MGMT 267: ENTREPRENEURSHIP & TECHNOLOGY INNOVATION (0.5CU)

FALL 2018 Q2

COURSE OVERVIEW AND PROCEDURES

Building a new firm around technology innovation can mean different choices and challenges for entrepreneurs. The goals and outcomes of technology entrepreneurship vary as much as the innovations that inspire them. This course will take you through the questions entrepreneurs should address as they go from a technology innovation idea to founding and funding a tech startup. The course will appeal to individuals who have a desire to become technology entrepreneurs at some stage of their career, as well as others in the startup ecosystem such as investors, advisors, other professional service providers, etc. This class serves as both a stand-alone and a preparatory course and will complement other classes such as a more in-depth venture implementation class.

You are expected to come to class well prepared to discuss the reading materials. Required readings are found in the bulk packet which should be distributed to you electronically and through links on the class Canvas page. Class attendance and active class participation are essential to the learning goals in this course. Use of laptops, tablets, and smartphones distract from both yours and your fellow students' learning experiences in class; as such, I expect you to refrain from using your communications devices during class. To ensure that the class is highly interactive, I ask that you bring your name card to each and every class meeting. I will actively use the class Canvas to post material and manage the class.

TIME & LOCATION
Tuesdays & Thursdays
1:30pm - 3:00pm
Q2 Room: JMHH F50

INSTRUCTOR
Jacqueline 'Jax' Kirtley
Assistant Professor of Entrepreneurship
Steinberg Hall – Dietrich Hall 2033
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(215) 898-6502
Office Hours arranged by individual appointment

COURSE GRADING

Individual Work

35%   Active Class Participation
25%   Technology Assessment (5 pages)
 5%   Battledecks Presentation

Team Project

 5%   Statement of Technology & Value Proposition (2 pages)
30%   Advisory Board Presentation, Recorded PPT (10 minutes)

TECHNOLOGY ASSESSMENT, INDIVIDUAL PROJECT

A technology invention is a necessary but not sufficient step toward technology entrepreneurship and value creation. For your individual project, you will select a technology at the core of an existing firm (entrepreneurial firm or established incumbent firm) and assess the role of that technology in value creation for the focal firm, its customers, and the technology users. Your write-up should explain the basic science and engineering at the core of the technology (in as plain language as you can) and describe how it creates value both technologically and financially. Be sure to consider who the focal firm's customer is (who pays them) and who any other users or stakeholders are (who else gains value from this technology). The deliverable for this project is a 5 page analysis of the technology and how the focal firm creates and captures value from it.

Papers should be 5 pages in 12pt font with 1" margins. You may add up to 2 pages of exhibits, if needed. References and citations should be included, but are not included in the page count.

ENTREPRENEURIAL TECHNOLOGY FIRM ADVISORY BOARD PRESENTATION, TEAM PROJECT

Teams of 3-4 students will submit an advisory board presentation for an original entrepreneurial technology firm. You will select a technology on which to build an entrepreneurial firm. In the first deliverable for this project, you will detail the technology and a description of the value it creates to some identified set of customers and users. This *Statement of Technology & Value Proposition* is a short summary that will identify the team members and topic, as well as allow me to offer you feedback at the beginning of your project. During the week after this, teams will be able to schedule a 30 minute meeting with me to discuss your project idea.

The main deliverable for this project is an *Advisory Board Presentation*. In the time allotted for this project, an entrepreneurial technology firm would be unlikely to be ready to pitch themselves to investors, as such, your deliverable will not be a pitch deck but an Advisory Board presentation proposing the venture, the questions that the team should address next, and the steps to take to bring the firm closer to successful completion of its goal. Your team will submit a 10 minute audio-recorded PowerPoint presentation through Canvas (instructions on how to do this will be given in class). You will not be making this presentation in class. After your team presentations have been submitted, each student will make a short, individual presentation as part of Battledecks on the final day.

Detailed information will be provided in class on each of these steps. All class deliverables will be submitted through Canvas before class begins on the due date listed in the syllabus.

MGMT 267: ENTREPRENEURSHIP & TECHNOLOGY INNOVATION COURSE SCHEDULE

OVERVIEW OF CALENDAR

Session		Q2	Topic
1	Thurs	Oct 18	Introduction: What is Technology Entrepreneurship?
2	Tues	Oct 23	Inventions & Entrepreneurs: Do you have a Feature, a Product, a Company, or a Venture Scale Startup?
3	Thurs	Oct 25	IP & Profiting from New Technology
	Tues	*Oct 30*	*Working Session - no class held* ***Assignment Due: Technology Assessment***
4	Thurs	Nov 1	R&D vs Development for Commercialization
5	Tues	Nov 6	Founding into a Platform or Ecosystem
6	Thurs	Nov 8	Advisors, Mentors, & Boards: Who to ask for help and when ***Assignment Due: Statement of Technology & Value Proposition***
7	Tues	Nov 13	Techno Economics: Do the numbers say stop or go?
8	Thurs	Nov 15	Pitching Technology Firms
9	Tues	Nov 20	Financing New Ventures: VC & Angel Equity Investors
	Thurs	*Nov 22*	*Thanksgiving Break*
10	Tues	Nov 27	Financing New Ventures: Alternative Funding Sources
11	Thurs	Nov 29	Pitching Technology in R&D: Under Development or Under the Table?
12	Tues	Dec 4	Organizational Design, Culture, & Hiring
13	Thurs	Dec 6	Battledecks & Class Wrap-Up ***Assignment Due: Advisory Board Presentation***

CLASS SESSIONS DETAIL

SESSION 1 - INTRODUCTION: WHAT IS TECHNOLOGY ENTREPRENEURSHIP?

READINGS

- Questions Every Entrepreneur Must Answer, HBR 1997

STUDY QUESTIONS

What distinguishes entrepreneurship from other types of business? What makes a venture "technology entrepreneurship"? What entrepreneurial technology firms do you think are doing things well or poorly?

SESSION 2 - INVENTIONS & ENTREPRENEURS: DO YOU HAVE A FEATURE, A PRODUCT, A COMPANY, OR A VENTURE SCALE STARTUP?

READINGS

- The Televisionary, Malcolm Gladwell in The New Yorker
  - https://www.newyorker.com/magazine/2002/05/27/the-televisionary
- The Flash of Genius, The New Yorker
  - https://www.newyorker.com/magazine/1993/01/11/the-flash-of-genius

STUDY QUESTIONS

What makes a technology innovation the basis for an entrepreneurial firm? What more do you need? What did Philo Farnsworth and Bob Kearns miss when they went to turn their inventions into products and companies?

SESSION 3 - IP & PROFITING FROM NEW TECHNOLOGY

READINGS

- What is Intellectual Property?, WIPO
  - http://www.wipo.int/edocs/pubdocs/en/intproperty/450/wipo_pub_450.pdf
- What's the Best Commercialization Strategy for Startups?, MIT SMR 2002

STUDY QUESTIONS

What are the different types of intellectual property? What does IP or a patent give a firm?

SESSION 4 - R&D VS DEVELOPMENT FOR COMMERCIALIZATION

READINGS

- Rise & Fall of Iridium, HBR Case

STUDY QUESTIONS

When did things start to go wrong for Iridium? What changes would you have made to increase the probability of success for Iridium? When would you make them?

ASSIGNMENT DUE

- *Technology Assessment* Individual Paper due uploaded to Canvas by start of class.

SESSION 5 - FOUNDING INTO A PLATFORM OR ECOSYSTEM

READINGS

- Dethroning a Platform, SMR 2012
- The Rise of Mobility as a Service, Deloitte 2017
    - https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/consumer-business/deloitte-nl-cb-ths-rise-of-mobility-as-a-service.pdf

STUDY QUESTIONS

In what ways is an entrepreneurial firm better positioned than an established incumbent to introduce a novel innovation to an existing platform or ecosystem? Is that advantage long term? Where are the entrepreneurial opportunities in the future of transportation?

SESSION 6 - ADVISORS, MENTORS, & BOARDS: WHO TO ASK FOR HELP AND WHEN

READINGS

- YC's Essential Startup Advice, Y-Combinator
    - https://blog.ycombinator.com/ycs-essential-startup-advice/
- What you need to know about startup boards, TechCrunch
    - https://techcrunch.com/2016/11/05/what-you-need-to-know-about-startup-boards/
- The Secret to Making Board Meetings Suck Less, First Round Review
    - http://firstround.com/review/The-Secret-to-Making-Board-Meetings-Suck-Less/

STUDY QUESTIONS

Why do entrepreneurs need advisors and mentors? How should you approach them to maximize their value to you and to your firm?

SESSION 7 - TECHNO ECONOMICS: DO THE NUMBERS SAY STOP OR GO?

READINGS

- Segway Human Transporter: More Than a Cool Invention?, HBS Case

STUDY QUESTIONS

Which of the initial markets under consideration for the Segway should they pursue? What is the price point that market can bear? What are the next steps to take to match price and costs?

ASSIGNMENT DUE

- *Statement of Technology & Value Proposition* Team Project proposal due uploaded to Canvas by start of class.

SESSION 8 - PITCHING TECHNOLOGY FIRMS

READINGS

- What We Learned From 200 Startups Who Raised 360M, DocSend
  - https://docsend.com/view/p8jxsqr

STUDY QUESTIONS

What is the goal of a pitch presentation? What information do you need to impart? What do you not need to say now?

SESSION 9 - FINANCING NEW VENTURES: VC & ANGEL EQUITY INVESTORS

READINGS

- 6 Myths About VC, HBR
- The Founders Dilemma, HBR

STUDY QUESTIONS

What do equity investors provide to an entrepreneurial firm? When would you target a VC, in particular? What questions do you need to answer before you approach an equity investor?

SESSION 10 - FINANCING NEW VENTURES: ALTERNATIVE FUNDING SOURCES

READINGS

- Pick one Accelerator, Incubator, or Crowdfunding platform
  - Read up on the specifics about your pick
  - Identify what types of firms should target them
  - One place you can look at for accelerators is the *Seed Accelerator Rankings Project* website http://seedrankings.com/

STUDY QUESTIONS

When should you consider crowdfunding or asking your friends and family for money? When should you apply to an accelerator or apply for a grant? When should you not?

SESSION 11 - PITCHING TECHNOLOGY IN R&D: UNDER DEVELOPMENT OR UNDER THE TABLE?

READINGS

- Top Ten Lies of Entrepreneurs, HBR 2001
- Prologue, *Bad Blood: Secrets and Lies in a Silicon Valley Startup*, by John Carreyrou
  - Available as an excerpt at: https://www.penguinrandomhouse.com/books/549478/bad-blood-by-john-carreyrou/9781524731656/
- Hot Startup Theranos Has Struggled With Its Blood-Test Technology, WSJ Oct 2015
  - https://www.wsj.com/articles/theranos-has-struggled-with-blood-tests-1444881901

STUDY QUESTIONS

How can an entrepreneur demonstrate confidence and capability to potential investors, partners, or customers without lying – especially when R&D is still under way and the product doesn't work yet?

SESSION 12 - ORGANIZATIONAL DESIGN, CULTURE, & HIRING

READINGS

- Read though one of the following employee handbooks:
  - Valve https://www.valvesoftware.com/company/Valve_Handbook_LowRes.pdf
  - Disqus https://www.dropbox.com/s/u6suqbbk2w1vbwz/Disqus%20Culture%20Book.pdf
  - HubSpot https://www.slideshare.net/HubSpot/the-hubspot-culture-code-creating-a-company-we-love
  - Zappos https://www.zapposinsights.com/culture-book/digital-version
  - Netflix https://jobs.netflix.com/culture

STUDY QUESTIONS

Does culture matter more or less in an entrepreneurial firm? What structures within an organization have the most impact before you have sold even one unit? As you grow? Is it better to hire quickly and fill positions or hire slowly? Why?

SESSION 13 - BATTLEDECKS & WRAP-UP READINGS

ASSIGNMENT DUE

- *Advisory Board Presentation* Team Project recorded presentation due uploaded to Canvas by start of class.
- Each student on the team should be prepared to describe your project and the firm in class.