

SUBJECT: Engineering Launch Pad-Entrepreneurship

Fall 2022

COURSE DESCRIPTION: Leadership and Entrepreneurship are like skiing...you can understand all of the science behind making the perfectly carved turn, but until you ski down a slope it's only theory. In the past, entrepreneurs were taught to make a business plan and to pitch it to investors, but research has shown that 95% of all new ventures fail because they have a lack of customers, and not due to a technological issue. This course will focus on identifying the value proposition a potential venture has for a specific customer segment, and who those customers are and why. Students will be forced to "get out of the building" and interview potential customers to help refine their assumptions based on data. The goal is to help the teams create a scalable and repeatable business model.

Course learning objectives

At the end of this course students will be able to:

- Apply brainstorming techniques to create and articulate a vision about a potential engineering venture if one doesn't already exist.
- Apply proper customer discovery techniques to help identify potential customers and their archetypes.
- Identify a company value proposition and what it does for the identified customers.
- Analyze and select potential channels to deliver products to customers
- Identify key resources, partners and activities
- Analyze and select cost and revenue structures

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Required readings:

- Business Model Generation
Alexander Osterwalder & Yves Pigneur, Wiley Publishing, 2010
ISBN: 978-0470-87641-1
- The Startup Owner's Manual, Steve Blank and Bob Dorf, K&S Ranch Inc. 2012
ISBN: 20:0984999302
- Talking to Humans, by Giff Constable
Available as a free PDF at talkingtohumans.com

Team Development: During the course you will generate ideas for a company and develop a team based on shared interests. Your team will operate as group for the entirety of the semester. If you have an idea

when you enter the Week, or if you have a group of students that have a shared vision, you can form a team. Minimum team size is 4 (exceptions are made based on the size of the class and ideas presented).

Grading

Grading is based on students completing all assignments and blog posts.

- 25% - Weekly Presentations on Business thesis refinement and Value Propositions
- 25% - Final Presentation Slides and Canvas submitted at the end of the semester
- 20% - Week Participation
- 15% - Business Model Canvas Creation and Weekly Updates
- 15% - Final Pitch

Rice Honor Code

Students are responsible for maintaining the highest standards of honesty and integrity in their work and conduct. Students should be familiar with what constitutes plagiarism and always cite proper references of outside materials. The case papers should include only analyses based on the case; no outside materials are required or permitted for these papers. Students should abide by the honor pledge they made upon entering Rice and include the following statement on all submitted assignments; “On my honor, I have neither given nor received any unauthorized aid on this (paper or exam)”.

Special Needs

Let us know during the first few weeks of the semester if you have disability needs and we will do what we can to accommodate these needs. Students with disabilities should contact Rice Disability Support Services at 713.348.5841 or <http://dss.rice.edu>.

*** This syllabus is subject to change throughout the semester.**

SCHEDULE:

Assignments and due dates: **All assignments are posted to RCEL 440 Canvas Site.**

Week 1

Course Introduction and Lecture 1, Part 1

Why are we here? Start Ideation and discuss potential companies

9 Building Blocks

Homework:

- Business Model Canvas: Read about the Business Model Canvas

Week 2

Brainstorming Exercise and Initial Team Selection

Establish Brainstorming Rules

- Share ideas and start selection process
- Select Team—Submit Team Contract

Homework:

- **Initial Business Thesis Due to Canvas**
- **Read Startup Owner's Manual, Chapter 2**

Week 3

How large is your market? What type of market do you have?

- Market types
- How large is your market?
- Where might your customers come from?

Homework:

- Calculate your total available market, target market, and initial market goal.
- Add this to your Business Thesis power point submit to Canvas.

Week 4

Who is your customer? Discuss customer segments and archetypes

- Who are your early adopters and why?
- How do you find and talk to customers?
- Identify Customers (20) and start interviewing

Homework:

- Initial BMC and Business Thesis Due to Canvas

Week 5

What is your value proposition?

- **Be prepared to present to the Week on initial your initial BMC**
- What pain/problem do you solve for you customers?
- How do you add value for your customer?
- How important is this value to their life/job/company?

Homework:

- Interview at least 10 people about your Value Propositions, update your BMC, and upload to Canvas.

Week 6

How will you get your products to your customers?

- Presentations to the Week on BMC
- What are the different channel types?
- What type of service or product do you have?
- How does this impact your product?
- Do the economics work?

Homework:

- Interview at least 10 people about your Channels, update your BMC, and upload to Canvas.

Week 7

How will you get keep and grow your customer base?

- Presentations to the Week on BMC
- Get keep and grow techniques
- Classroom exercise—how will you reach new customers (funnel diagram exercise)

Homework:

- Interview at least 10 people about your Customer Relations, update your BMC, and upload to Canvas.

Week 8

How will you make money?

- Presentations to the Week on BMC
- What are your revenue streams and how are they generated?
- How should you price your product?
- How much is your customer acquisition cost and how does it impact revenue?
- Classroom exercise on revenue

Homework:

- Interview at least 10 people about your Revenue Streams, update your BMC, and upload to Canvas.

Week 9

What are your key activities? Research? Manufacturing? What resources do you need?

- Presentations to the Week on BMC
- What do you need to do to operate?
- Are you going to manufacture something?
- Do you need distribution channels and infrastructure? How will customers receive your product?
- What types of resources do you need?
- Do you own your IP?

Homework:

- Interview at least 10 people about your Key Activities, Resources, and Partners and update your BMC, and upload to Canvas.

Week 10

What partners do you need?

- Are there partners that you need to move your product or service forward?
- How do you obtain the resources and partners if needed?
- What defines a good partner?

Week 11

Now that you have Data: What is your beachhead market?

- Where have you determined is your beachhead and what is that market size?

Week 12

Final Team Pitches and Presentations