Entrepreneurship in BME Course Syllabus
BME 5390, BME 6391

Instructors: Thomas Boland
Days and Times: Fridays 9:00 am - 11:50 am
Location: CCSB G.0706A

Recommended Texts:
The Startup Owner's Manual, Steve Blank and Bob Dorf
Business Model Generation, Alexander Osterwalder and Yves Pigneur

Other Texts:
Value Proposition Design, Greg Bernard, Yves Pigneur, Alexander Osterwalder, Alan Smith
Talking to Humans, Giff Constable and Frank Rimalovski

This course requires in-depth preparation and significant effort outside of class.

Course Goals
1. Give the Teams an experiential learning opportunity to help determine the commercial readiness of their technology.
2. Enable the Team to develop a clear go/no go decision regarding commercial viability of the effort.
3. Develop a transition plan to move the technology forward to market, if the Team decides to do so.

Course Description
This course will provide teams with real-world, hands-on learning experience with how to successfully transfer knowledge into products and processes that benefit society. The entire team will engage with industry. You and your team will learn from talking to customers, partners and competitors, and from encountering the chaos and uncertainty of commercializing innovations and creating ventures.

This course is not about how to write a research paper, business plan or grant. It is not an exercise on how smart you are in a lab or a classroom or how well you use the research library. The end result is not a paper to be published. This course is about getting out of the building. It is not about the lectures. You will be spending a significant amount of time in between each of the lectures, outside the building, talking to customers and testing your hypotheses.

Teams
This is a team-based class. You will work in teams to turn your research and technology idea into a product, service or process that benefits society. You will learn how to use a business model to brainstorm each part of an enterprise and customer development. You will get out of the building to see whether anyone other than you would want/use your product.
All three members of the team must participate in all out of the building customer discovery activities. Each week will be a new adventure as you design experiments and test hypotheses on each part of your business model and customers. Finally, you will see how agile development can help you rapidly iterate your product to build something potential customers will use and buy. As part of this process, you will encounter issues on how to build and work with a team. I will help you understand how to successfully build and manage your startup team.

We encourage teams to recruit any and all resources. Others, including students and non-students may serve as extra members of the Teams.

Class Culture

The startup culture is dramatically different from the university culture most of you are familiar with. Startups communicate much differently than inside a university and lab. The class culture can feel brusque and impersonal, but it is intentionally oriented to simulate the time- and cash constrained environments in which startups operate. We have limited time and the instructor will push, challenge, and question you in the hope you will quickly learn. The instructor e will be direct, open, and tough – just like the real world. We hope you can recognize that these comments aren't personal, but part of the process.

We also expect you to question the instructor, challenge his/her point of view if you disagree, and engage in a real dialogue. This approach may seem harsh or abrupt, but it is all part of our wanting you to learn to challenge yourselves quickly and objectively, and to appreciate that as entrepreneurs, you need to learn and evolve faster than you ever imagined possible.

Attendance and Participation

1. All Team members must attend all class activities.
2. If you anticipate missing more than one class, it is recommend that you drop the course.
3. Getting out of the building is what the class is about. If you cannot commit at least 10 hours a week to talk with customers, don't enroll in the course.

Class Roadmap

Each class is organized around:

1. Short YouTube video's that **MUST** be watched **before** class

2. A lecture on one of the 9 building blocks of a business model as described in *Business Model Generation.*

3. Team presentations on your "Lessons Learned" from getting out of the building and iterating or pivoting your business model.

Deliverables

1. A record of your customer discovery progress.

2. A weekly, 10-minute presentation on your progress. Your weekly and final slide decks should focus on your business model and customer discovery. You will learn from looking at the presentations from past classes, and future teams will learn from yours.

3. A short video and a final presentation of your experience with a go/no-go decision.

POINTS DISTRIBUTION: In class work 20%, Out of building work 30%, Final video & Presentation   50%

Disability

If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu,

or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass

Academic Integrity
The instructor expects a commitment to truthfulness, honor and responsibility, without which you cannot earn the trust and respect of others. Therefore, plagiarism, lying, cheating, or stealing in any form will not be tolerated.

Detailed Course Schedule

First-class Assignments (to be completed before January 28)

● Read pages 14–51 of *Business Model Generation; Definition of a Business Model*
● Read pages 22–84 and 195-199 of *The Startup Owner's Manual; The Customer Development Model; Prepare for Customer Contacts*
● Giff Constable, "12 Tips for Early Customer Development Interviews"
http://giffconstable.com/2012/12/12-tips-for-early-customer-development-interviews-revision-3/
● Watch the videos for week1
● Review presentations from previous NSF I-Corps Teams:
http://venturewell.org/i-corps/team-materials/

Second-class Assignments (to be completed before Feb 4)
Come prepared for class with:

1. Watch Videos for Week 2: Business Models and Customer Development

2. A 2-slide presentation to present your Team to the class (3 minutes). See below for the template.
a. Slide 1: Team name, University logo, Product picture/product description (one sentence), Pictures/names of your Team members.
b. Slide 2: Populated Business Model Canvas

Third-class Assignments (to be completed before Feb 11)

1. Get out the building/zoom with at least 5 customers

2. Come prepared to class with an updated slide presentation to from your team to the class (10 minutes). See below for the template.

3. Watch Lecture 3: Customer Segments:

PRESENTATION FORMAT:
Slide 1: Cover slide (Team member names, Team name, your business thesis (who is my

customer, what is my product, why will they buy it) AND number of customer interviews completed since you last presented.
Slide 2 - n What did you learn about your value proposition from talking to your first customers?
Hypothesis: Here's What We Thought
Experiments: So Here's What We Did
Results: So Here's What We Found
Iterate: So Here's What We Are Going to Do Next
Slide 3: Current business model canvas with any changes marked.
Slide 4: Tell us about your Market size (TAM/SAM/Target) SAM = Serviceable available market
Slide 5: What type of path will you take to commercialization?
(IP/licensing/startup/unknown)
Slide 6: What are your proposed experiments to test customer segment, value proposition, channel and revenue model of the hypotheses: What constitutes a pass/fail signal for each test (e.g. at what point would you say that your hypotheses wasn't even close to correct)?

4th-class Assignments (to be completed before Feb 18)

1. Get out the building/zoom with at least 5 customers

2. Come prepared to class with an updated slide presentation to from your team to the class (10 minutes). See below for the template.

3. Watch Lecture 4: Channels

● Talk to ~5 customers face to face. Draw a customer diagram
● Describe your customer archetypes. What were your hypotheses about who your users and customers were? Did you learn anything different?
● Create a petal diagram of your ecosystem
● Did anything change about your Value Proposition?
● What do customers say their problems/needs are? How do they solve this problem(s) today? Does your value proposition solve it? How?
● What was it about your product that made customers interested? Excited?
● If your customer is part of a company, who is the decision maker, how large is their budget, what are they spending it on today, and how are they individually evaluated within that organization, and how will this buying decision be made?
● Update your customer discovery narrative and canvas

PRESENTATION FORMAT:
Slide 1: Cover slide (Team member names, Team name) and your business thesis (who is my customer, what is my product, why will they buy it)
AND number of customer interviews completed since you last presented plus total number of interviews
Slide 2 - n What did you learn about your value proposition from talking to your customers? Include your customer diagram and petal diagram in your slides
Hypothesis: Here's What We Thought
Experiments: So Here's What We Did
Results: So Here's What We Found
Iterate: So Here's What We Are Going to Do Next

Final Slide: Current business model canvas with any changes marked

5th-class Assignments (to be completed before Feb 25)

1. Get out the building/zoom with at least 5 customers

2. Come prepared to class with an updated slide presentation to from your Team to the class (10 minutes). See below for the template.

PRESENTATION FORMAT:
Slide 1: Cover slide (Team member names, Team name) and your business thesis (who is my customer, what is my product, why will they buy it) AND number of customer interviews completed since you last presented plus total number of interviews
Slide 2 - n What did you learn about your value proposition from talking to your customers? Include your customer diagram and petal diagram in your slides
Hypothesis: Here's What We Thought
Experiments: So Here's What We Did
Results: So Here's What We Found
Iterate: So Here's What We Are Going to Do Next
Final Slide: Current business model canvas with any changes marked

6th-class Assignments (to be completed before March 4)

1. Get out the building/zoom with at least 5 customers

2. Come prepared to class with an updated slide presentation to from your Team to the class (10 minutes). See below for the template.

PRESENTATION FORMAT:
Slide 1: Cover slide (Team member names, Team name) and your business thesis (who is my customer, what is my product, why will they buy it) AND number of customer interviews completed since you last presented plus total number of interviews
Slide 2 - n What did you learn about your value proposition from talking to your customers? Include your customer diagram and petal diagram in your slides, channels?
Hypothesis: Here's What We Thought
Experiments: So Here's What We Did
Results: So Here's What We Found
Iterate: So Here's What We Are Going to Do Next
Final Slide: Current business model canvas with any changes marked

7th-class Assignments (to be completed before March 11)

1. Get out the building /zoom with at least 5 customers

2. Come prepared to class with an updated slide presentation to from your Team to the class

(10 minutes). See below for the template.

3. Watch Lecture 5: Customer Relationship

ASSIGNMENT:
● Talk to ~5 channel partners and/or customers. Draw channel diagrams
● Draw distribution complexity
● What were your hypotheses about who/what your channel would be? Did you learn anything different?
● Did anything change about Value Proposition?
● Update your customer discovery narrative and canvas

PRESENTATION FORMAT:
Slide 1 Cover slide (Team member names, Team name) and your business thesis (who is my customer, what is my product, why will they buy it), AND number of customer interviews completed since you last presented plus total number of interviews
Slide 2 - n What did you learn about your channel from talking to your customers? Include your channel diagram and distribution complexity.
Hypothesis: Here's What We Thought
Experiments: So Here's What We Did
Results: So Here's What We Found
Iterate: So Here's What We Are Going to Do Next
Final Slide: Current business model canvas with any changes marked

8th-class Assignments (to be completed before April 1)

1. Get out the building and talk to at least 5 customers

2. Come prepared to class with an updated slide presentation to from your Team to the class (10 minutes). See below for the template.

3. Watch Lecture 6: Revenue Model

ASSIGNMENT:
● Talk to customers
● Build demand creation budget and forecast.
● What is your customer acquisition cost?
● Did anything change about Value Proposition or Customers/Users?
● What is your customer lifetime value? Channel incentives – does your product or proposition extend or replace existing revenue for the channel?
● What is the "cost" of your channel, and its efficiency vs. your selling price?
● Update your customer discovery narrative and canvas.

PRESENTATION FORMAT:
Slide 1: Cover slide (Team member names, Team name) and your business thesis (who is my customer, what is my product, why will they buy it) AND number of customer interviews completed since you last presented plus total number of interviews
Slide 2 - n What did you learn about your value proposition from talking to your customers?

Include channel diagram
Hypothesis: Here's What We Thought
Experiments: So Here's What We Did
Results: So Here's What We Found
Iterate: So Here's What We Are Going to Do Next
Final Slide: Current business model canvas with any changes marked

9th-class Assignments (to be completed before April 8)

1. Get out the building /zoom with at least 5 customers

2. Come prepared to class with an updated slide presentation to from your Team to the class (10 minutes). See below for the template.

3. Watch Lecture 7: Partners

ASSIGNMENT:
● Talk to customers
● What's the revenue model strategy?
● What are the pricing tactics?
● Draw the diagram of payment flows
● What are the metrics that matter for your business model?
● Test pricing in front of 5 customers non-web
● Update your customer discovery narrative and canvas

PRESENTATION FORMAT:
Slide 1: Cover slide (Team member names, Team name) and your business thesis (who is my customer, what is my product, why will they buy it), number of total customer contacts AND number of customer interviews completed since you last presented plus total number of interviews
Slide 2 - n What did you learn about how to Get, Keep and Grow your customers? Include your demand creation and budget forecast in your slides.
Hypothesis: Here's What We Thought
Experiments: So Here's What We Did
Results: So Here's What We Found
Iterate: So Here's What We Are Going to Do Next
Final Slide: Current business model canvas with any changes marked

10th-class Assignments (to be completed before April 22)

1. Get out the building /zoom with at least 5 customers

2. Come prepared to class with an updated slide presentation to from your Team to the class (10 minutes). See below for the template.

3. Watch Lecture 8: Resources, Activities & Costs

ASSIGNMENT:
● Talk to customers
● What partners will you need?
● Why do you need them and what are the risks?
● Why will they partner with you?
● What's the cost of the partnership?
● Talk to actual partners/potential partners.
● What are the benefits for an exclusive partnership?
● Did anything change about Value Proposition or Customers/Users, Channel, Demand Creation?
● What are the incentives and impediments for the partners?
● Update your customer discovery narrative and canvas.

PRESENTATION FORMAT:
Slide 1: Cover slide (Team member names, Team name) and your business thesis (who is my customer, what is my product, why will they buy it), AND number of customer interviews completed since you last presented plus total number of interviews
Slide 2 - n What did you learn about your revenue model? Include your revenue model strategy, pricing tactics and diagram of payment flows in your slides.
Hypothesis: Here's What We Thought
Experiments: So Here's What We Did
Results: So Here's What We Found
Iterate: So Here's What We Are Going to Do Next
Final Slide: Current business model canvas with any changes marked

11th-class Assignments (to be completed before April 29)

1. Get out the building /zoom with at least 5 customers

2. Come prepared to class with an updated slide presentation to from your Team to the class (15 minutes). See blackboard for examples.

ASSIGNMENT:
● Talk to customers
● Go/No-Go Decision

The Go/No-Go Decision
This is a guide to the "Go/No-Go" decision. This is always a challenging assessment. We recognize that this is an interim assessment, for even as you complete the I-Corps program, you have most likely not completed all the customer discovery required to totally assess your venture. Nor have you likely had the time to explore every potential market for, or application of, your technology. This is true of even the most promising opportunities. The key at this point is to make an evidenced based decision, based on the evidence you gathered in the customer discovery process.
The criteria for a "Go" decision is that you have validated clear "Product > Market Fit." Ask yourself: "have we identified a business worth pursuing?" If the answer is yes, then you will be asked to provide evidence to support your decision.

If you answer no, you will be asked to explain your answer and whether you will continue to pursue product > market fit for the existing idea, pivot to different applications of the core technical capability, or abandon efforts to commercialize the technology and move on. All answers are equally acceptable – as long as they are evidence based

Team presentations
Teams present to the entire class. Each Team is allotted 15 minutes total