

Course Syllabus

IEMS 325 Engineering Entrepreneurship · Spring 2017
March 27th - June 5th · Mondays from 6:00pm to 9:00pm

325 Engineering Entrepreneurship is designed to expose you to all aspects of the business development process from ideation to the creation, financing and running a business.

The best way to learn entrepreneurship is to do it. If you have an idea, make it real. The class project will consist of you identifying a meaningful problem to solve, conducting problem interviews, and putting together a business plan for your prototyped solution in small groups.

Contact

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Course Objectives

The overall goal is to help you understand how to evolve an idea into a business. We'll teach you to answer the following questions:

- How do I identify a meaningful problem worth solving?
- How do I create an effective solution to this problem?
- Does my product or service serve the intended market?
- Will people pay for my solution/product?
- Can I build a sustainable, repeatable business with this solution?

Course Reading

- [Competing Against Luck by Clayton M. Christensen](#)
- [Running Lean: Iterate from Plan A to a Plan That Works by Ash Maurya](#)
- [Rework by Jason Fried and David Heinemeier Hansson](#)

In addition to these three books, we will share additional readings and resources throughout the course.

Your Role

You should spend time reading, analyzing, and writing about the materials shared with you in class. It is our responsibility to see that you get the most out of your efforts. We hope to create a classroom environment that is engaging and exciting. **Your participation in class is critical to accomplishing our goal.** You should come prepared to discuss the assigned readings.

Grading

Your grade is based on completion of the following:

Class Participation (10%)

Attendance	5%
Discussion, Engagement, Participation	5%

Assignments (40%)

Financial Model	5%
Reading Summaries	10%
Customer Interviews	25%

Final Deliverables (50%)

Lean Canvas	5%
Executive Summary	5%
Prototype/MVP	10%
Final Presentation	30%

Class participation will be graded based on quality. We value contributions and comments that move the class discussion forward. Class attendance will be factored into your participation score.

For the business pitch/canvas, students will form groups of up to four people and develop an idea, pitch and a complete business model with supporting documentation for a problem they would consider solving.

Assignments turned in late will be marked off by 50%. Anything turned in 24 hours past the due date will be given a zero.

Course Prerequisite

It is your responsibility to ensure that you meet the prerequisite for this course. An understanding of accounting and finance is required.

Additional Assignment Information

Accounting Quiz - Financial Model

Your financial model will be submitted along with your final presentation. You will learn the details of this assignment as we near the final presentation.

Reading Summaries

When reading is assigned, you are required to write a one-page maximum analysis and come up with two relevant discussion questions for each chapter that is assigned.

Customer Interviews

Teams will be required to do two to five interviews per week starting week three of class. The interviews should be about 30 minutes and students should allow time to process the interviews and capture their findings. Teams will be asked to provide progress reports in class at least twice during the quarter.

Final Presentation

Your thoroughness, detail and business viability will be judged both in your deck and in your team's final oral presentation. This is a graded group deliverable. Individual grades will be modulated based on a peer review from members of the team. Attendance for the final presentation is mandatory.

Notice of Video and Audio Recording

Students in this course may be subject to periodic audio and video recording. Such recordings will potentially be used by Northwestern University in the future and made available through various means, including web pages, to both students and advisors in the program. By registering for the course, you are consenting to such recording and consenting to have the materials made available for academic and marketing purposes.

Tentative Weekly Schedule

(This schedule is meant to provide an overall sense of the class. It is subject to change.)

Pre-work: Due Week 1 of class

- Read *Competing Against Luck* Section 1: An Introduction to Jobs Theory (pp. Intro & 0-68)
- Complete Reading Analysis for *Competing Against Luck* Section 1
- Complete Personal Essay
- Complete Problem Identification Assignment

Week 1 (3/27): Introduction to Engineering Entrepreneurship

In Class:

- Introduction to Course Topics
- Student Introductions & Problem Pitches
- Jobs to Be Done Lecture
- Reading Discussion

For Next Class:

- Read *Running Lean* Chapters 1-7 (pp. Intro & 0-94)
- Complete Reading Analysis for *Running Lean* Chapters 3, 6, & 7
- Complete Choose Your Top Three Problems Assignment

Week 2 (4/3): Vetting the Problem

In Class:

- Lean Canvas Lecture
- Problem Interview Lecture
- Reading Discussion
- Group Formation

For Next Class:

- Read *Competing Against Luck* Section 2: The Hard Work - and Payoff - of Applying Jobs Theory (pp. 69-150)
- Complete Reading Analysis for *Competing Against Luck* Section 2
- Complete Lean Canvas Group Assignment
- Complete Customer Success Story Group Assignment
- Complete Problem Interview Script Group Assignment

Week 3 (4/10): Applying Jobs Theory to The Problem Interview**In Class:**

- Reviewing Problem Interview Scripts
- Example Problem & Jobs To Be Done Interview
- Reading Discussion

For Next Class:

- Read *Competing Against Luck* Section 3: The Jobs to Be Done Organization (pp. 151-234)
- Complete Reading Analysis for *Competing Against Luck* Section 3
- Problem Interviews & Analysis Group Assignment - Round One
- Refining the Problem Definition Assignment

Week 4 (4/17): Benefits v. Features**In Class:**

- Building the minimum Badass User Lecture
- Design Thinking Lecture
- Reviewing Problem Interviews - Round One Analysis
- Reading Discussion

For Next Class:

- Read *Rework* (pp. Intro & 1-132)
- Complete Reading Analysis for *Rework*
- Problem Interviews & Analysis Group Assignment - Round Two
- Prepare Lean Canvas & Problem Interview Insights Presentation
- Complete Harper Reed Guest Lecture Discussion Questions Assignment

Week 5 (4/24): Harper Reed & Lean Canvas & Problem Interview Insight Presentations**In Class:**

- Harper Reed Guest Lecture
- Presentation Skills Lecture*
- Lean Canvas & Problem Interview Insights Presentations
- Reading Discussion

For Next Class:

- Read *Rework* (pp. 133-End)
- Complete Reading Analysis for *Rework*
- Problem Interviews & Analysis Group Assignment - Round Three
- Complete Jason Fried Guest Lecture Discussion Questions Assignment

Week 6 (5/1): Jason Fried & Hacking the Solution**In Class:**

- Jason Fried Guest Lecture
- Prototyping & Hacking the Solution Lecture
- Reviewing Problem Interviews - Round Three Analysis
- Reading Discussion*

For Next Class:

- Read *Running Lean* Chapters 8-10 (pp. 95-126)
- Complete Reading Analysis for *Running Lean* Chapters 8, 9, & 10
- Complete Hacking The Solution Group Assignment
- Problem Interviews & Analysis Group Assignment - Round Four

Week 7 (5/8): Solution Interviews & Testing the MVP

- Solution Interviews Lecture
- MVP & Product Development Process Lecture
- Reviewing Problem Interviews - Round Four Analysis
- Reading Discussion

For Next Class:

- Complete Solution Interview Script Group Assignment
- Complete Troy Henikoff's Financial Modeling Assignment
- Problem Interviews & Analysis Group Assignment - Round Five

Week 8 (5/15): Financial Modeling with Troy Henikoff**In Class:**

- Troy Henikoff Guest Lecture

For Next Class

- Solution Interviews & Analysis Group Assignment - Round One
- Read *Running Lean* Chapters 11-15 (pp. 145-End)
- Complete Reading Analysis for *Running Lean* Chapters 11, 12, & 13
- Final Presentation Prep
- Complete Esther Barron Guest Lecture Discussion Questions Assignment

Week 9 (5/22): Business Formalization with Esther Barron**In Class:**

- Esther Barron Guest Lecture
- MVP Testing Group Presentations (Two Randomly Selected Groups)
- Reading Discussion
- Solution Interviews & Analysis Group Assignment - Round One

For Next Class:

- Final Presentation, Financial Model, & Lean Canvas Preparation
- Solution Interviews & Analysis Group Assignment - Round Two
- Buffer Space*

Week 10 (5/29): Memorial Day - No Class**For Next Class:**

- Final Presentation, Executive Summary, & Lean Canvas Preparation
- Buffer Space*

Week 11 (6/5): Final Presentations
In Class: <ul style="list-style-type: none">• Final Presentations
For Next Class: <ul style="list-style-type: none">• Peer Evaluations