Title: Technology Entrepreneurship: Teaming, Ideation, Entrepreneurship, Intrapreneurship, and Leadership

Abbreviated Title: Tech Ventures

Instructors:

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Year: Graduate Level (ECE 8803)

Description: Different elements including customer discovery, cognitive biases, rapid prototyping, and pivots will be covered. In addition, general entrepreneurship and intrapreneurship topics such as teaming, ideation, leadership, negotiation, and capital raises will be covered. Principles of entrepreneurship, intrapreneurship and leadership will be included.

Pre-requisites: Graduate standing

Credits: 3-0-3

Purpose of course: Provide graduate students with the necessary vocabulary, knowledge, skills, and experience to understand entrepreneurship and intrapreneurship terminology and principles. The course will do so in the specific context of teaching a process called evidence-based entrepreneurship.

Topical Outline Overview

The course will have two phases, with the phases organized in parallel.

The first phase is a lecture series that will focus on the elements of entrepreneurship and intrapreneurship ranging from how opportunities are identified, to how ideas are conceived, to what customer discovery means, etc. As an introduction to teaming and leadership, the initial part of the first phase with focus on team building to better develop the student teams prior to engaging in customer discovery.

The second phase is relies upon experiential learning that will focus on developing the core of a business model for an actual startup idea. In this phase, students will conceive a startup idea, perform customer discovery to form a compelling business model, and seek customer validation to prove market viability of the startup concept. During this phase the student teams will present their hypotheses and findings during a structured weekly presentation time.

Topical Outline Details

Phase 1: Entrepreneurship Basics

The education phase will focus on a variety of elements of entrepreneurship. This will be a weekly lecture. The regular lectures will include the following topics:

Ideation: Technology driven ideation of solutions to address market opportunities. How can technology be leveraged to achieve both differentiation and entry barriers? How can the time to market be balanced against completeness of technology?

Teaming: What kind of a team is required for fulfilling the vision of the venture? When should the team members be added? How should the team members be compensated?

Evidence-based entrepreneurship: What is evidence-based entrepreneurship? What does evidence is mean? How is evidence gathered? What does evidence gathering accomplish?

Customer Discovery: Do customers validate business hypothesis consisting of the opportunity and potential solution? How should customer discovery be done?

Cognitive Biases: What are cognitive biases? How do they impact customer discovery? How do you control for them when doing customer discovery?

Business Models Canvas: What is the business model canvas? What are the nine elements of the canvas? How do the elements relate to each other? How does evidence-based entrepreneurship use a business model canvas?

The guest lecturers will talk about their founder stories and focus on one of the following topics in the form of a case discussion:

Rapid Prototyping/Learning Version Product (LVP): How to build a rapid prototype of a product? What are the modalities available? How can the rapid prototype help learn about what the product must be? How to use customer discovery in defining the LVP?

Pivoting: How to pivot product and business models based on customer discovery and validation? How to choose pivot direction?

Financing: How much capital does the venture require? How to raise this capital? In what increments should the capital be raised? What are likely liquidity events? What are the trade-offs?

Leadership: What is leadership? What are the different models of leadership? Can leadership be systematically cultivated?

Storytelling: How to tell an effective story? What can be learned from effective storytelling mechanisms such as movies?

Phase 2: Entrepreneurship Experience

For this phase of the class, students will divide and work in five-person teams. Each team will pursue a startup concept developed by the team. The concept must be a tangible product that supports the Ga Tech "maker culture" and can be built by the team calling upon their skills in the ECE realm. The concept must allow for customer discovery, with a sufficiently large local market. The course instructor(s) must approve the concept to better guide the students in selecting a high impact topic that they can reasonably pursue in during the timeline of the course.

This course follows an evidence-based entrepreneurship methodology. Each week, students will identify hypotheses about who their customers might be and what problems or needs they have. They will then interview 15 potential customers and partners in their market's ecosystem. The results of these interviews will be presented in class. The instructor, and teaching assistant, will review the progress and help to redirect the teams in the right direction. Much of the learning comes from watching and even participating in this interaction with other teams. Teams will use this process to set the details on their business model canvas.

The nuts and bolts of how to make good hypotheses, how to identify people to interview, how to get the meetings and what to ask, and finally, how to interpret the results will be covered as part of entrepreneurship basics.

The sections of the business model canvas to be covered are: Customer Segments; Value Proposition; Revenue Models and Channels; Metrics; Key Resources and Activities; Cost Structure and Partners.

In the first half of the semester, teams will focus intensely on finding a verifiable problem and value proposition. In the second half of the semester, teams will shift to gathering proof that there is a viable product that can deliver the value proposition.

The course instructor(s) will offer sufficient time for office hours to allow teams to get individualized help. The goal of this portion of the class is to learn a method for going from a vision to a proven business concept.

Course Objectives:
As part of this course, students will:

1. Develop a framework to uncover a true market need, generate and refine a business thesis, and pursue customer discovery.

2. Gain first-hand experience with evidence-based entrepreneurship and how it can be applied to intrapreneurship.

3. Acquire baseline knowledge of financing, negotiation and capital raising.

4. Further develop and refine profession communication skills both informal and formal.

5. Create a Learning Version Product, which is a minimal mockup or prototype, and test with customers.

Learning Objectives:
Upon successful completion of this course, students should be able to:

1. Demonstrate the ability to work in a team to conduct customer discovery and present findings.
2. Recognize cognitive biases and how these biases affect developing a product for a customer.
3. Generate a basic Business Model Canvas.
4. Deliver a succinct and streamlined group presentation.

Grading

Ind/Grp	#		
I	1	Exam 1	15
I	1	Exam 2	15
I	10	In-class quizzes	5
G	10	In-class exercises	10
G	12	Weekly presentations	30
I	12	Lab feedback	10
G	1	Final Presentations	10
I	2	Peer review	5
			100

Textbook: None

Suggested reading:

1. Technology Ventures, Byers, Dorf, and Nelson.
2. The Startup Owners Manual: The Step-By-Step Guide for Building a Great Company, Blank.
3. Thinking: Fast and Slow, D. Kahneman
4. The Founder's Dilemma, Noam Wasserman
5. Business Model Generation, Alexander Osterwalder

Academic Honor Code: The Honor Code applies to every aspect of this class. Group work will be explicitly identified and in these instances collaboration is a key component of the course. More details on academic honor code can be found at: http://www.policylibrary.gatech.edu/student-affairs/academic-honor-code

Access and Accommodations: At Georgia Tech we strive to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Office of Disability Services to explore reasonable accommodations. More details can be found at: https://disabilityservices.gatech.edu/

Absence Policy: The class will follow the Institute absence policy detailed at http://www.catalog.gatech.edu/rules/4/

Representative Schedule

Tech Ventures, Fall 2018

CD = Customer Discovery, LVP = Learning Version Product

Week	Date	Lecture Content	Date	Entrepreneurship Experience Content
1	20-Aug	Class overview/This is startup	22-Aug	Pitch you
2	27-Aug	Evidence Based Entrepreneurship	29-Aug	CD 1
3	3-Sep	Holiday	5-Sep	CD 2
4	10-Sep	Customer Segments & Value Proposition	12-Sep	CD 3
5	17-Sep	Hypothesis testing and creation	19-Sep	CD 4
6	24-Sep	Business Model Canvas	26-Sep	CD 5
7	1-Oct	Exam 1	3-Oct	CD 6
8	8-Oct	Break	10-Oct	Validated Customer Segment(s) & Value Proposition(s), Business Model presentation
9	15-Oct	Wallet Exercise (Design Thinking)	17-Oct	LVP 1
10	22-Oct	Startup Case Study (FIXD)	24-Oct	LVP 2
11	29-Oct	Cognitive biases	31-Oct	LVP 3
12	5-Nov	Teaming/Founders/Leadership	7-Nov	LVP 4
13	12-Nov	Financing	14-Nov	LVP 5
14	19-Nov	No Class	21-Nov	No Class
15	26-Nov	Exam 2	28-Nov	Final presentations
16	3-Dec	Final presentations	5-Dec	No Class