



ISOM 1380 Technology and Innovation: Social and Business Perspectives

Mondays /Wednesdays 9:00AM - 10:20AM
Venue: Room 5583 (Lift 29/30)

COURSE INSTRUCTOR

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COURSE OVERVIEW

The development of new technology and innovation plays an increasingly important role in enhancing the competitiveness of countries, firms and individuals. This course will provide an overview of the process involved in developing and adopting new technology and innovation from both social and business perspectives. Students taking this course will, in addition to learning the fundamentals of technology and innovation strategy and management, obtain related knowledge on how social, cultural, economic, and political factors can impact the development and adoption of new technology and innovation.

As innovation refers to the full process from idea generation to the successful commercial launch of the product, people seeking for successful career development should have good understanding of the technology and innovation management both from the technical perspectives and from the social and business perspectives. In this context, this course is useful for students from every school.

COURSE GRADING POLICY

The grade for the course will be based on the following weight:

DISTRIBUTION	%
Class Participation	10
Mid-Term Exam	20
Group Project	30
- Presentation (10)	
- Report (20)	
Final Exam	40

CLASS PARTICIPATION:

Participation will be judged based on your contribution to class discussions and participation on Canvas (e.g. on the discussion questions). Attendance in class **will not** be used as a criteria for determining class participation. Points would depend on the quality of the comments made and the value added to the discussion.

MID-TERM EXAM:

The mid-term exam (**Mar 13, TBC**) will be based on the material that has been covered till the date of the mid-term exam. The exam will consist of questions which are a combination of multiple choice, true/false and essay type questions. The exam will be closed book.

GROUP PROJECT:

Students will work in groups consisting of ~6 students per group. The students will take the role of ‘technology analysts’ who will study the innovation process of a company or competitors. Each individual group is expected to meet with the instructor to get pre-approval for their project. The project will provide an opportunity to apply the concepts learnt in class. Each group is expected to do a presentation of their project and submit a report. More detail about the project appears later. Peer evaluation may be done for groups that request for it. Students are encouraged to form groups with students from other schools/departments.

FINAL EXAM:

The exam will be based on the material covered in the course. The exam will consist of questions which are a combination of multiple choice, true/false, essay type questions and short case analysis. The exam will be closed book.

COURSE MATERIAL

- Short cases/handouts etc. to be provided in class.

POLICY ON GENERATIVE-AI USAGE:

Generative AI (e.g., ChatGPT) can be used in this course for all the works submitted that count towards the grade except the examinations. But you must properly cite them. If they are detected to be AI generated material and are not cited at all, this is deemed as plagiarism and will be subjected to the rules and regulations of HKUST on academic integrity.

CLASSROOM POLICIES

1. Please be settled in class a couple of minutes before the start of each class.
2. Please mute all mobile phones before coming to class.
3. No usage of Notebooks computers/iPads in class for purposes which are not class related

COURSE SCHEDULE (TENTATIVE):

#	Date	Topic	Project
1	Jan 31 (W)	1.1 Introduction to Course	
2	Feb 5 (M)	1.2 Innovation Evolution and S-Curves	
3	Feb 7 (W)	1.2 Innovation Evolution and S-Curves	
4	Feb 14 (W)	1.3 Patterns of Innovation in Different Industries	
5	Feb 19 (M)	2.1 Innovation Adoption	
6	Feb 21 (W)	2.2 Technology Ethics	
7	Feb 26 (M)	2.3 Innovation and the Impact on Labor Market	Form groups
8	Feb 28 (W)	2.4.1 Protecting Innovation: Patents	
9	Mar 4 (M)	2.4.2 Protecting Innovation: Copyrights, Trademarks and Trade-secrets	
10	Mar 6 (W)	2.5 Promoting Innovation: The Role of Public Policy	
11	Mar 11 (M)	3.1 Organizing for Innovation/ Review for mid-term examination	Get instructor's approval for topics
	Mar 13 (W)	MID TERM EXAM (TBC)	
12	Mar 18 (M)	3.2 Disruptive Innovations	
13	Mar 20 (W)	3.3 Analyzing Innovation Capabilities	
14	Mar 25 (M)	3.4 Finding Innovative Ideas	
15	Mar 27 (W)	3.5 Developing Innovations	
16	Apr 8 (M)	3.6 Agile Development -Scrum	
17	Apr 10 (W)	3.7 Lead User Innovation	
18	Apr 15 (M)	3.8 Open Innovation	
19	Apr 17 (W)	3.8 Crowdsourcing	
20	Apr 22 (M)	Project consultation	
21	Apr 24 (W)	PROJECT PRESENTATIONS	
22	Apr 29 (M)	PROJECT PRESENTATIONS	
23	May 6 (M)	PROJECT PRESENTATIONS	
24	May 8 (W)	Review for final examination	Project report due
	TBA	FINAL EXAM	

GROUP PROJECT

Project Key Dates:

Group formation	Feb 26
Topic selection (need to get pre-approval from instructor)	Mar 11
Project consultation	Feb 26 – May 8
Project presentation dates	Apr 24, Apr 29, May 6
Project report due	May 8

Students will work in groups consisting of ~6 students per group. Students are encouraged to form groups with students from other schools/departments. The students will take the role of ‘technology analysts’ who will study the **innovation process of a company**. The choice of the company is left to the groups. Each individual group is expected to meet with the instructor to get pre-approval for their project. The project will provide an opportunity to apply the concepts learnt in class to a real-life project. Each group is expected to submit a report.

Here are some guidelines for the report and presentation:

Report (20%): The content of the report should be based on innovative initiatives of the company, and independent analysis. Knowledge obtained in the class should be properly incorporated into the report. In addition, the report can include any other detail the groups feels relevant. The approximate length of the report can be around 12-15 pages (12-point font, 1.5 spacing), excluding figures and appendix.

Assessment of the report will be based on

- i) Linkage to course material
- ii) Thoroughness in covering different aspects of innovation at the chosen company
- iii) Usage of concrete examples and explanations to support
- iv) Providing appropriate citations/references

Presentation (10%): Each group will do a presentation (exact time allocated for presentation to be announced later) of their project. There will be Q&A. All students are expected to attend the class even if their groups or they are not presenting.

Assessment of the presentation will be based on

- i) Linkage to course material
- ii) Highlighting the more interesting aspects of how innovation is managed at the chosen company
- iii) Usage of concrete examples and clarity of explanations
- iv) Presentation style

Peer Evaluation: A peer evaluation may be conducted at the end of the course to assess the contributions of the team members working in the group

These are some of suggested issues you can look at for the project:

- Brief introduction of company & products
- What are the innovation capabilities of the company?
- How does the company foster innovation?
 - E.g. How is the company organized to encourage innovation? What incentives does it provide to its employees to innovate?
- What are the key processes the company follows to develop innovations?
 - E.g. What kind market research does the company do to develop innovations? What is the product development process? How does the company minimize risks in product development? How does the company protect IP?
- What steps does the company take to get innovative ideas from outside the boundary of the company?
 - E.g. Does the company engage in Lead-user development? Does the company engage in Open Innovation or Crowd-sourcing? Does it actively collaborate with other companies?