

COURSE OUTLINE

TR 3008 – Technological Innovation

Note: This course outline is tentative and the details may change.

Session: Semester II, 2017-2018
Modular Credits: 4 MCs
Classroom hours per week: 3
Number of hours of preparation per week: 3 -5

INSTRUCTOR

Dr. Ng Weiyi/Dr. Wang Yanbo

COURSE OVERVIEW

This course aims to equip students with a strong conceptual foundation for understanding the dynamic process of technological innovation. Students will be introduced to the importance of technological innovation as a driver for value creation and economic growth. The dynamics of technological change will be analyzed through concepts such as technology life-cycles, dominant design, network externalities, and first-mover advantage. The key technology commercialization processes through which an innovative idea is transformed into a successful product or service in the marketplace will be studied, and the key organizational/management factors and socio-economic/competitive environmental factors that influence the effectiveness of these processes will be highlighted.

Students will be exposed to the challenges in technological innovation, including formulating innovation strategy, coordinating collaboration, protecting innovation, and managing teams. Technological innovation within existing organizations as well as through new start-ups will be examined. Case studies of real world examples will be used for discussion.

Who should take this course?

This course is designed for undergraduate students, to be taken as part of the *Minor in Technopreneurship* program offered by the NUS Business School. There are no formal prerequisites for this course.

This course is a prerequisite for the *New Venture Creation* course.

COURSE MATERIALS

Cases and Journal Articles will be made available through IVLE.

ASSESSMENT

Attendance (10%):

Missing class will affect your grade and more importantly your own and your classmates' experience in the class. Attendance will be recorded every week after the first class. Absences will only be excused for valid reasons such as being certified medically unfit by a doctor, experiencing a death in the immediate family, involved in a serious accident (note that this does not include sports trainings, cultural events, etc.). If you are absent for a valid reason, please

email the instructor in advance of the course meeting and provide documentary evidence in the subsequent class.

Individual Contribution (20%):

Participation (10%): For each class, each student is expected to prepare the readings and case studies, listen closely to class discussion, and share their ideas. In particular, students are expected to provide thoughtful and constructive comments in response to case and project presentations by other groups.

Note that I may provide some supplemental readings that can be read at a later date. They are made available so that you can deepen the understanding of the corresponding topic at a time of your choosing. These materials will not be covered on assessments directly, but may be useful in preparation for any assignments if you are uncertain on a given topic.

Individual Assignments (10%): There will be two individual assignments in the semester. Details will be provided in the course.

Group Work (40%):

Students will be divided into learning teams (about 4-6 students per team) and will work together throughout the semester.

Team Case Presentation (10%): Each team will present a case to the class during the course. Details will be announced in the course.

Team Project (30%): Details regarding the team project will be provided during the class, including specific deadlines throughout the course. Each team will be graded on a written report, presentation slides, and verbal discussion. Each team will get an overall score for the team project, and the same grade will be applied to all the students within the team.

Final Case Essay (30%):

The final case essay will be a take-home, length limited case study.

Answer all parts of each question. The final assignment is an **open-book, case-study** test.

CLASS ADMINISTRATION

Ground Rules:

- Please display your *name card* in the front of your desk. If you forget your name card, please make a temporary name card for that session.
- Please silence your *cell-phone* before each course session.
- Finally, and most importantly, we have a **no screen** policy for the class. As the class is mostly case-based, **we ask that you be respectful to your fellow students during case discussions.**

Missed Class Sessions:

As noted above, attendance will be recorded every week after the first class. Absences will only be excused for valid reasons such as being certified medically unfit by a doctor, experiencing a death in the immediate family, involved in a serious accident (note that this does not include sports trainings, cultural events, etc.). If you are absent for a valid reason, please email the

instructor in advance of the course meeting and provide documentary evidence in the subsequent class.

Please note that if you miss a course session for which your group is presenting, you will receive no points for the in-class portion.

Assignments:

Specific deadlines for assignments will be announced in the course. Please note that ***LATE SUBMISSIONS WILL NOT BE GRADED*** and that ***SEVERE PENALTIES EXIST FOR PLAGIARISM***. If you have any questions regarding these policies please ask the instructor in advance of potential issues. The instructor is available during the course, office hours, and via email.

Instructor Email:

In order to expedite a response from the instructor, please start the email subject line with “TR2202”.

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:

<http://www.nus.edu.sg/registrar/adminpolicy/acceptance.html#NUSCodeofStudentConduct>

Online Module on Plagiarism:

<http://emodule.nus.edu.sg/ac/>

COURSE SCHEDULE

Week 1

Introduction & Course Overview

Week 2 Sources of Innovation

Week 3 Types of Innovation / Technology S-Curves

Deadline: Group Formation by Wed

Week 4 Standards / Design Dominance

Week 5 Entry Timing

Week 6 Defining Strategic Direction

Deadline: Individual Assignment

Recess Week

Week 7 Choosing Innovation Projects

Deadline: “Elevator” Pitches

Week 8 Exploration-Exploitation

Week 9 Protecting Innovation

Week 10 Organizing for Innovation

Week 11 Team Project Presentations

Deadline: All groups submit report

Week 12 Team Project Presentations

Week 13 Technological Change and Incumbents; Course Wrap Up

Reading Week

Final Exam: To be announced

Assigned course readings and case assignments will be posted in IVLE for each session.