NUVENTION TRANSPORTATION

ENTREP 490
Northwestern University
Fall Quarter 2016

COURSE NUVenture Transportation (ENTREP 490)

TEXT Disciplined Entrepreneurship, Bill Aulet, Wiley, 2013
(Available on Amazon as an e-book)

CASE Packet A short case packet is available here: http://cb.hbsp.harvard.edu/cbmp/access/51599395

TIME Tuesdays, 6:30-9:30PM

LOCATION ITW classroom, Ford design center

PROFESSOR Mark Werwath, Clinical Professor, Associate Director, Farley Center for Entrepreneurship and Innovation (FCEI), McCormick School of Engineering
m-werwath@northwestern.edu, 847-491-4696, Tech C118

FACULTY Dan Brown of Segal
Bret Johnson of the Transportation center

PROGRAM SITE http://nuvention.northwestern.edu/transportation

CONTENT WEBSITE http://www.udacity.com/view#Course/ep245/CourseRev/9/Unit/473009/Nugget/420003

TEACHING ASSISTANT Rodrigo Oviedo, RodrigoOviedo2016@u.northwestern.edu

OFFICE HOURS I will try to be in the classroom by 530PM and will stay after class is completed. I am on campus every weekday. Please email me to schedule a time. Please contact other NUVenture members directly to schedule an appointment.
Transportation Center, Bret Johnson

PROGRAM

OFFICES

Farley Center for Entrepreneurship and Innovation, Ford Engineering Design Center, 2133 Sheridan Road, #2-331, Evanston,

847-467-6347 / 847-467-4727 (fax)

COURSE

OVERVIEW

NUvention transportation is designed to expose students to all aspects of the business development process from the idea to the creation, financing and running of a start-up business.

In this class the concept of “application” extends to creating businesses to leverage innovations specifically in the transportation space. Engineers are great innovators but sometimes a great innovation never reaches its potential since a business was not created to exploit it. NUvention transportation is designed to teach you the skills to build a business. Students that are not engineering majors will also greatly benefit from this class. This course emphasizes the need for cross-functional teams, part of your grade will be based on how well you function in the team.

This class cannot make you into an entrepreneur. It can help you better assess whether an idea is a business opportunity and how to transform that opportunity into a business.

As you already know, the best way to learn something is to actually do it. Since we cannot find companies for all of you to run, we will do the next best thing. The class project will involve putting together a business plan within small groups. This process should help students take advantage of whatever current or future business opportunities they may choose to pursue.

COURSE GOALS

Our overall goal is to help you understand how to evolve an idea into a business. Our course objectives include:

• How to develop an idea
• How to assess whether and idea is a good business opportunity
• How to build a valid business model
• Obtain solid understanding of Lean Start-Up
• Developing sound business strategy
• Understand how to create value in a business
• How to market your business
• Building a successful team
• Developing and protecting intellectual property
• Developing compelling idea pitches and business models
• Understanding how to value a business
• How to raise capital
• Understand how to allocate equity among founders and employees

Over time, you will more than likely forget the some of the cases and other things you learn here. My hope is you never forget how to spot a good idea and develop it into a business.
STUDENT ROLE  I hope to create a classroom environment that is interesting and fun. Your participation in class is CRITICAL to accomplishing our goal. You should be collecting data in order to validate or invalidate your hypotheses and share your results with the class.

INSTRUCTOR ROLE  My role as instructor is to facilitate the learning. You will do the majority of the talking. I will be taking notes on the board to help provide a path through the cases and the materials are mostly on blackboard that I will highlight during the course.

GRADING  Your grade will be compiled from these different components as shown in the assignments:

For the business pitch/canvas, the students will form groups of up to five people and develop an idea pitch and a complete business model with supporting documentation for an idea they would consider pursuing.

CLASS FORMAT  70% of class time will be allotted to discussing the topic of the session, 30% will be allocated to either team feedback time and/or team workgroup time.

COURSE

PREREQUISITE  It is your responsibility to insure that you meet the prerequisites for this course. In general these include a healthy interest and/or experience in transportation and the ability to do research and to conduct qualitative interviews.

BUSINESS PITCH  This is a graded exercise where your team will be graded on the quality of the business concept and how well it was captured in the business plan.

BUSINESS PLAN  This is a document that describes your business in some detail. It will be contained in the business plan. Your thoroughness and details and business viability will be judged both in writing and in your team’s final presentation this week. This is a team graded deliverable.

NOTICE OF VIDEO AND AUDIO RECORDING

Students in this course may be subject to periodic audio and video recording. Such recordings will potentially be used by Northwestern University in the future and made available through various means, including web pages, to both students and advisors in the program. By registering for the course, you are consenting to such recording and consenting to having the materials made available for academic and marketing purposes.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Assignment</th>
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|      | 9/20/16| Lean Startup in Transportation & Business Model | Canvas

Mark Werwath

https://canvas.northwestern.edu/courses/46794/assignments/syllabus
1. Aulet steps 0 through 3

**A story of modern day logistics**

**Guest speaker-Chris Pickett of Coyote Logistics**

2. **Team Check-in**

   * Two minute pitches

   **Business Model Canvas & Lean Design**

   * Aulet steps 4 through 5
   * Guest speaker: Sharon Feigon of IGO

3. **Customer Development**

   * Aulet steps 6-8

   **Regulation and drones: Sensurion Aerospace**

4. **Pivoting and the Search for the White Space**

   * Aulet steps 9-11

   **Guest speaker: Dan Brown**

5. **Entry Formation, General Legal & Regulatory Issues**

   * Aulet steps 12-14

   **Guest Speakers: Greg Grossman of DLA Piper**

6. **Selling: transportation**

   **Guest Speaker: Paul Pebbles and connected vehicles**

   * Aulet steps 15-18
GE Transportation and GE Ventures

7  11/1/16

Aulet steps 18-21

**MIDPOINT REVIEW**

Advisory Board, Faculty, and Guests

Positioning, Pricing, etc.

Funding & Financing (Angel and Venture Capital)

8  11/8/16

Aulet steps 19-23

Guest Speaker: Finance, Nick Moran of New Stack Ventures

Wrap Up Personal mobility

9  11/15/16

Guest Speaker: Matt Kaywood

10  11/22/16

**FINAL PRESENTATIONS**

Advisory Board, Faculty, Guests

Assignments Summary:

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<tr>
<th>Date</th>
<th>Details</th>
<th>Due Date</th>
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<tr>
<td>Tue Sep 27, 2016</td>
<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/260697">UBER</a></td>
<td>6:30pm</td>
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<td>Wed Sep 28, 2016</td>
<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/251433">Team contract</a></td>
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<td>Tue Oct 4, 2016</td>
<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/251426">Initial interviews</a></td>
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<td>Tue Oct 11, 2016</td>
<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/251427">Market research</a></td>
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<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/260698">People Express</a></td>
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<td>Tue Oct 18, 2016</td>
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<td>Wed Oct 26, 2016</td>
<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/251429">Midpoint team feedback</a></td>
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<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/251429">Techno economic model</a></td>
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<td>Wed Nov 2, 2016</td>
<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/251428">Midpoint review slides</a></td>
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<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/251431">Pro forma income statement</a></td>
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<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/260700">Google Car</a></td>
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<td>Wed Nov 30, 2016</td>
<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/260695">Advisor feedback</a></td>
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<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/251425">Final team feedback</a></td>
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<td>Fri Dec 2, 2016</td>
<td><a href="https://canvas.northwestern.edu/courses/46794/assignments/251424">Final pitch deck</a></td>
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