

Building a High Tech Startup

ITP 466 (4 Units)

USC
Viterbi

School of Engineering

Course Description

This course provides a comprehensive overview of the methodologies and processes involved in building a tech startup. Students will work in teams, learning (by doing) how to turn great ideas into great companies.

Objectives

After completing this course, students will be able to:

- Build winning startup teams
- Develop a business model
- Fundraise
- Acquire and sustain customers
- Generate revenue
- Employ sales techniques and meet with investors
- Understand the legal and accounting matters
- Produce product roadmaps and feature sets
- Develop minimum viable products
- Use Agile methodologies
- Produce wireframes, high fidelity designs, and prototypes
- Gather and analyze metrics
- Employ marketing techniques

Prerequisites

None

Lectures and Lab

Wednesdays 5:00 PM to 8:50 PM in GFS 222

Instructor

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Textbook

This class covers a great deal of territory, so no single textbook can cover it all. In addition to reading/listening material that will be assigned in class, the following textbooks will provide important background, and will be used as reference material:

- Maurya, Ash (2012). Running Lean. O’Rielly Media. ISBN-10 1449305172.
- Blank, Steve and Dorf, Bob (2012). The Startup Owner’s Manual: The Step-by-Step Guide for Building a Great Company. K&S Ranch Publishing. ISBN-10 0984999302.

Project

For a hands-on experience, there will be a semester-long group project assignment. Each group must have between 4 and 5 members. Each group will act as a startup and go through the full process of creating a product that will be pitched at the end of the semester to a group of investors.

Grading

The weight of the graded material during the semester is listed below:

In-Class Participation	15%
Peer Review	5%
Assignments	40%
Pitch	20%
Exam	20%

The following grading scale will be used to determine your letter grade:

93% and above	A
90% - 92%	A-
87% - 89%	B+
83% - 86%	B
80% - 82%	B-
77% - 79%	C+
73% - 76%	C
70% - 72%	C-
67% - 69%	D+
64% - 66%	D
63% and below	F

Course Outline

Week 1 – 01.11

Introduction

- History of the corporation
- Startups
- Profiles of startups
- *Guest Speaker:* Jody Mulkey, CTO at Ticketmaster

Week 2 – 01.18

Team

- Founders and employees
- Attracting and hiring the right people
- Roles and team dynamics
- Culture
- *Guest Speaker:* Leah Nanni, Venture Coach at Blackstone LaunchPad USC

Week 3 – 01.25

Product Research

- Research TAM
- Research competitive landscape
- Research feasibility
- *Guest Speaker:* Mark Verge, Serial Entrepreneur

Week 4 – 02.01

Product Management

- Minimum viable product
- Product vision
- Product roadmap
- Features and requirements
- *Guest Speaker:* Peter Sargent, AVP of Product Management at DIRECTV

Week 5 – 02.08

UX Design

- User research
- Personas and scenarios
- Wireframes
- *Guest Speaker:* Noelle Stransky, Product Designer and Strategist

Week 6 – 02.15

UI Design

- High fidelity designs
- Prototypes
- Usability testing
- A/B testing tools
- *Guest Speaker:* Daniel Singer, Product Lead at Sensay

Week 7 – 02.22

Product Development

- Agile development, SCRUM, Waterfall
- Development frameworks
- Databases, NoSQL, SQL
- SaaS, buy vs. build
- Hosting environments
- Outsource vs. insource
- *Guest Speaker:* Jonah Grant, Engineer at Periscope/Twitter

Week 8 – 03.01

Customers

- Customer acquisition
- Customer relationships
- Customer segments

Week 9 – 03.08

Revenue

- Revenue streams
- Pricing
- Market type, size and share
- Common mistakes
- Revenue first companies
- *Guest Speaker:* Brett Fink, Business Development at 500 Startups

Week 10 – 03.15

Spring recess

Week 11 – 03.22

Sales

- Sales strategies
- Pitch decks
- One sheets
- *Guest Speaker:* Armen Adjemian, CEO at Active Measure

Week 12 – 03.29

Fund Raising

- Investors' perspective
- Meeting with investors, pitching, leveraging relationships
- Fund raising process
- Valuation
- Term sheets
- *Guest Speaker:* Diego Berdakin, Investor (Uber, Dropbox, Postmates, etc.)

Week 13 – 04.05

Analytics and Metrics

- Analytics 101
- Key performance indicators
- Tools and platforms
- *Guest Speaker:* Christine Chu, VP of Analytics and Optimization at Ticketmaster

Week 14 – 04.12

Marketing

- Marketing channels
- Social media marketing
- Inbound marketing
- Funnel analysis

Week 15 – 04.19

Legal and Accounting

- Equity
- Fundraising
- Investor requests
- *Guest Speaker:* David Oshinsky, Partner at Cadence Law

Week 16 – 04.26

Exam

Finals Week – May 3 to May 10
Pitches

Policies

- Late assignment submissions will be subject of a late penalty. No assignments will be accepted later than five days from the due date.
- All team members must participate in the pitch.
- No make-up pitches will be offered.

Incomplete and Missing Grades

Excerpts for this section have been taken from the University Grading Handbook, located at <http://www.usc.edu/dept/ARR/grades/gradinghandbook/index.html>. Please see the link for more details on this and any other grading concerns.

A grade of Missing Grade (MG) “should only be assigned in unique or unusual situations... for those cases in which a student does not complete work for the course before the semester ends. All missing grades must be resolved by the instructor through the Correction of Grade Process. One calendar year is allowed to resolve a MG. If an MG is not resolved [within] one year the grade is changed to [Unofficial Withdrawal] UW and will be calculated into the grade point average a zero grade points.

A grade of Incomplete (IN) “is assigned when work is no completed because of documented illness or other ‘emergency’ occurring after the twelfth week of the semester (or 12th week equivalency for any course scheduled for less than 15 weeks).”

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to your course instructor (or TA) as early in the semester as possible. If you need accommodations for an exam, the form needs to be given to the instructor at least two weeks before the exam.

DSP is located in STU 301 and is open from 8:30am to 5:00pm, Monday through

Friday. Contact info: 213-740-0776 (Phone), 213-740-6948 (TDD only), 213-740-8216 (FAX), ability@usc.edu, http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html.

Academic Conduct

Each student is expected to: be responsible for his/her own learning, to solve and write up his/her own solutions, and, to credit all sources of material and collaborators to the formulating of a solution. Plagiarism, the use and passing off of the ideas or work of another as one's own, will be severely punished; see USC's Academic Integrity Policy:

You are expected to solve and write up your own homework, or you will be penalized for cheating. But you are encouraged to study and to work on assignments and homework together. This includes discussing solution strategies to be used on individual assignments. If you do study or work together on homework, be sure to credit your team of collaborators. However, all work submitted for the class is to be done individually.

All USC students are responsible for reading and following the Student Conduct Code. The USC Student Conduct Code prohibits plagiarism. Some examples of what is not allowed by the conduct code: copying all or part of someone else's work (by hand or by looking at others' files, either secretly or if shown), and submitting it as your own; giving another student in the class a copy of your assignment solution; consulting with another student during an exam. If you have questions about what is allowed, please discuss it with the instructor.

Students who violate University standards of academic integrity are subject to disciplinary sanctions, including failure in the course and suspension from the University. Since dishonesty in any form harms the individual, other students, and the University, policies on academic integrity will be strictly enforced. Violations of the Student Conduct Code will be filed with the Office of Student Conduct, and appropriate sanctions will be given.

Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards* <https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct/>.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of*

Equity and Diversity

<http://equity.usc.edu/> or to the *Department of Public Safety* <http://capsnet.usc.edu/department/departement-public-safety/online-forms/contact-us>. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* <http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* <http://emergency.usc.edu/> will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.