NATIONAL UNIVERSITY OF SINGAPORE
NUS Business School
Department of Marketing

<u>TR3001 New Product Development</u>

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<u>Session</u> : Semester I 2020-2021

AIMS & OBJECTIVES
This is an experiential and entrepreneurial course that focuses on the conceptualization, design and development of new products that meet market demand. It integrates product planning, marketing, design and manufacturing functions for startups or SMEs.

Intensive workshops and field visits are included to enrich the field experience. The final presentation will be to the officers in charge of NUS Enterprise Practicum Grant.

This course is designed for students taking Minor in Technopreneurship, NOC (Singapore), Minor in Management of Technology or Double Major in Management (Technology); and undergraduates who are interested to learn and acquire the skills in new product development

At the end of the module, the students will:
a) understand the product development process;
b) learn to manage multi-disciplinary approach to new product creation;
c) have confidence & competence in developing a new product.

The key deliverables at the end of the course are:
a) a patentable new product idea;
b) comprehensive & realistic product development plan;
c) conceptual or functional prototype.

Note:
1) The course instructor will work with selected teams after the end of course to assist in the commercialization of the product ideas developed during the course.

2) Past course participants have filed patents and set up companies using the product idea and product plan developed during the course; tapping on funding from NUS and EnterpriseSingapore. Startups with ideas from TR3001 include Trakomatic, TinyMOS and GUSH.

3) Prototyping fund is available via the NUS Enterprise Practicum Grant ($10K).

PREQUISITIES

There are **no pre-requisites** for this course.

<mark>Do note that this is a level 3 module, and students should have good knowledge of marketing and accounting.</mark>

TEACHING MODES

Lecture, videos and case studies. Students are expected to read the assigned chapters and papers before class and to participate actively in class discussions.

Students are to post their views, comments and feedback on IVLE forum.

SCHEDULE

5x 3-hr class meetings (Thu, 6pm – 9pm)

2x field visit to NUS startup ecosystem (Blk71 or NUS Hanger)

2x full-day workshop on Saturdays, 9am – 5pm
Each workshop will have 1 new product presentation from founders of startups by TR3001 alumnus.

ASSESSMENT

a) Class participation   20%   (Individual)

b) Projects

     Project 1 (New Product Idea)   20%   (Individual)

     Project 2 (Product Specs/Brochure)   20%   (Group)

     Project 3 (Product Development Plan)   15%   (Group)

     Project 4 (NUS Enterprise Presentation) 15%   (Group)

c) Insights Paper   10%   (Individual)

There is **no final examination** for this subject.

TEXTBOOK

Required Text: Ulrich, Karl T. and Steven D. Eppinger,
                    Product Design and Development, <mark>5th edition (2012),</mark>
                    Irwin/McGraw-Hill

References: Crawford, C. Merle and C. Anthony Di Benedetto,
                    New Product Management, 7th edition (2003),
                    Irwin/McGraw-Hill

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/

SYLLABUS
Note: Cases & exercises may change according to student composition and preferences.

Class	Date	Topic	Remarks
1	16 Jan (Thu)	**Introduction** **Design Thinking Process**	**Exercise: Design Thinking Methodology** Online Exercise: Empathy & Journey Map
2	23 Jan (Thu)	**Opportunities Generation & Evaluation**	**Exercise: Evaluate new product ideas that are sizeable, sustainable and scalable.**
3	30 Jan (Thu)	**Crowdfunding**	
4	6 Feb (Thu)	**Project 1: Pitching / Report**	**Team formation**
5,6,7	**8 Feb (Sat)**	**Lean Methodology:** **Value Proposition Design: Customer Needs Product Specifications Concept Generation, Selection and Testing** **Business Model Design; Architecture/Platform Design** **Intellectual Properties**	**Full-Day Workshop # 1:** **Value Proposition Canvas Exercise** **Business Model Design Exercise** **Invention Disclosure Exercise**
8	20 Feb (Thu)	**Visit 1: Guest Speakers**	**Hanger / BLOCK 71**
9	27 Feb (Thu)	**Project 2: Storyboard Presentation**	**Project 2 Report Due**

10,11,12	29 Feb (Sat)	Quality System & Product Certifications Design For Manufacturing Product Development Economics Project Management	Full-Day Workshop # 2 Exercise: Quality System Exercise: Bill of Materials. Exercise: Scenarios Analysis on Financials. Exercise: Project Management Tools.
13	26 Mar	Project 3 Submission Project 4 Presentation	Groups present to NUS Enterprise for potential practicum grant. Full product development report to be submitted the day before presentation.

*Note: Field visits may change depending on availability.

Past guest speakers are TR3001 alumnus & co-founders of startup companies including Lim Qingru (Zopim), Grey Chen (TinyMos), Allen Lin (Trakomatic), Dustin (uHoo), Kenneth Lou (Novelsys), Gordon Ng (Talenox) and Lester/Ryan (Gush), Sebastian (Haulio).