

CSU I-Corps™: Biological Sciences Site

Syllabus for Spring 2015 Cohort (Faculty-Led Teams)

Teams Version

***From NSF guidelines:** The foundation of I-Corps™ Programs is the Lean LaunchPad (LLP) curriculum. The expectation for Sites is that the Lean LaunchPad curriculum will serve as a baseline for educating teams about commercialization.*

Spring 2015 Teams:

- **CellulAY** (SDSU; Roland Wolkowicz - PI, Cameron Smurthwaite – EL, Stewart Noble - IM)
- **Eros** (SJSU; Folarin Erogbogbo - PI, Diana Valenzuela – EL, Seth Michelson - IM)
- **Hornet Ventures** (Sac State; Aki Kumagai - PI, Gary Jaffe - EL, Jose Mojica - IM)
- **ProPopulate** (SDSU; Forest Rowher - PI, Jeremy Barr - EL, Mark Surber - IM)

CSU I-Corps™ teams originate in the CSU's biological sciences and engineering research communities and enter the program with a commercialization idea to explore. The CSU I-Corps™ curriculum is a less-intense, downsized version of the Lean LaunchPad Life Sciences curriculum Steve Blank developed for the UCSF I-Corps Node and the National Institutes of Health. Like all Lean LaunchPad courses, the CSU I-Corps program is based on The Business Model Canvas (BMC), Customer Development ("getting out of the building"), and iterative, evidence-based business model development. To downsize the curriculum, we focus primarily on the Value Proposition Design (VPD; Value Proposition + Customer Segments) parts of the BMC. To reduce the intensity, our curriculum is offered over 3 months, rather than 7 weeks, and teams aim for 30 - 40 interviews instead of the 100 required in the national Node curriculum.

Over three months, CSU I-Corps teams will begin to develop a business model around their biotechnology, focusing on VPD. At the end of the I-Corps program, teams will know how to use the business model canvas as a tool and how to interview potential customers, partners and experts to analyze product-market fit. Overall, the program allows academic researchers and nascent entrepreneurs to get feedback from potential customers, partners and advisors to better assess their biotechnology idea's maturity, feasibility, and follow-on funding possibilities.

CSU I-Corps Site Program Learning Outcomes

Upon completion of the CSU I-Corps Site Program, participants should:

- Learn how to **communicate biotechnology ideas** in a non-confidential manner to preserve intellectual property and deliver a presentation, including Lessons Learned and Technical stories, to a live audience of biotechnology industry professionals and subject matter experts.

Teams Version

- Use the **Business Model Canvas** (BMC) framework, focusing on Value Proposition Design (VPD), to begin the design of a business model for eventual partnering or commercialization of an early stage biotechnology.
- Use an evidence-based approach to business model design and **iteration**.
- Apply the **Customer Discovery** process to test hypotheses and assumptions underlying a proposed business model.
- Show how evidence from Customer Discovery activities results in key learnings, leading to "**persevere**" or "**pivot**" decisions in the business model.
- Assess their biotechnology and propose **next steps** for commercialization based on sector-specific advice and feedback

During the spring, teams are required to attend two all-day meetings in San Diego, four 1-hour webinars, do homework and carry out activities needed to develop a value proposition around a biotechnology idea. Final presentations and evaluations will occur as part of the all-day meeting on Saturday, June 27.

SCHEDULE OF SPRING 2015 ACTIVITIES

Date	Activities, Deadlines and Milestones	Teaching Team
Saturday, March 28	All-Day, In-Person Kickoff Meeting San Diego State University 10 am - 4 pm	Baxter, DeNoble (am only), Maloy, Martindale, Pucher Confirmed: Sandra Thompson (Slater Hershey), Steve Betz (Crinetics)
Friday, April 3rd	Office Hours, noon	Martindale / Pucher / Elizabeth Wilson – corporate attorney
Friday, April 10th	Webinar #1 noon – 1pm Customer Interviewing, Synthesis & Pivot	DeNoble / Pucher
Friday, April 17th	Office Hours, noon	DeNoble / Martindale
Friday, April 24th	Webinar #2 noon – 1pm Business Model Canvas Concepts	Pucher / DeNoble
Friday, May 1st	Office Hours, noon	Giacalone / Maloy / Pucher – partnering?
Friday, May 15th	Office Hours, noon	Baxter / Martindale
Friday, May 22nd	Webinar #3 noon – 1pm Multi-Sided Markets & Regulatory Awareness	Baxter / Pucher
Friday, May 29th	Office Hours, noon	Baxter / DeNoble
Friday, June 5th	Webinar #4 noon – 1pm Telling the Story with Final Presentations	Maloy / Baxter
Wednesday, June 10th	One-Page Summaries Due	
Friday, June 12th	Office Hours, noon	Baxter / Maloy?
Friday, June 19th	Office Hours, noon	Martindale / Baxter
Saturday, June 27	Final Presentations & Evaluations San Diego State University 10 am – 3 pm	Baxter, Maloy, Martindale, Pucher Evaluation Panels to be recruited

CSU I-Corps Spring 2015 Program

CSU I-Corps Website: <http://www.csuperb.org/csucorps>

Instructors: Susan Baxter, Alex DeNoble, Stanley Maloy, Tommy Martindale, Cathy Pucher

Instruction Support (TAs): Shannon Palka, Frank Steensnaes, Alissa Thompson

Texts:

Talking with Humans

<https://s3.amazonaws.com/TalkingtoHumans/Talking+to+Humans.pdf>

Value Proposition Design (Preview version only, 100 pages):

<https://strategyzer.com/value-proposition-design>

Business Model Generation (Preview version only, 72 pages):

http://www.businessmodelgeneration.com/downloads/businessmodelgeneration_preview.pdf

Resources and Video Libraries:

Lean LaunchPad Master Video Library: <http://venturewell.org/i-corps/llpvideos/>

University of Michigan Intellectual Property Video Library:

<http://www.cfe.umich.edu/intellectual-property/all-videos/>

U.S. Food & Drug Administration Learning Portal:

<http://www.fda.gov/Training/learningportal/default.htm>

CSU I-Corps Resources: <http://www.csuperb.org/csucorps/biosciences-site/resources/>

CSU I-Corps Shared Drive: Google Drive (folder links sent March 23rd via email)

Webinar Platform: Skype

Prerequisites: Successful application to the CSU I-Corps Microgrant Program + curiosity and drive to learn how life science ideas become products + ability to attend meetings & webinars and deliver homework and presentations.

Goal: An experiential, real-world learning opportunity!

CSU I-Corps Program Culture

- Before immersing teams in a start-up culture, there are some things we need to explain. Biotechnology commercialization is a time- and cash-constrained process. Likewise, we have limited time and we're planning to push and challenge you to learn quickly. Just like real-world companies, we have no time (or money) to waste! Your team will be evaluated based on your ability to work as a team, deliver on time, use your budget effectively, and show up as promised.
- We'll be offering in-person seminars, webinars and office hours during the spring to help you begin your search for a product-market fit. Each team needs to submit "homework assignments" before each webinar. Homework will be collected on an assigned, shared Google Drive Folder. Homework assignments and reports help us assess what each team is learning and if they are keeping up with customer discovery activities. Late submissions will be noted and go into the overall team evaluation shared with NSF. In addition, all instructors will assume you've done the homework and will discuss new topics based on that assumption.
- CSU I-Corps webinars are only one hour long. That means you'll need to show up early to log-in and make sure your video and audio connections are working; late arrivals will be noted. ELs are required to attend all webinars. If you cannot attend, you must contact Susan Baxter (sbaxter@mail.sdsu.edu) to schedule a separate feedback session; you cannot skip webinars altogether. We will archive webinar content so that you can go back and review what was said, but most instructors will be focused on pointing you to other resources so you can move ahead on your own. We think your time is best spent learning from the Lean LaunchPad Master Video Library (link above on page 4).
- During each webinar, the instructors will call on teams to present their lessons learned and homework – this means you'll need to be ready to present to the CSU I-Corps on what you've learned from your interviews between webinars. This means you'll learn to get comfortable with public feedback. But we also know teams will learn from each other – a classic "win-win!"
- This spring we will also be offering optional Office Hours between meetings and webinars. Like the webinars, we'll hold them using Skype. The teaching team staff will initiate the Skype call at noon; if no one shows up by 12:15pm, we'll shut it down.

SPRING 2015 CSU I-CORPS PROGRAM SYLLABUS

All-Day, In-Person Kickoff Meeting, Saturday, March 28th, 9:30 am - 4 pm

Park Boulevard Room (Floor 1, Room #141)

Conrad Prebys Student Union

San Diego State University

Instructors: Baxter, DeNoble, Maloy, Martindale, Pucher

Guest Instructors:

Sandra Thompson (Slater Hershey; <http://www.slaterhersey.com/attorneys/sandra-p-thompson/>) &

Steve Betz (Crinetics; <http://www.crinetics.com/team/>)

Learning Outcomes for Kickoff Meeting:

1. Walk out of Class with a first draft Business Model Canvas
2. Walk out of Class with a IP-scrubbed elevator speech
3. Walk out of class with a hypothesis to test via ~ 5 (five) interviews (March 30 – April 9th)

Pre-class reading: Steve Blank's blog: <http://steveblank.com/2010/10/25/entrepreneurship-as-a-science-%E2%80%93-the-business-modelcustomer-development-stack/>

Pre-class videos to watch:

Steve Blank, Evidence-based Entrepreneurship (~25 minutes):

<https://www.youtube.com/watch?v=zjvEanpktEo>

Watch University of Michigan Intellectual Property Videos (<http://www.cfe.umich.edu/intellectual-property/all-videos/>): # 11 (What is Prior Art?), #14 (Public Disclosure Issues), #21 (Patent Inventorship), #24 (Patent Ownership), #30 (Freedom to Operate), #37 (Copyright Overview) & #42 (Works for Hire). See also University Tech Transfer (#26).

9:30 – 9:45 am: CSU I-Corps Introduction (Baxter) – **NOTE NEW START TIME!**

- Overview of Program Learning Objectives
- Logistics

9:45 – 11:15 am Business Model Canvas and Evidence-based Entrepreneurship (Pucher)

- Guest Speaker to Illustrate Real-Life Search for a Business Model (Steve Betz)
- Introduction to Lean LaunchPad Principles
- Introduction to the Business Model Canvas

11:15 am – 12:30 pm Customer Discovery and Interviews (DeNoble & Pucher)

- Discuss Evidence-based Learning
- Introduction to Customer Interviewing (VPN Companion: <http://strategyr.s3.amazonaws.com/assets/vpd/resources/ground-rules-for-interviewing.pdf>)
- How Should Teams Debrief After Customer Interviews?

Teams Version

Break & Working (Box) Lunch

1 - 2 pm: Protecting Intellectual Property During Customer Discovery (Thompson & Martindale)

- How and what can you communicate about your biotechnology to customers, partners, others without compromising your IP position?

2 – 3pm: Customer Persona Identification (Pucher & Baxter)

- Technology Push vs. Pull
- Customer Profiles
- Pains, Gains, Jobs

3- 4 pm: Individual Team Consults on Intellectual Property / Technology Transfer (Martindale & Thompson)

HOMEWORK for Webinar #1 (April 10th):

- 1) Read *Value Proposition Design* (free 100 pages)
- 2) Interview 5 potential customers to learn about pains, gains and their jobs (submit your completed Interview templates to Google Drive as you work)
- 3) Use Worksheet I (Linking Value Proposition to Customer Segments.doc) to synthesize your learning (submit worksheet to Google Drive by Wednesday noon, April 8th)
- 4) Revise your Business Model Canvas (BMC v1.0) – as a result of your learning (green = confirmed; red = wrong assumption; yellow = not sure, black = unchanged/untested and submit your BMC v1.0 to the Google Drive Folder by noon, Wednesday, April 8th)

Webinar #1: Customer Interviewing, Synthesis & The Pivot (DeNoble/Pucher)

Friday noon, April 10th

- Team Reports on Lessons Learned
- The Pivot
- The Need to Iterate/Synthesize What You Learned

HOMEWORK for Webinar #2:

- 5) Interview 5 more potential customers/partners and experts (submit your completed Interview templates to Google Drive as you work)
- 1) Use Worksheet I (Linking Value Proposition to Customer Segments.doc) to synthesize your learning (submit worksheet to Google Drive by Wednesday noon, April 22nd)
- 2) Revise your Business Model Canvas (BMC v2.0) as a result of your learning (green = confirmed; red = wrong assumption; yellow = not sure, black = unchanged/untested and submit your BMC v1.0 to the Google Drive Folder by noon, Wednesday, April 22nd)

Webinar #2: Business Model Canvas Concepts (Pucher/ DeNoble)

Friday noon, April 24th

Teams Version

- Team Reports on Lessons Learned
- Review of Business Model Concepts – all nine segments

HOMEWORK for Webinar #3:

- 6) Interview 10 more potential customers/partners and experts (submit your completed Interview templates to Google Drive as you work)
- 1) Revise your Business Model Canvas (BMC v3.0) as a result of your learning (green = confirmed; red = wrong assumption; yellow = not sure, black = unchanged/untested and submit your BMC v1.0 to the Google Drive Folder by noon, Wednesday, May 20th)
- 2) Read:
Steve Blank's "Lessons Learned in Medical Devices":
<https://www.linkedin.com/pulse/20131223163909-95015-lessons-learned-in-medical-devices>
Allan May's analysis of a multi-sided market:
<http://www.slideshare.net/sblank/ucsf-life-sciences-week-2-devices> and
Steve Blank's "When Customers Make You Smarter":
<http://steveblank.com/2013/12/02/when-customers-make-you-smarter/>

Webinar #3: Multi-Sided Markets and Regulatory Awareness (Baxter/Pucher)

Friday noon, May 22nd

- Team Reports on Lessons Learned
- Multi-Sided Markets
- The Long Time Product Development Lifecycle in Biotechnology
- Why think about Regulatory Approvals and Reimbursement now?

HOMEWORK for Webinar #4:

- 7) Interview 10 more potential customers/partners and experts (submit your completed Interview templates to Google Drive as you work)
- 1) Revise your Business Model Canvas (BMC v4.0) as a result of your learning (green = confirmed; red = wrong assumption; yellow = not sure, black = unchanged/untested and submit your BMC v1.0 to the Google Drive Folder by noon, Wednesday, May 20th)
- 2) [David Riemer's Series on Story Telling](#) and watch a couple of the [Final Presentations](#) from UCSF.

Webinar #4: Telling the Story with Final Presentations (Maloy/Baxter)

Friday noon, June 5th

- Team Reports on Lessons Learned
- Outline Expectations for Final June 27th Meeting
- Giving Presentations and Telling A Story

HOMEWORK:

Teams Version

- 8) Continue interviewing customers and experts (for a total of ~30-40!) to develop your BMC – develop and test hypotheses for **all** segments of canvas! (submit your completed Interview templates to Google Drive as you work)
- 1) Submit one-page summary June 10th to Google Drive; Teaching Team will provide written feedback
- 2) Develop 10 minute Presentation Slide Deck to present June 27th to Evaluation Panel

All-Day, In-Person Final Meeting, Saturday, June 27th

San Diego State University, 10 am - 3 pm

Instructors: Baxter, DeNoble, Maloy, Martindale, Pucher

Evaluation Panel: TBN

Learning Outcomes for Final Meeting:

1. Walk out of Class with a Business Model Canvas that could be used for NSF I-Corps Team application or SBIR commercialization plan, etc.
2. Walk out of Class with an external evaluation panel's assessment of team, technology and commercialization plan maturity (this is what Teaching Team leans on for "go/no-go" decision for NSF)
3. Walk out of class with a "Next Steps" Plan ("go/no-go")