

ENTREPRENEURSHIP FOR ENGINEERS

Course: 1036 Winter 2022

Instructor: Joseph Orozco

Meetings by appointment only at Myhal Center Suite 620

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Bio at the end of this document.

WHY THIS COURSE

This course will provide you with an opportunity to experience the journey that it takes to create a START-UP company.

The 1036 course promotes the entrepreneurial thinking, a mindset that acknowledges uncertainty and limited resources in today's world. Whether you wish to create your own start-up, or you decide to work for a corporation you will find this course very valuable and current.

During the course, we will provide you with the practical knowledge and technical skills required to develop a Business Plan, Cash Flow Projections and a 60 second pitch. We believe that the development of entrepreneurial skills is fundamental in your professional development.

Students will be guided on the use of tools to manage team building/dynamics, market fit, scaling, user insight generation, pitching and the **The FEEL™ House** business plan model (*). Everything changes rapidly in today's society, the end of the 20th Century went down in history as the decade of the "Great Restructuring" of the modern World's trade and business environments; the maturing of the Internet and e-Commerce and the presence of Social Media and COVID with its repercussions. Canadians are not immune to these changes and must adapt in order to prosper. The development of an entrepreneurial mind set and the understanding of the tools provided in this course will be a spring board in your professional careers.

*The Formative Entrepreneurial Experiential Learning (FEEL™) House Business Plan model uses principles originally created by Alexander Osterwalder & Yves Pigneur and complemented by Joseph Orozco

INSIGHT

Entrepreneurship is a key element of any economy that hopes to grow and meet the challenges of today; FEEL™ training is essential to create and nurture a mindset of entrepreneurship in our society. The goal of this course is that a significant number of students will increase their confidence in their ability to create a start-up company , solve high impact problems and generate new ideas.

FEEL™ will provide students with inspiration, motivation, mentorship and understanding of the resources available in the ecosystem to support these goals. It will help develop students an Intention to Act Entrepreneurial. This can be interpreted as acquiring:

- a. Skills (perform tasks: opportunity recognition, viability screening) and
- b. The attitude (a predisposition to respond to opportunities)

Overall, entrepreneurship becomes a way of thinking where opportunities are emphasized over barriers and threats (Krueger 2010). **An Entrepreneur will be the individual that can add value to any organization acknowledging the reality of limited resources and a high level of uncertainty.**

I look forward to working with you in the creation of your start-up. I will be sharing the experiences of my own entrepreneurial journey as well as the learnings of the past 10 years after founding the University of Toronto Entrepreneurship Hatchery and the development of the FEEL™ methodology.

COURSE DESCRIPTION

Class Material

All of the lecture notes used in the classroom are available to you on your QUERCUS Class website. You can print them or download them for use in class.

The Text (For reference only- There is no mandatory text book for the course)

The StartUp Manual: The Step by Step Guide for Building a great company
2012 by Bob Dorf and Steve Blank
K&S Ranch ISBN 10: 0984999302

The Four Steps the Epiphany

2013 by Steve Blank
K&S Ranch ISBN 10: 0989200507 ISBN 13: 9780989200509

Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers,

2010 by Alexander Osterwalder , Yves Pigneur
Wiley ISBN-978—0-470-87641-1

Lecture Hours in person (Online via Quercus until January 31st 2022)

- a. Wednesday : noon – 3:00 pm
 - i. Business Press Review (Continuous Market Research Exercise in person)
 - ii. Lecture (in person)
 - iii. Lecture Reflection (in person)
- b. Tuesday: 12:00 – 2:00 pm (marked as a Tutorial in the Calendar)

This “tutorial” is referred to as the Hatchery Speaker Series. It actually takes the form of an online talk given by a successful entrepreneur. See “*Assignments*” below for complete description.

Details

All the course deliverables should be uploaded to QUERCUS on media or PDF format with the file title showing your last name/student number and the assignment reference (i.e. OROZCO 12345 BPR 1)

The Entrepreneurship Hatchery “The Hatchery”

The Hatchery is invested in building a strong entrepreneurial community at the University of Toronto. The Hatchery will provide you with the tools and resources to take your start-up to the next level. This course is the perfect place for you to start. Visit: <http://hatchery.engineering.utoronto.ca/>

The UofT Entrepreneurial Hatchery, launched in 2011, has seen a steady growth in the number and quality of applicants over the years. Hatchery NEST 2022 cohort application deadline is January 31st 2022.

FEEL™ develops a hands-on program that immerses student's in developing and testing their business ideas by leveraging guest speakers sessions, business and research data (as a source of continued market research), lecture reflection interactions and the FEEL Business Plan Blue Print.

Hatchery Speaker Series / Guest Speaker Report

We invite entrepreneurs from the business community (even past students who started successful businesses) to speak for 45-50 minutes about their business, life, experiences, successes and failures. These guests are invaluable in adding a real-life dimension to the course.

The guest speaker's talk is followed by a Q and A session. Use this opportunity to be curious and ask questions that may be relevant to your business.

You *must* submit a *Guest Speaker Report* on each speaker. It should give an overview of the key things said by the guest speaker and your thoughts and opinions on them. Should not be longer than one page (double spaced).

The Guest Speaker Report will show up on QUERCUS under "*Assignments/Guest Lectures*" on the day of the guest speaker and will be available until 11:59 PM of the following Sunday. You have unlimited submission attempts.

Example: The first Guest Speaker session will be held on Tuesday January 18th 2022 at noon and the report will be due on Sunday January 23rd 11:59 pm.

These reports have a weight of 8% final mark. 8 Submissions gives you full marks.

Continued Market Research (Business Press/Research Publications Review)

As part of your validation and discovery activities you are expected to find meaningful articles from a reliable business publication and research papers (Journals, Reuters, Bloomberg, Globe and Mail Report on Business, National Post – Financial Section, Financial Times, Canadian Business, etc.) and do a 30 second video recording summary that talks to how the findings of the reading are important for your business (continued market research). You can apply the learnings to each of the sections of **The FEEL™ House**.

Submit/Upload your recording on QUERCUS by 11:59 pm the Sunday *before every lecture*. The report should be in a media format with file title showing your last name/student number and the assignment reference (i.e. OROZCO 12345 BPR 1)

These findings will be valuable for your The Market Research needs. It may include industry and technology trends, competition, recently released trade figures; import/export news; currency issues; government actions; approvals of financing; bankruptcies; tax matters, entrepreneurs, success stories, etc. The recording refers to your reflection and not the reading of the article (not a précis of the article, i.e. copy- paste).

This activity has a weight of 8% of your final mark. 11 reports gives you full marks.

The insights you find in the Business Press Review will be useful during the Lecture Reflection.

Lecture Reflection

The lecture reflection is intended to have a supervised discussion of your start-ups among peers. The objective: groups of students will collaborate to develop predetermined sections of the **The FEEL™ House** using Business Press Review findings and class material.

The intention is to rotate the groups among the students present in class. The deliverable of the session is a weekly lecture reflection report (bullet items with short explanations that should not be longer than a page). The essence of this report is to have students discuss the gaps of information for the business plans and collaborate to resolve them. Although the discussion will happen in groups, every student will be presenting their own report as it applies to their start-up on a weekly basis. This report will have 2 sections a) contributions/thoughts you have contributed to the other start-ups and b) key contributions/thoughts you've received for your own. Use "explained bullet points" for the contributions, this report should not be longer than 1 page. Every session will focus on specific sections of the business plan (**The FEEL™ House**)

The first lecture reflection group discussion will be on class number 2. The report for the reflection will be due on the Sunday before the next lecture at 11:59 pm. In-class participation is needed to complete this activity, please let me know if there are any limitations for class participation.

There will be a total of 6 Lecture Reflection reports. The Lecture Reflection has a weight of 25 % of your final mark.

Market Research Assignment

Although not a marked assignment, conducting Market Research following the assignment guidance is absolutely necessary to gather the information needed to build your start-up's business plan. The assignment description will be available on Quercus under the modules tap.

Your Start-up?

The final product of the course is a fully developed Business Plan (**The FEEL™ House**) of your Start-up, 24 month cashflow projections and a 60 second elevator pitch. These are the "Blue Print" of your start-up company (i.e. all the details that are needed to build your company).

The Start-up is created around a problem statement which tends to be the result of the recognition of an opportunity by the entrepreneur. The best place to start is to reflect on the problem you want to solve and for who. Share this with family and friends. Sharing ideas and observations will lead you into hypotheses of what the value proposition (solution) of your Start-up should be. Do not limit your ideas based on the size of the investment needed or the availability of the technology to create the technical solution. The objective is to inspire you to focus on a meaningful problem to develop a comprehensive business plan. Avoid looking into businesses such as restaurants, market place software, consulting, or social media apps. We expect for you to share some of your ideas in our first class. THINK BIG.

Start-up Problem Statement

The start-up problem statement will be approved by the professor. We expect to have all these approved by the 2nd lecture.

Business Plan Methodology (The FEEL™ House)

I have designed The Business Plan model around building a house. "The House" is a tool that will help you define your start up and its business model. We want to define a business model as how your start-up creates value for itself (generates profit) while delivering products or services for its customers (S. Blank). During this course, you will have the unique opportunity to develop the 12 sections of the business plan.

Preparing a fully developed Business Plan – requires a methodical approach. I have created a process where we expect for you to have 2 Milestones:

Business Plan Milestone #1 This is your first iteration of Sections 1 to 3 of the business plan guidelines.

Business Plan Milestone #2 This is your first iteration of section 4 to 7 of the business plan guidelines

Over all, **The FEEL™ House** Business Plan is a document intended to help you, the entrepreneur, define your startup company. Inspired by Alexander Osterwalder’s Business Model Canvas¹ and based on concepts developed in my journey as an educator and in the Hatchery since its founding in 2011, the FEEL™ House Business Plan will aid in envisioning your company’s pathway to success.

The resource we have provided you contains two separate tools. First, the numbered guidelines provide you with an outline of what needs to be included in your multi- page, formal business plan (fully developed 12 sections) Second, the one-page visual of the house is intended to showcase a key-word summary of the most important elements of your plan.

The visual of the house was chosen to illustrate the role each section of your House Business Plan plays in establishing your business. The problem statement, customers, and value proposition represent the walls and roof of your house. These. Three concepts will provide enough structure to shield you from the elements as you are starting out. A well-defined problem statement will enable you to make the important connections between your value proposition and your customers, connections which are represented by the internal structure of the house (i.e. the barriers of entry/differentiation, distribution/go-to-market, selling/customer relationships, business model/revenue streams). No matter how well the roof and walls are built however, a house is only as strong as its foundation. The foundation of your business is made up of important financial considerations, including the cost-structure, key partners, and key resources. Your team, and the skills each of your members bring, also helps to secure a strong foundation for your company. Nothing in the house can happen without you, and it is key to both outline the composition of your team now and as you develop. The final ingredient is your timeline. Although not connected to the house structure, a clearly defined execution schedule will ensure that your startup remains on track and you are hitting important milestones throughout the process.

These guidelines are a tool for innovation. They are meant to be ambiguous and at times frustrating. However, we believe that this frustration is what breeds innovation and what will ultimately help you succeed in launching your startup.

60 Second Pitch

In our last session of the term you will have to the opportunity to present a pitch of your business to your colleagues and guests acting as potential investors. This will be no longer than 60 seconds (pretend that you are in an elevator, so you have to have an impactful interaction while you have 100% of their attention). The goal is to be able to describe your business idea to the investor in a meaningful way in order to convince them to take the next steps: invite you for a longer/detailed discussion. The 60 second pitch will be marked during the last lecture.

Final Assessment

The final assessment for this course involves the preparation of a *full and complete*:

- a. **The FEEL™ House** Business Plan and references (I suggest to use IEEE citation reference format) . 12 sections of the Business Plan should be developed in an “bullet-essay” form (bullet items with short explanations no more than 100 words per bullets). The objective is for the reader to have a direct meaning of the point. You can use as many bullets as you need per section. Note: a separate document should include the list of references used.
- b. **24 months cash flow projections** (i.e. 24 months when sales are happening eg: if the sales start in month 13 you will upload 36 months in total: 12 months of investment and 24 month of operation). Note: A list of the assumptions used in the development of the cash-flow should be included as separate document
- c. **Executive Summary** (a one pager that should be an expanded version of your 60 second pitch script)

The creation of your Final Assessment will be an organic process once you have completed all the elements defined in Milestones #1 and #2. The comments you receive on your Progress Reports should be helpful as you refine the document, there is also a lot of help available on the Internet, so please feel free to use any and all - make sure you give credit by citing your sources.

ASSIGNMENT DUE DATES

Item	Report or Assignment	Due Date
1.	Business Plan Milestone #1 (sections 1-3)	January 23
2.	Business Plan Milestone #2 (sections 4-7)	March 6
3.	Market Research Assignment	
4.	60 Second Pitch	April 4
4.	Final Assessment	Exam Schedule/TBD

Late submission, will have a 40% discount on the marks achieved and accepted only if presented before we return the marked assignment to the other students.

MARKING SCHEME

Business Press Reviews	8%
Guest Speaker Reports	8%
Lecture Reflection	25%
Business Plan Milestone #1 (sections 1-3)	10%
Business Plan Milestone #2 (section 4-7)	10%
60 Second Pitch	15%
Final Assessment: Business Plan Canvas (section 1 – 12) + Cash Flow + Executive Summary	24%

HELPFUL HINTS

1. The problem you are solving should be meaningful
2. Current or to be developed technologies are ok
3. There is no limit on the capital needed for the venture: it's not how much money you have now available, but how much money you require to make it happen (how much money you may need to raise)
4. The FEEL House Business plan methodology (The House) will guide you in the process
5. **Do not put it off or delay starting it** as you will run out of time.
6. Cash flow projections will be based on educated assumptions

2022 LECTURES SCHEDULE 1036

<u>Week</u>	<u>Date</u>	<u>Lecture Topics,</u>	<u>Assignments & Project Milestones</u>
1	Jan 12	1. Organizational meeting The Entrepreneur and the House Business Plan - Introduction to the “Entrepreneur” - The House Business Plan – its role and value <i>Milestone #1 Assignment handed out</i> <i>Market Research Assignment handed out</i>	
	Jan 11	NO GUEST SPEAKER	
2	Jan 19	2. Final Assessment and Refining the Business Idea - Why a Business Plan - Refining the Business Idea - The Investor Lecture Reflection #1 (Sections 1,2,3)	
	Jan 18	<i>GUEST 1:</i>	<i>Andrei Poliatov – Co-Founder @ Coinberry</i>
	Jan 23		<i>Milestone #1 report due 11:59 pm</i>
3	Jan 26	3. Market Research Lecture Reflection #2 (Sections 4,5)	
	Jan 25	<i>GUEST 2:</i>	<i>Balaji Gopalan – CEO @ MedStack</i>
4	Feb 2	4. Marketing Strategies, Price, Cost & Credit Lecture Reflection #3 (Sections 6,7)	
	Feb 1	<i>GUEST 3:</i>	YCombinator Founder
	Feb 6		<i>Market Research Assignment due 11:59 pm</i>
5	Feb 9	5. Sales - Sales force, Distribution channels and Global marketing Lecture Reflection #4 (Sections 8,9)	
	Feb 8	<i>GUEST 4:</i>	Faisal Ahmed – CTO @Knockri
6	Feb 16	6. The Start-up Finances - Sources of funding - What you need for the Business Plan Lecture Reflection #5 (Sections 10,11)	
	Feb 15	<i>GUEST 5:</i>	Carol Hicks – CoFounder @ Brill Power
7	Feb 21 - 25	READING WEEK – NO CLASS	

Week	Date		Lecture Topics,	Assignments & Project Milestones
8	Mar 2		7. People - Management Styles - Co-founding team Lecture Reflection #6 (Section 12 and cashflow)	
	Mar 1	<i>GUEST 6:</i>	TBD	
	Mar 6			Milestone #2 report due 11:59 pm
9	Mar 9		8. Tech Cycles and e-Business - DTC model Pitch Practice	
	Mar 8	<i>GUEST 7:</i>	TBD	
10	Mar 16		9. Incorporation, Vesting - Legal forms of organization - Vesting Schedule Pitch Practice	
	Mar 15	<i>GUEST 8:</i>	TBD	
11	Mar 23		10. Intellectual Property Pitch Practice	
	Mar 22		<i>Tutorial</i>	
12	Mar 30		11. Law, Directors , Franchise, Valuation, Ethics	
	Mar 29		<i>Tutorial</i>	
13	Apr 6			60 Second Pitch Presentations

Joseph Orozco - Bio

JOSEPH OROZCO | BAsC, MMKG, PEng



Joseph Orozco, is the Founder and Executive Director of The Entrepreneurship Hatchery and Instructor at the University of Toronto, Faculty of Engineering.

Joseph brings more than two decades of experience as a practitioner-educator, founder Entrepreneur, Operator and Angel Investor with a unique ability to grasp technologies and connect on a human level for profitable improvement.

As a serial founder, in the early University days started manufacturing metal frames for stoneware and sport equipment. After a 9 year stint at the Dow Chemical Company, the entrepreneurial bug led him to found and lead several companies, including a logistics company on contract with Dow; Telequote, which was ultimately sold to Reuters after a 14 year run; Latamtrade and POP, agnostic trading platforms for brokerage firms; and Simeon International, providing sound field amplification systems for the classroom. Angel investor and collaborator at Medipattern Corporation until 2010, in the business of ultrasound breast cancer screening.

As contributor to the community, since 2015, his initiative ideas2Hatch (i2H) brings the experience and learnings of The Entrepreneurship Hatchery to high school students in partnership with the Toronto District School Board (TDSB).

Joseph trained in M&A at The Wharton School, University of Pennsylvania; S&ME Board of Directors Effectiveness Program at Rotman, University of Toronto; Lean Launch Pad Educators Teaching training – Stanford University, holds a Masters in Marketing and earned an Industrial Engineering degree from Javeriana University (Colombia).