

You are expected to complete all assigned readings, activities, assignments, attend all classes punctually and complete all scheduled assignments by due dates. You are expected to take responsibility to follow up with assignments and course related announcements. You are expected to participate in all project critiques, class and case discussions and activities.

Policy (Absenteeism)

In-class activities make up a significant portion of your course grade. Absence from class without a valid reason will affect your participation grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. There will be no make-up opportunities for in-class activities.

Policy (Others, if applicable)

Technical Skills To Be Developed

All skills to be developed for this course:

Sustainability Management
Business Model Innovation
Systems Thinking Application
Decarbonisation Consulting
Design Sustainability and Ethics Management
Enterprise Architecture
Food Production Management
Carbon Credit Project Development
Crisis Management
Business Presentation Delivery
Business Negotiation
Financial Modelling
Workplace Optimisation
Solutioning
Audit Management
Market Evaluation

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