



ISOM 1380 Technology and Innovation: Social and Business Perspectives

Wednesday / Friday 3:00PM - 4:20PM
Venue: LSK 1011

COURSE INSTRUCTOR

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(Use your ITSC account to login.)

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 - Presentation (10) - Report (20) | 30 |
| 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 (**Oct 12, 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.

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 | Sep 2 (F) | Introduction to Course | |
| 2 | Sep 7 (W) | Innovation Evolution and S-Curves | |
| 3 | Sep 9 (F) | Patterns of Innovation in Different Industries | |
| 4 | Sep 14 (W) | Innovation Adoption | |
| 5 | Sep 16 (F) | Technology Ethics | |
| 6 | Sep 21 (W) | Innovation and the Impact on Labor Market | Form groups |
| 7 | Sep 23 (F) | Protecting Innovation: Patents | |
| 8 | Sep 28 (W) | Protecting Innovation: Copyrights, Trademarks and Trade-secrets | |
| 9 | Sep 30 (F) | Promoting Innovation: The Role of Public Policy | |
| 10 | Oct 5 (W) | Organizing for Innovation | Get instructor's approval for topics |
| 11 | Oct 7 (F) | Review for mid-term examination | |
| | Oct 12 (W) | MID TERM EXAM (TBC) | |
| 12 | Oct 14 (F) | Disruptive Innovations | |
| 13 | Oct 19 (W) | Analyzing Innovation Capabilities | |
| 14 | Oct 21 (F) | Finding Innovative Ideas | |
| 15 | Oct 26 (W) | Developing Innovations | |
| 16 | Oct 28 (F) | Agile Development -Scrum | |
| 17 | Nov 2 (W) | Lead User Innovation | |
| 18 | Nov 4 (F) | Open Innovation | |
| 19 | Nov 9 (W) | Crowdsourcing | |
| 20 | Nov 11 (F) | Project consultation | |
| 21 | Nov 16 (W) | PROJECT PRESENTATIONS | |
| 22 | Nov 18 (F) | PROJECT PRESENTATIONS | |
| 23 | Nov 23 (W) | PROJECT PRESENTATIONS | |
| 24 | Nov 25 (F) | Review for final examination | Project report due |
| | TBA | FINAL EXAM | |

GROUP PROJECT

Project Key Dates:

| | |
|--|------------------------|
| Group formation | Sep 21 |
| Topic selection (need to get pre-approval from instructor) | Oct 5 |
| Project consultation | Sep 21 – Nov 25 |
| Project presentation dates | Nov 16, Nov 18, Nov 23 |
| Project report due | Nov 25 |

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?