

I-Corps™ Course Syllabus



Arlington Cohort

Instructors: Jonathan Fay, Julie Collins, Patti Glaza
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Days and Times:
Kick-off workshop: April 11-13 (With a Reception on April 10)
5 online classes: Tuesdays, 1-4:00pm EST April 19, 26 May 3, 10, 17
Final workshop: May 23-24

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

Recommended Texts: *Value Proposition Design*, Greg Bernard, Yves Pigneur, Alexander Osterwalder, Alan Smith

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

Requirements for Enrollment

1. Attend as a NSF-selected Team consisting of a Principal Investigator, Entrepreneurial Lead, and Mentor. The I-Corps™ course is open to pre-approved I-Corps Teams only.
2. Each Team member must commit to class time plus at least 15 additional hours per week for Customer Discovery.

Pre-class Assignments (to be completed before Day 1 of Kick-off workshop)

- Read pages 14–51 [loc. 268-842] of *Business Model Generation; Definition of a Business Model*
- Read pages 22–84 [19-83] and 195-199 [189-199] 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/2010/07/12-tips-for-early-customer-development-interviews/>
- Watch Introduction to BMC Part I and II (1.5 A & 1.5 B) Value Proposition, Customer Segments and all of the Customer Discovery Best Practice videos: at <https://www.launchpadcentral.com/>;
YOU MUST WATCH THESE IN LPC

- Review presentations from previous I-Corps Teams to assist you in your own preparation: <http://venturewell.org/i-corps/team-materials/> and <http://www.slideshare.net/sblank/tagged/i-corps> (note also the number of customer contacts each Team made over the course)
- See also <http://steveblank.com/category/lean-launchpad/> for background and blog posts on the Lean LaunchPad method and classes.

Come prepared for the 1st day of class with:

1. 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

You must upload your presentation to the course Dropbox folder by 7:00 AM local time (See email from your TA)
2. 15 or more customer/industry contacts at the institution and surrounding area. Set up local (Arlington Area) meetings in advance for the “Get out of the Building” sessions during the kick-off workshop (see enclosed schedule). Be sure you schedule a substantial number of your meetings on day 1 (April 11). We strongly recommended you involve at least 2 Team members in each customer contact.

Slide 1: Title Slide

- Team name
 - Team number
 - University logo
 - Product picture/product description (1 sentence)
 - Pictures/names of your Team members
- ☆ Save your presentations to Dropbox using this naming convention:
TeamNumber_TeamName_Date
e.g., 195_DataComm_05062013



Slide 2: Populated Business Model Canvas

TEAM NAME HERE		FILL OUT ALL 9 BOXES OF THE CANVAS IN ORDER 1 THUR 9		
<p><i>Key Partners</i> </p> <p>7</p> <p>Who are our Key Partners?</p>	<p><i>Key Activities</i> </p> <p>5</p> <p>What Key Activities do our Value Propositions require?</p>	<p><i>Value Propositions</i> </p> <p>1</p> <p>Which one of our customer's <i>problems</i> are we helping to solve? Or, Which customer <i>needs</i> are we satisfying?</p> <p>What is the specific product/service?</p> <p>What are the <i>features</i> that match customer needs?</p>	<p><i>Customer Relationships</i> </p> <p>4</p> <p>How will we Keep and Grow customers?</p>	<p><i>Customer Segments</i> </p> <p>2</p> <p>For who are we solving a problem or fulfilling a need?</p> <p>Who are the customers?</p> <p>Does the value proposition match their needs?</p> <p>Is this a single-sided or multi-sided market?</p>
	<p><i>Key Resources</i> </p> <p>6</p> <p>What Key Resources (suppliers, etc.) do our Value Propositions require?</p>		<p><i>Channels</i> </p> <p>3</p> <p>Through which Channels do our Customer Segments want to be reached?</p>	
<p><i>Cost Structure</i> </p> <p>9</p> <p>What are the most important costs in our business model?</p>		<p><i>Revenue Streams</i> </p> <p>8</p> <p>What is the revenue model? What are the pricing tactics? For what value are our customers willing to pay?</p>		

Course Goals

1. Give the I-Corps Team 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 I-Corps 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 NSF 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. If you cannot commit the time to talk to customers, the I-Corps™ program is not for you.

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 I-Corps Team—Principal Investigator, Entrepreneurial Lead and Mentor—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. We will help you understand how to successfully build and manage your startup team. We encourage I-Corps Teams to recruit any and all resources. Others, including students and non-students may serve as extra members of the Teams.

Mentors have additional duties as described in the *Mentor Guide*. Mentors please read and review the document.

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 we push, challenge, and question you in the hope you will quickly learn. We 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 us, challenge our point of view if you disagree, and engage in a real dialogue with the Teaching Team. 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 the kick-off workshop, 5 online classes, and final workshop.
2. If you anticipate missing more than one online class, we recommend that you reapply to the I-Corps™ Program when you can commit the time to the course.
3. Getting out of the building is what the class is about. If you cannot commit at least 15 hours a week to talk with customers, don't enroll in the course.

Class Roadmap

Each class is organized around:

1. A lecture on one of the 9 building blocks of a business model as described in *Business Model Generation*.
2. Team presentations on your "Lessons Learned" from getting out of the building and iterating or pivoting your business model.
3. Using LaunchPad Central to log your Customer Discovery process.

Deliverables

1. A record of your customer discovery progress using LaunchPad Central to capture the narrative, contact information, learning and insight. This is also how progress is monitored.
2. A weekly, 10-minute presentation on your progress. Your weekly and final slide decks ***should not contain any proprietary information***. They 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 (final videos will be posted to YouTube).
3. Minimum Viable Product (MVP): An MVP is a prototype that captures the minimum functionality. The Customer Discovery Process, a central element of the Lean LaunchPad approach to technology commercialization, requires development of a MVP so the Team can clearly communicate the product capability and value proposition. This process also helps focus the Team on what is and is not essential. For physical products, developing an MVP may be challenging and various approaches will be discussed during the first class sessions. For a web based services, or other software applications, it is best to having a working demo or even a working site. In either case, the Team should think through what it will cost for product development and for physical products, on a per unit basis. This last point is essential to understand the gross margin profitability and therefore the business viability of the product. This will require thinking through a product bill-of-materials.

COURSE OVERVIEW

Kick-off Workshop

Your entire I-Corps Team (Principal Investigator, Entrepreneurial Lead, Mentor) will attend the kick-off workshop at your host institution. During this three-day workshop, your Team will be introduced to the Lean LaunchPad approach, the Teaching Team and your peers. You will learn the business model development and customer development process, and you will get out of the building to meet with customers. You will present what you learn to the class and record your progress on LaunchPad Central. During each Team's presentation, the Teaching Team will offer observations and guidance. When not presenting, you will be offering input to your peers using a real-time, interactive peer review sheet.

5 Online classes

Five, weekly online classes will convene on WebEx. During this 5-week period, your Team is also required to get out of the building and test your business model assumptions, meeting with about 15 customer contacts each week (with the objective of conducting at least 100 total contacts). Record your progress on LaunchPad Central. Update your first slide each week to include the total number of customers you talked to.

Each WebEx class will have two parts:

- 2 hours: **Team presentations** – Each Team will present a 10-minute weekly progress report to members of the Teaching Team and your peers. This is how we monitor your progress and give you guidance. When not presenting, you will be offering input to your peers using an interactive peer review sheet.
- 1 hour: **Class discussion** of the weekly lecture. You are expected to watch the online weekly lecture in advance of this discussion.

Final Workshop

The entire I-Corps Team will attend the final workshop at your assigned host institution. At that event, the Teams will present their lessons learned in their exploration of commercial feasibility to the Teaching Team.

Office Hours

The Teaching Team is available for regular office hours. Your Team is strongly encouraged to make use of this knowledge resource. Meet with Teaching Team members during office hours to receive individualized responses to your questions and comments. You may sign up for office hours through the Office Hours Google doc, which can be accessed through LaunchPad Central.

Detailed Course Schedule

Monday April 11 – Class 1

Time	Session
8:30 - 9:00 am	Introduction <ul style="list-style-type: none"> Teaching Team Introductions Class Goals Teaching Philosophy Expectations of You
9:00 - 9:30 am	Lecture 1, Part 1: Business Model/Customer Development What's a business model? What are the 9 parts of a business model? What are hypotheses? What is the Minimum Feature Set? What experiments are needed to run to test business model hypotheses? What's "getting out of the building?" What is market size? How to determine whether a business model is worth doing?
9:30 - 12:00 pm	Team Introductions Teams present their business model canvas to the entire classroom. Each Team is allotted 5 minutes total, to include 3 minutes presentation and 2 minutes for Teaching Team comment.
12:00 - 12:30 pm	Lecture 1, Part 2: Business Model/Customer Development
12:30 - 2:00 pm	Working Lunch and Best Practices for Customer Discovery How to call on people you don't know. How to get the most out of people you do. Expectations, speed, tempo, logistics, commitments. How do I protect my IP when I speak to partners? Does Lean work for non-software efforts? How do I interview? How is an interview different than a sales call?
2:00 - 2:45 pm	Launch Pad Central Training
2:45 - 7:00 pm	Get out of the building! Meet with potential customers in the area. Schedule these meetings prior to coming to the kick-off workshop. You will be presenting your results tomorrow morning in your updated business model canvas.
7:00 - 8:30 pm	Dinner/Panel: How to Succeed in the Innovation Corps A panel discussion with prior participants in the I-Corps™ program
8:30 – 9:00 pm	Mentor Workshop (Mentors only) The role of Mentors in the Lean Launchpad process

A schedule of **Office Hours** throughout the course will be made available. You are required to attend office hours at least once during the kick off workshop.

Assignment for Class #2 Tuesday April 12

READ:

- *Business Model Generation*, pp. 86–111 [1094-1549], *Multisided Platforms*; 135–145 [1878-2088], *Ideation*
- *The Startup Owner's Manual* review pages 53–84 [53-84] *Intro to Customer Discovery*
- Steve Blank, "What's a Startup? First Principles,"
<http://steveblank.com/2010/01/25/whats-a-startup-first-principles/>
- Steve Blank, "Make No Little Plans – Defining the Scalable Startup,"
<http://steveblank.com/2010/01/04/make-no-little-plans---defining-the-scalable-startup/>
- Steve Blank, "A Startup is Not a Smaller Version of a Large Company",
<http://steveblank.com/2010/01/14/a-startup-is-not-a-smaller-version-of-a-large-company/>

ASSIGNMENT:

- If you haven't completed 5 customer interviews, get out of the building some more
- Start to identify your market size
- Identify your path to commercialization (IP/licensing/startup/unknown)
- Propose experiments to test your customer segment, value proposition, channel and revenue model of the hypothesis
- What constitutes a pass/fail signal for each test?
- Talk to potential customers

PRESENTATION FORMAT:

- Slide 1:** Cover slide (Team member names, Team name, Team number, 1 to 2 sentence description of your product and the number of customer interviews completed)
- Slide 2:** Current business model canvas with any changes marked. **Must use the BMC in LPC and export from LPC to your presentation**
- Slide 3:** Tell us about your Market size (TAM/SAM/Target)
- Slide 4:** What type of path will you take to commercialization?
(IP/licensing/startup/unknown)
- Slide 5:** 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)?

Upload your presentation to Dropbox by 7:00 AM LOCAL TIME

Tuesday April 12 – Class 2

Time	Session
8:00 – 8:10 am	Day 2 Introduction A brief introduction by NSF
8:10 – 11:00 am	Team Presentations Teams present their business model canvas in two concurrent tracks. Each Team is allotted 12 minutes total to include 10 minutes for presentation, 2 minutes for Teaching Team comments.
11:00 – 12:00 pm	Lecture 2: Value Proposition Lecture: What is your product or service? How does it differ from an idea? Why will people want it? Who's the competition and how does your customer view these competitive offerings? Where's the market? What's the <i>minimum feature set</i> ? What's the Market Type? What was your inspiration or impetus? What assumptions drove you to this? What unique insight do you have into the market dynamics or into a technological shift that makes this a fresh opportunity?
12:30 – 7:30 pm	Get out of the building! Meet with potential customers in the area. Schedule these meetings prior to coming to the kick-off workshop. You will be presenting your results tomorrow morning in your updated business model canvas.
7:30 – 8:00 pm	PI Workshop (PI's only)
8:00 – 8:30 pm	EL Workshop (EL's only)

A schedule of **Office Hours** throughout the course will be made available. You are required to attend office hours at least once during the kick off workshop.

Assignment for Class #3 Wednesday April 13

READ:

- *Business Model Generation, Visual Thinking* pages. 146–150 [2090 – 2131], *Prototyping* 161–168 [2297-2442] and *Business Model Environment*, 200–211 [3096-3410]
- *The Startup Owner's Manual, Customer Segments* pages 85–97 [84-97]

ASSIGNMENT:

- Get out of the building and talk to as many customers as you can
- Generate a value proposition hypothesis
- Review customer discovery videos at <https://www.launchpadcentral.com>
- Ask potential customers what they think about your value proposition. You may consider online survey tools* as a secondary means by which to generate more data.
- Update your business model canvas based on your findings
- Start to populate customer discovery tool (your customer discovery narrative on LaunchPad Central)
- Identify your path to commercialization (IP/licensing/startup/unknown)

PRESENTATION FORMAT:

Slide 1: Cover slide (Team member names, Team name, Team number) 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 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

Final Slide: Current business model canvas with any changes marked; **Must use the BMC in LPC and export from LPC to your presentation**

Upload your presentation to Dropbox by 7:00 AM LOCAL TIME

* *Survey tools are not means to conduct customer interviews, and survey responses may not be counted as unique customer contacts. Surveys are most useful for collecting quantitative data on subjects for which responses are finite and follow-up minimal. Surveys cannot, however, compare with live interviews, wherein respondents' answers to open-ended questions can drive follow up that digs deeper and ascertains a deeper understanding of respondent pain-points, needs, priorities, etc.*

Wednesday April 13 - Class 3

Time	Session
8:30 – 8:40 am	Day 3 Introduction A brief introduction by NSF
8:40 – 11:00 am	Team Presentations Teams present their business model canvas in three concurrent tracks. Each Team is allotted 15 minutes total to include 10 minutes for presentation, 5 minutes for Teaching Team comments.
11:00 – 12:00 pm	Lecture 3: Customers/Users/Payers Who's the customer? User? Payer? How are they different? Why do they buy? How can you reach them? How is a business customer different from a consumer? What's a multi-sided market? What's segmentation? What's an archetype?
12:30 – 1:15 pm	WebEx Training and Send off Learn the expectations and protocol for the 5 online classes. Preflight and checkout of your computer and headset for use in remote lectures. Configuration support for hardware and software.

Assignment for Class #4 Tuesday April 19

READ:

- *Business Model Generation, Customer Insights* pages 127-133 [1764-1876]
- *The Startup Owner's Manual, Channel Hypothesis* pages 98–111 [97-111], and *Customer Discovery Phase Two*, 189-255 [189-255] and *Get Out of the Building Test, Sell Channel Partners* 406–412 [405-412]

WATCH:

- Sign into LaunchPad Central and watch *Lecture 4 – Distribution Channels*:
<https://www.launchpadcentral.com/videos/series>

ASSIGNMENT:

- Talk to ~15 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, Team number) 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 customer segments 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; **Must use the BMC in LPC and export from LPC to your presentation**

Upload your presentation to by 10:00 AM EST

Tuesday April 19 Class 4

Location: WebEx

Time	Session
12:00 – 1:00 pm Eastern Standard Time	Test WebEx The online classrooms will be open for one hour prior to Team Presentation time begins. Log on during this time to test video, sound and troubleshoot technical issues. Please sign in to WebEx using the following convention TeamNumber_Your Name_Role, e.g., 201_John Smith_EL
1:00 – 3:00 pm EST	Team Presentations Teams present their business model canvas in three concurrent tracks. Each Team is allotted 12 minutes total to include 10 minutes for presentation, 2 minutes for Teaching Team comments.
3:00 – 4:00 pm EST	Lecture Discussion: Distribution Channels Teams will join a single WebEx classroom for lecture discussion. What's a channel? Physical versus virtual channels. Direct channels, indirect channels, OEM. Multi-sided markets. B-to-B versus B-to-C channels and sales (business to business versus business to consumer).

Assignment for Class #5 Tuesday April 26

READ:

- *The Startup Owner's Manual, Customer Discovery Phase Three*, pages 227–256 [227-256], *Get Ready to Sell*, 332–342 [331-342]
- For web teams: *The Startup Owner's Manual, Low Fidelity MVP* pages 211–217 [210-217]

WATCH:

- Sign into LaunchPad Central and watch *Lecture 5 – Customer Relationships*
<https://www.launchpadcentral.com/videos/series>

ASSIGNMENT:

- Talk to ~15 channel partners and/or customers. Draw channel diagrams
- Draw distribution complexity
- Get out of the building and talk to ~15 potential channel partners face-to-face (Salesmen, OEM's distributors, etc.)
- 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

FOR WEB TEAMS:

- Get a low-fidelity web site up and running. (Relevant reading: See *The Startup Owner's Manual* page 211–217) [210-217]

PRESENTATION FORMAT:

Slide 1 Cover slide (Team member names, Team name, Team number) 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; **Must use the BMC in LPC and export from LPC to your presentation**

Upload your presentation to Dropbox by 10:00 AM EST

Tuesday April 26 - Class 5

Location: WebEx

Time	Session
12:00 – 1:00 pm Eastern Standard Time	Test WebEx The online classroom will be open for one hour prior to Team Presentation time begins. Log on during this time to test video, sound and troubleshoot technical issues.
1:00 – 3:00 pm EST	Team Presentations Teams present their business model canvas in three concurrent tracks. Each Team is allotted 12 minutes total to include 10 minutes for presentation, 2 minutes for Teaching Team comments.
3:00 – 4:00 pm EST	Lecture Discussion: Customer Relationships: Get/Keep/Grow How do you create end user demand? How does it differ on the web versus other channels? Evangelism vs. existing need or category? General Marketing, Sales Funnel, etc. How does demand creation differ in a multi-sided market?

Assignment for Class #6 Tuesday May 3

READ:

- *The Startup Owner's Manual, Introduction to Customer Validation* pages 277–331 [277-331]

WATCH:

- *Watch:* Mark Pincus, "Quick and Frequent Product Testing and Assessment", <http://ecorner.stanford.edu/authorMaterialInfo.html?mid=2313>
- Sign into LaunchPad Central and watch *Lecture 6 – Revenue Model* <https://www.launchpadcentral.com/videos/series>

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, Team number) 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; **Must use the BMC in LPC and export from LPC to your presentation**

Upload your presentation to Dropbox by 10:00 AM EST

Tuesday May 3 - Class 6

Location: WebEx

Time	Session
12:00 – 1:00 pm Eastern Standard Time	Test WebEx The online classroom will be open for one hour prior to Team Presentation time begins. Log on during this time to test video, sound and troubleshoot technical issues.
1:00 – 3:00 pm EST	Team Presentations Teams present their business model canvas in three concurrent tracks. Each Team is allotted 12 minutes total to include 10 minutes for presentation, 2 minutes for Teaching Team comments.
3:00 – 3:30 pm EST	Lecture Discussion: Revenue Model What's a revenue model? What types of revenue streams are there? How does it differ on the web versus other channels? How does this differ in a multi-sided market?
3:30 – 4:00 pm EST	Mentor Meeting (Mentors only) This is an opportunity for mentors and the Teaching Team to check in. How is your Team progressing? How can we support one another?

Assignment for Class #7 Tuesday May 10

READ:

- *The Startup Owner's Manual, Customer Discovery Phase Four*, pages 257–270 [257-269] and *Customer Validation Phase Four*, 429–459 [428-459]
- *Business Model Generation, Evaluating, Business Models*, pages 212–225 [3412-3515]
- *Review resources on final presentations as assigned*

WATCH:

- Sign into LaunchPad Central and watch *Lecture 7 – Partners*
<https://www.launchpadcentral.com/videos/series>
- Watch the David Riemer series of videos on using storytelling to communicate your I-Corps learning journey <http://venturewell.org/i-corps/llpvideos/david-riemer/>
- Watch sample videos from previous cohorts, which are available for your reference at <http://venturewell.org/i-corps/team-materials/>

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 100 customers on the web, 10–15 customers non-web
- Update your customer discovery narrative and canvas

PRESENTATION FORMAT:

Slide 1: Cover slide (Team member names, Team name, Team number) 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; **Must use the BMC in LPC and export from LPC to your presentation**

Upload your presentation to Dropbox by 10:00 AM EST

Tuesday May 10 - Class 7

Location: WebEx

Time	Session
12:00 – 1:00 pm Eastern Standard Time	Test WebEx The online classroom will be open for one hour prior to Team Presentation time begins. Log on during this time to test video, sound and troubleshoot technical issues.
1:00 – 3:00 pm EST	Team Presentations Teams present their business model canvas in three concurrent tracks. Each Team is allotted 12 minutes total to include 10 minutes for presentation, 2 minutes for Teaching Team comments.
3:00 – 4:00 pm EST	Lecture Discussion: Partners Who are partners? Strategic alliances, competition, joint ventures, buyer supplier, licensees. Instructors will also address Q&A regarding the final lessons learned video and presentation assignments. Lecture: How to Tell Your Story In preparation for your final presentations and video, we will discuss the key elements of telling your story.

Assignment for Class #8 Tuesday May 17

READ:

- Review *Business Model Generation, Business Model Environment*, pages 200–211 [3096-3140]
- Review *The Startup Owner's Manual, Get Out of the Building Test, Sell* pages 406–412 [405-412]

WATCH:

- Sign in and watch *Lecture 8 – Key Resources*:
<https://www.launchpadcentral.com/videos/series>

ASSIGNMENT:

- Submit a draft of your 2-minute Lessons Learned video (instructions, pg. 23).
 - Your video should be near complete, but do not reveal your final Go/No-Go decision if this is still TBD and will require additional edits after feedback from the Teaching Team.
 - Your video should be <50 MB (sizes can be reduced in editing software)
 - Submit by uploading to Dropbox with your weekly presentation
 - Note that as back-up, we will ask that you upload your **final** video to YouTube and include links to the videos in your final Lessons Learned PowerPoint
- 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, Team number) 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 partners? Include items from the above assignment 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; **Must use the BMC in LPC and export from LPC to your presentation**

Upload your presentation to Dropbox by 10:00 AM EST

Tuesday May 17 - Class 8

Location: WebEx

Time	Session
12:00 – 1:00 pm Eastern Standard Time	Test WebEx Log on during this time to test video, sound and troubleshoot technical issues.
1:00 – 3:00 pm EST	Team Presentations Teams present their business model canvas in three concurrent tracks. Each Team is allotted 12 minutes total to include 10 minutes for presentation, 2 minutes for Teaching Team comments.
3:00 – 4:00 pm EST	Lecture Discussion: Key Activities, Resources & Costs What resources do you need to build this business? How many people? What kind? Any hardware or software you need to buy? Any IP you need to license? How much money do you need to raise? When? Why? Importance of cash flows? When do you get paid vs. when do you pay others? How does these translate to commercial readiness and “go or no go”?

Assignment for Class #9 Monday May 23

READ:

- *The Startup Owner's Manual Key Resources Hypothesis*, pages 169–175 [168-179]

ASSIGNMENT:

- Talk to customers
- Assemble a resources assumptions spreadsheet: people, hardware, software, prototypes, financing, etc.
- When will you need these resources?
- Where is your cash flow break-even point?
- What are the key financials metrics for costs in your business model?
- Costs vs. ramp vs. product iteration?
- Roll up all the costs from partners, resources and activities in a spreadsheet by time

PRESENTATIONS:

A 10-minute Lessons Learned Presentation

A 1-minute Technical Video

A 2-minute Lessons Learned Video (final version)

See next page for presentation & video specifications

Sharing:

1. Final videos should be <50 MB each (sizes can be reduced in editing software).
2. Upload your final presentation and videos to **Dropbox by 7:00 AM local time.**
3. As back-up, please also A) upload your videos to YouTube and include links to the videos in your PowerPoint, and B) e-mail links to your TA.

10-minute Lessons Learned Presentation

This will be different from your previous presentations as the objective is to ***tell the story of your journey*** through the Customer Discovery process.

This presentation should:

- Tell a story of what you did (e.g. customer discovery, mistakes, etc.) and what you learned
- Focus on insights rather than data points
- Highlight your “a-ha!” moment(s)
- Include images and graphics that support your story
- Text should be brief and legible (i.e., large enough to be read)

The slides ***require*** some standard content for documentation for NSF. Your slides must:

- Begin with an introduction of your Team (Team name and number, member names and roles, total interviews completed, and total *in-person* interviews).
- Include multiple iterations of the Business Model Canvas (including first, last, and points of critical pivots) and diagrams. Make sure these slides are legible, in a large enough font to be read and understood.
- End with a slide including your Go/No-Go decision and links to your videos (Lessons Learned and Technical) on YouTube.

Your slide deck should support your storytelling: don't present a narration of your slides. Your presentation should be a dynamic and engaging delivery of your Team's story.

The following is a sample of an appropriate set of slides for this presentation:

- Slide 1:** Team Name, total number of interviews, total number of in-person interviews & a couple lines about what your initial idea was and the size of the opportunity
- Slide 2:** Team members – name, background, expertise and your role for the Team
- Slide 3:** Business Model Canvas, Version 1. (Verbally address, “Here was our original idea...”, make sure this is legible, use a large font)
- Slide 4:** “Here’s what we did...” (explain how you got out of the building, who you met, etc., e.g.: display logos and photos of customers, or a map of the territory covered)
- Slide 5:** “What we found was...” (reality); Include illustration of customer archetype or market size diagram to show what was learned from this new information
- Slide 6:** Business Model Canvas, Version 2, illustrating iteration or pivot... Explain why and what you found. We then advanced this hypothesis... **Must use the BMC in LPC and export from LPC to your presentation**
- Slide 7:** So here’s what we did (explain how you got out of the building); perhaps include photos of the countryside or the factory you visited.
- Slide 8:** And here’s what we found (what was reality); including a photo and great quote the summarizes a key lesson learned; so then...
- Slide 9:** Your distribution channel diagram may illustrate what you learned.
- Slide 9:** Business Model Canvas Version 3. We iterated or pivoted... explain why & what you found.
- Slide 10:** Etc., etc., etc.
- Final Slide:** Clearly states “Go” or “No Go” and includes links to your videos on YouTube. *Sample presentations from previous cohorts are available for your reference at*

2-Minute Lessons Learned /Video

Create a two-minute video that tells a story. This is not a demonstration of scientific prowess. We want to hear about your journey through the NSF I-Corps™ as it relates to your business. The more specific you can make it, the more specific details you can include, the more specifically you can describe answers to the question below, the better. Here's a quick outline that should aim you in the right direction:

- What are your names and what is your Teams' name? Introduce yourselves. Pan the camera around your office so we can see where you work.
- What scientific discipline are you working in?
- When you started the class, what was the most important thing you thought you would have to do to successfully launch a scalable startup? How do you feel about that now?
- Thinking back across the class, who was the most interesting customer you met and where did you meet them? What happened?
- Now that the class is over, what was the most surprising thing you learned in the class?

Please do not spend any time thanking the Teaching Team or the NSF. This video is about your company and about you. Time limit is 2 minutes, so keep it short and to the point. And no need to get high tech. Grab an iPhone and shoot with the camera.

Watch the David Riemer series of videos on using storytelling to communicate your I-Corps learning journey <http://venturewell.org/i-corps/llp/videos/david-riemer/>

Sample videos from previous cohorts are available for your reference at <http://venturewell.org/i-corps/team-materials/>

1-Minute Technical Video

NSF and the I-Corps Teaching Team would also like you to produce a short, technically focused video appropriate for a technically educated audience. This assignment challenges you to use what you have learned to concisely describe the technical aspects of your project with the value proposition and customer archetype in mind. The ability to do this effectively will be critical when making future pitches or if applying for SBIR.

This will **not** be part of your final presentation, but you will make them publicly available for viewing. NSF will also retain this video as a record of where the technology stands today.

Consider the audience for this video to be people who are technically well versed enough to understand your project, your process, your lab, your equipment, and your approach at a general level; perhaps like someone you might meet at a technical conference focused on your general area of expertise. This video is a great place to include hero shots of your testing apparatus, your lab filled with bubbling chemistry experiments, or awesome computer graphics simulations of your experiments running on the International Space Station in zero gravity.

All final presentations and videos must be uploaded by 7:00 AM local time on the final day.

Sample videos from previous cohorts are available for your reference at <http://venturewell.org/i-corps/team-materials/>

Basic Video Production Tips:

Your videos do not require high production value. You need not purchase fancy recording equipment or expensive editing software. You *DO* need to adequately convey your message. Here are a few things you can do – for free – to improve the quality of your video.

Audio:

- Find a quiet space or reduce competing noise before recording (listen for ventilation systems, machinery humming, wind, background activity)
- Get the microphone as close to your subject as possible
- Have subjects speak toward the camera as much as possible
- If you add background music, make sure that it complements, not distracts from, your presentation (and if it's too loud, it will definitely distract!)

Lighting:

- Make sure there is adequate light where you are recording. When in doubt, go brighter.
- For interview subjects, alter the lighting, or identify an interview location, where the subject will be lighted equally on both sides (otherwise one side of the subject will be in shadow and the contrast enhances the perception of darkness)
- If you shoot outdoors, make sure that the sun doesn't shine directly in your subject's eyes or directly into the camera

Presentation:

- Smile and show your enthusiasm for your subject
- Before you start talking, take a deep breath, pause and smile – this not only will prepare you for recording but will provide a natural spot to trim off any excess video during editing
- Speak slowly and clearly.
- Use hand gestures if you like, but not too wildly.

Other production tips:

- Use a tripod, or rest the camera on a stable platform to ensure that the video is steady and not crooked
- Consider recording some segments twice – once close up and once farther away, so in the “editing room” later, you may cut together the shots to provide some variety, or you can select the version for which picture and audio turned out best

Looking to use free editing software?

- iMovie comes free with Apple hardware
- PC users can download a free, 30-day trial of Camtasia: www.camtasia.com

Monday May 23 - Class 9

Time	Session
8:30 – 8:45 am	Welcome back and Setting the Stage for Effective Presentations
8:45 – 9:30 am	Effectively Communicating Your I-Corps Learning Journey Story
9:30 – 12:00 pm	<p>Individual Team Meeting with Faculty</p> <p>Faculty will meet with teams individually. Each team will discuss with the faculty their assessment of their key learnings, “go/no-go status” and next steps.</p> <p>Workshop: Developing Effective Presentations</p> <p>When not in their individual team presentation, teams will work on their presentations, and seek feedback from faculty co-instructors [and a storytelling expert if available]. These meetings will be informal and intended to provide helpful coaching.</p>
12:00 – 1:30 pm	<p>SBIR 101</p> <p>The basics of the SBIR program and how the funding process works.</p>
1:30 – 4:30 pm	<p>Individual Team Meeting with Faculty - continued</p> <p>Workshop: Developing Effective Presentations - continued</p>
4:30 – 6:00 pm	<p>What's Next?</p> <p>Assess the readiness of your technology and your Team. Explore next steps and learn about IP, incorporation and funding options.</p>

Tuesday May 24 – Final Presentations

Time	Session
8:00 – 8:15 am	VentureWell presentation
8:15 – 4:00 pm	<p>Team presentations</p> <p>Teams present to the entire class. Each Team is allotted 15 minutes total to include the 2-minute Lessons Learned Video followed by the 10-minute Lesson Learned Presentation and 3 minutes of Teaching Team comments.</p>
4:00 – 4:30 pm	Closing session

Glossary of common terms and acronyms:

Agile development: Iterative and incremental development, where solutions evolve through collaboration

Business Model Canvas: template for developing and documenting new business models, made up of 9 key building blocks

Customer archetype: fictional character created to represent the different user types within a targeted demographic, attitude and/or behavior set that might use a site, brand or product in a similar way.

Customer discovery: Process of asking questions to understand needs and pain points of potential customers

EL: Entrepreneurial Lead; often a grad student or post-doc

IM: Industry Mentor; generally referred to as the Mentor

Innovation Corps or I-Corps™: pronounced I-CORE, the *ps* is silent

IP: Intellectual Property such as discoveries and inventions, often protected by patents and trademarks

LPC: LaunchPad Central; Online platform for tracking your progress through the I-Corps™ program

MVP: Minimum Viable Product; the basic product (or service) you can take to market

NCIIA: See VentureWell

NDA: Non-Disclosure Agreement; confidentiality agreement

Node: Nodes support regional needs for innovation education, infrastructure and research and work cooperatively to build, utilize and sustain a national innovation ecosystem.

NSF: National Science Foundation

OEM: Original Equipment Manufacturer

Peer Review Document: An online document for comments and suggestions

PI: Principal Investigator

SAM: Served Available Market

TA: Teaching Assistant

TAM: Total Available Market

Teaching Team: The class instructors; usually serial entrepreneurs, entrepreneurial educators and technologists

Value Proposition: What value do we deliver to the customer? What customer needs are we satisfying?

VC: Venture Capitalist; a person (or organization) who provides capital to startup ventures

VentureWell: A higher education network that cultivates revolutionary ideas and promising inventions. NSF's I-Corps partner with curriculum development and logistics.

CORE TEACHING TEAM



Jonathan Fay - University of Michigan
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Jonathan focuses his efforts on facilitating and inspiring entrepreneurship and innovation in the PhDs, PostDocs, and Faculty at the University of Michigan. He assists the researchers throughout the project lifecycle including concept creation and business model generation. As a part of this work, he currently manages the nationally acclaimed NSF Innovation-Corps program (NSF I-Corps) at U-M and teaches in the Masters of Entrepreneurship program. Jonathan came to the University of Michigan as a veteran startup executive from the medical device industry. He has lead the development, regulatory approval and launch of first-of-kind medical products ranging from infant hearing screening, to asthma diagnostics, to hearing devices. Most recently, Jonathan was the COO/CTO of EarLens Corporation. As the operational head of the company, his responsibilities included all R&D, operations, clinical and regulatory activities. Jonathan particularly enjoys the early phases of product development, including building the initial cross disciplinary R&D team, obtaining IDE approval and running the first-in-man clinical trials. In addition to his operational role, he was instrumental in raising capital from a variety of sources including SBIRs, angels, strategic partners, and VCs. Prior to EarLens, Jonathan was a senior member of the core team that developed Apeiron Biosystem's exhaled nitric oxide asthma monitoring device. Before coming to Apeiron, Jonathan worked at Natus Medical Inc. where he managed the development and release of the Algo3i Infant Hearing Screener into the European market. Jonathan has over 12 patents and received his PhD in Biomechanics from Stanford.



Julie Collins – Georgia Tech
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Julie is a core faculty instructor for the Georgia Tech node of the NSF I-Corps Program, as well as a Startup Catalyst with VentureLab, working in Educational Programming. Julie is nationally recognized as an expert in non-dilutive funding, having been the former Director of SBIR Georgia, a state-wide program that encourages domestic small businesses to engage in Federal Research/Research and Development (R/R&D) that has the potential for commercialization. In addition to 10 years working with university-based startups, Julie has 3 years of experience formally teaching the Customer Discovery / Development methodology for the NSF, Georgia Tech and Grupo Guayacan in Puerto Rico. She holds a Master's of Science in Molecular Genetics from Emory University, and a Bachelor's of Science in Microbiology from the Georgia Institute of Technology.



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Patti manages Invest Detroit's venture funds and portfolio of investments. She serves as an Advisor/Board Member at Michigan Venture Capital Association, The Great Lakes Protection Fund, NSF I-Corp, University of Michigan's M-TRAC – Advanced Transportation Technologies and Venture Center Council, and The Clean Coalition. Prior to joining Invest Detroit, Patti worked with Arsenal Venture Partners, a multi-stage national venture capital firm focused on IT, energy and industrial technologies. She has also served as the CEO and executive management of several start-ups in the nanotech, energy, and healthcare IT sectors. She is a graduate from James Madison College at Michigan State University and the Ross School of Business at the University of Michigan.

Adjuncts



Viktor Brandtneris

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Viktor has a diverse financial and general management background from experiences in both corporate and entrepreneurial environments. In his early career he worked in the computer industry in numerous Financial Planning and Modeling roles for companies including IBM and Computervision. His first entrepreneurial endeavor was as co-funder of the Devonshire Trust Company, a boutique money management and mutual fund company in Salem, Massachusetts. After the sale of Devonshire Trust, Viktor stayed active in the financial markets and small business consulting. As Principal of Brandtneris Consulting, he provides business-modeling services centered on the Lean-Start Up Customer Discovery process. Viktor is a member of the national teaching faculty of the National Science Foundation's Innovation Corps (I-Corps) Commercialization program and Director of Ann Arbor SPARK's Entrepreneurial Boot Camp. He is also part of the teaching team for the University of Michigan, Center for Entrepreneurship's regional I-Corps . Viktor has an MBA in Finance & Marketing from Boston College and a double major B.A. in Economics & Psychology from the University of Pennsylvania.



Grant Warner – Howard University
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Grant also serves as the Managing Director of the HowU Innovate Lab which is a co-working and maker space on Howard University's campus. Dr. Warner is the co-founder of ConnectYard, a social analytics platform that provides white-label solutions to leading educational technology providers. He is also a co-founder of XediaLabs, a DC-based incubation firm that provides training and technical consulting to local startups. He received a B.S. degree from Cornell University, an M.S. degree from Penn State University, and a Ph.D. from Columbia University all in Mechanical Engineering.



Dan Kunitz
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Dan is a media and technology executive and entrepreneur who has been involved in the creation and management of several successful web and media start-ups. As Director of the DC I-corps Accelerator Dan advises and provides on-going support to early stage technology companies that participate in the program's bootcamps. Dan also serves as Chairman of Washington DC Economic Partnership's AccelerateDC program.

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Lauren received her B.S. in Kinesiology in 2008 from Indiana University Bloomington. The majority of her professional career was spent in Chicago working in various roles and companies. These included sales and account management at InnerWorkings and Poggled, two companies backed by the Venture Capital firm Lightbank, IT recruitment for AIM Consulting, and program management for the Illinois Technology Association that represents growth-stage technology companies. In her current role as the Commercialization Program Manager at the University of Michigan's Center for Entrepreneurship, Lauren manages the I-Corps programs at the national and regional level. She assists in training institutional partners around the state and region from program set up through execution, coordination of logistics and curriculum development.