

Course Outline for ISDN/ENTR 3360

From Product Innovations to Successful Technology Startups

Course Descriptions

This project-based course is intended for student teams who want to seriously pursue the exciting venture of technology startups. We will work with students to identify critical steps and important milestones associated with each step in order to develop a sound business plan for a technology startup. The course will provide a high-level overview of the many important aspects of startup process, including design for manufacturing, supply chain and logistics, intellectual property and business model design, and more. Company visits, field trips, trade shows and deep interactions with serial entrepreneurs will be arranged. Student teams with good performance in the course will be mentored beyond the course in their venture realization and will be connected to incubation/ acceleration programs in the Bay Area.

Course Objectives

1. To cultivate top students working closely toward a common goal in a hardware product commercialization
2. To iterate through 'step-by-step' the lean start-up product and business development cycle
3. To connect students with entrepreneurship teams in different stages of their development to learn from their journey and experience

Learning Outcomes

- Ability to identify the different phases involved in building a technology start-up
- Investigation of different successful case studies and learn directly from the entrepreneurs
- Ability to explore business opportunities given a technology innovation
- Exploration of supply chain, manufacturing networks and sales channel connections
- Understanding of IP arrangements and funding opportunities to support the venture

Instructor

Prof. Winnie Leung of HKUST, eeewswleung@ust.hk

Reference Books

- Bill Aulet, Disciplined Entrepreneurship: 24 Steps to Successful Startup
- Eric Ries, Lean Startup
- Brent Schlender and Rick Tetzeli, Becoming Steve Jobs
- Jeffrey Liker, the Toyota Way
- Peter Thiel, From Zero to One
- Clayton Christensen, The Innovator's Dilemma

Assessments

- Project reviews 30% (15% x 2)
- Field Trip Report (10%)
- Final Project Report and Presentation 40%
- Participation & Reflections 20%

Week	Lecture/ Workshop Topic	Lecture/ Workshop Topic
1	Course Opening	Lean Startup
	Design Thinking Day 1	User Interview and Observation
	Design Thinking Day 2	Problem Statements
	Design Thinking Day 3	Ideas Testing (Co-Design)
	Design Thinking Day 4	Refined Problem Statements
2	System Design Principles	Functional Analysis
	Agile Product Development	Guest Speaker
	Industry Design	Guest Speaker
3	Generation 1 Prototype Development – Midterm Design Review	
	DFX, DFM, DFA	Guest Speaker
	Project and Product Lifecycle	Design for Sustainability
4	UI/UX	Go-Design Workshop
	Marketing and Promotion	
	Supply Chain: Sourcing and Integration	GBA Supply Chain
5	Business Model Design Day 1	Business Canvas Workshop
	Business Model Design Day 2	Technical Advising
	IP and Regulatory Considerations	Guest Speaker
6	Generation 2 Prototype Development – Critical Design Review Exhibition Roadshow and Pitch	