



The Lee Kong Chian School of Business
Academic Year 2024/25
Term I

MGMT 319 MANAGEMENT OF TECHNOLOGY AND INNOVATION

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COURSE DESCRIPTION

This course will not transform you into an innovator, but will help you hone your skills in managing the product development and innovation process. This course will familiarise you with how organisations manage the process of innovation and how they develop successful products, services and systems. The course is most valuable for those who want to work in industrial firms or do consulting work.

This will be an SMUX course. At the moment, the client will be a well-established landlord with physical retail spaces at transport nodes in Singapore. This is subject to confirmation.

LEARNING OBJECTIVES

By the end of this course, students will have a good understanding of the process of product development and innovation and thus

- Know where and how to find ideas for innovation
- Understand the differences between product innovation and business model innovation
- Have a toolbox for analysing and shaping a strategy for innovation
- Understand different types of organisation to promote innovation
- Have a deeper understanding of how to improve the productivity of Research and Development
- Improve the process of development of new products and services in order to gain time and improve the quality of the end product
- Understand the challenges of managing projects that face a lot of uncertainty
- Understand how to manage in networks of companies that together provide an innovation

PRE-REQUISITE/ CO-REQUISITE/ MUTUALLY EXCLUSIVE COURSE(S)

Please refer to the Course Catalogue on OASIS for the most updated list of pre-requisites / co-requisites for this particular course. Do note that if this course has a co-requisite, it means that the course has to be taken together with another course. Dropping one course during BOSS bidding would result in both courses being dropped at the same time.

ASSESSMENT METHODS

Assessment (maximum marks attained) will tentatively be as follows:

Class participation – attendance	5%
Class participation – in-class contributions (questions/comments/answers)	15%
Individual programming assignment (During one class; NO make-up)	1%
Unscheduled Quizzes – 4 or 4 best (be prepared at any time!)	20-30%
Course Project Pulse Checks	4%
Course Project Final Presentation/Documents	45-55%

INSTRUCTIONAL METHODS AND EXPECTATIONS

Method of instruction

Technology and innovation touch on a wide array of skills. Understanding the nature of technology and innovation is key to formulating strategies to manage them. In the first few classes, we will spend time examining several examples of how technology and innovations develop, to derive from these examples some fundamental observations. Later, we'll examine other examples, papers, and cases to enrich our understanding of how these ought to be managed.

Class participation

Intelligent questions, discussion and debates are expected of each student over the course of the academic term. Students are expected to volunteer to present their quality work in-class, and give constructive feedback to others presenting their work. Teaching Assistants are instructed to record the frequency of participation to ascertain even participation in every class, but it is the quality of the contribution (not assessed by Teaching Assistants) that counts.

Criteria for class participation	Below expectation	Above expectation (e.g., 4 out of 5)
Attendance	Miss \geq 1 class with no valid reason	Present in every class
Speaking up	Respond to or ask questions infrequently over the entire term	Insightfully respond to or asking questions every class and in field visits
Offer quality feedback to others	Rarely offer constructive, quality feedback to others presenting	Often offer constructive, quality feedback to others presenting their in-class work
Presentations	Relatively few insights, or that the insights collectively span a narrow scope of possible insights. Insights not orderly categorized & presented, or examples not matching points made.	Many insights that collectively span a broad scope of possible insights. Insights orderly categorized & presented. Examples match points made.

Individual programming assignment

This is an individual assignment to be completed in class. Pass (full marks)/fail (no marks) basis. No make-up is allowed. Students will be asked to programme a series of small light bulbs to create a dynamic pattern.

In-class presentations

Grouping will be randomized. Submission is by one student of each group on elearn, with the last four alphanumeric characters of each Registrar's Office numbers (NO NAMES) clearly typed on each 'page'. Those submissions presented in class will be shared with the rest of the class. Presentation is first-come, first-served, with priority given to groups where no one has previously presented. The aim is to have at least 2 presentations per in-class exercise.

Group Project

You can undertake this assignment by evaluating the feasibility of business ideas provided by, or to develop new ones along the guideline of our project client, which is likely to be a service-oriented company.

Several sessions would be ear-marked for interaction with the project client, and for individual teams to receive feedback from their progress and plans of action. A maximum of 4% is allocated for professional conduct, adequate continuous progress and intelligent questions asked during pulse-check sessions.

9 of the marks for this project will be based on evaluation by other students in the course. 18 marks are allocated to how convincing the potential business opportunity is, especially in view of current technologies. 18 marks are allocated to the thoughtful presentation of relevant details in the project, depending on the specifications of the project. Penalty in marks awarded for late submission will be levied.

Groups are self-formed and can have no more than 7 students each. Depending on the preference of the class, students can also be assigned into groups. Each project will first be graded, independent of the number of students in the group with our project sponsor's inputs, and then this size-independent mark will be adjusted according to the following:

Members in a self-formed group	Group size-independent marks to be adjusted by
2	+3 points
3	+0.5 point
4	0 point
5	- 0.5 points
6	-2 points
7	-3 points

To facilitate the formation of groups, please do list down your broad interests below and whether your group are interested to take on additional members in this google document (please sign out of your google username, proceed to elearn.smu.edu.sg without logging in, and click on the Google Drive link to sign in using your SMU credentials, otherwise you will not be able to edit this document):

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CONSULTATIONS AND TEACHING ASSISTANTS

CLASS TIMINGS

Times	Venue	Teaching Assistant
Mon GI	LKCSB	To be announced

OFFICE HOURS 30 mins right after each class

READINGS

Will provide.

UNIVERSITY POLICIES

Academic Integrity

All acts of academic dishonesty (including, but not limited to, plagiarism, cheating, fabrication, facilitation of acts of academic dishonesty by others, unauthorized possession of exam questions, or tampering with the academic work of other students) are serious offences.

All work (whether oral or written) submitted for purposes of assessment must be the student's own work. Penalties for violation of the policy range from zero marks for the component assessment to expulsion, depending on the nature of the offense.

When in doubt, students should consult the instructors of the course. Details on the SMU Code of Academic Integrity may be accessed at <https://smu.sharepoint.com/sites/oasis/SitePages/DOS-WKLSWC/UCSC.aspx>.

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Accessibility

SMU strives to make learning experiences accessible for all. If you anticipate or experience physical or academic barriers due to disability, please let me know immediately. You are also welcome to contact the university's disability services team if you have questions or concerns about academic provisions: DSS@smu.edu.sg. Please be aware that the accessible tables in our seminar room should remain available for students who require them.

Digital Readiness for Teaching and Learning (DRTL)

As part of emergency preparedness, instructors may conduct lessons online via the Zoom platform during the term, to prepare students for online learning. During an actual emergency, students will be notified to access the Zoom platform for their online lessons. The class schedule will mirror the current face-to-face class timetable unless otherwise stated.

WEEKLY SCHEDULE (TENTATIVE)

Week	Topics and Broad Questions	Student Activities
1: 19 Aug	Intro to the Course Innovations in song-writing, organising for innovations	Course overview In-class activity
2: 26 Aug	Idea generation Experience innovation up close	In-class activity Quiz for Week 1
3: 2 Sep	Introduction to Project by Client	
4: 9 Sep	Adoption of new technological innovations, issues on social responsibility & sustainability	Quiz for Week 2
5: 16 Sep	Digital automation (Science Centre)	In-class programming exercise
6: 23 Sep	First group project feedback session, with Project Sponsor	Upload files in advance
7: 30 Sep	Intro to artificial intelligence, & ethical questions on its use	Quiz for Week 4
8: 7 Oct	Mid-term Break	
9: 14 Oct	Second group project feedback session, with Project Sponsor	Upload files in advance
10: 21 Oct	You in the driver's seat: making decisions in a technology-based business	Quiz for Week 7 Simulation game in class
11: 28 Oct	Managing intellectual property: (utility) patents	Quiz for Week 10
12: 4 Nov	Managing intellectual property continued: trademarks & others Patterns of technological innovation/evolution	Quiz for Week 11
13: 11 Nov	Group Project Presentation	Upload files in advance
14: 18 Nov	No class	