DEPARTMENT OF COMPUTER SCIENCE, Faculty of Arts & Science
University of Toronto – St. George Campus
Business of Software - CSC454/2527 (full syllabus)
Semester: Fall 2017 (September - December)
Course Syllabus (as of September 15, 2017)

Lectures: Wednesdays 6-9pm, starting Wednesday September 13, 2017
Location: SM Room 2360 - St. George Campus
Classes, Tutorials & Workshops will be held in the Department of Computer Science Innovation Lab (DCSIL) located on the 2nd floor in the Gerstein Science Information Centre, 9 King's College Circle

Gerstein Science Information Centre Hours of Operation
M-Thurs 8:30am-11pm, Fri 8:30am-10pm, Sat 9am-10pm, Sun 10am-10pm – Except Holidays
Please see the library calendar at: https://onesearch.library.utoronto.ca//library-info/GERSTEIN#hours

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COURSE DESCRIPTION & OBJECTIVES

This program introduces you to the nature, structure, and dynamics of the contemporary software industry. It focuses on the key factors involved in ideating, hypothesizing, validating, and executing a viable and investable/return driven business model to launch a sustainable, scalable and profitable tech-based (software and/or hardware) business venture as a company founder or as an employee of an established company. The course will be a team effort of four students per team. The scope of the course does not include not-for-profit or charity business models.

Program objectives include a meaningful understanding of:
- The high-technology business environment in general and the software industry in particular.
- The business concepts and principles behind creating and launching a successful innovation-driven tech venture.
- How to produce, present, and critique business proposals and plans for ventures, and how to develop business simulation and forecasting models in support of these plans.
- How to converse with and present to investors, executives, judging panels, incubators and accelerators.
- Upon successful completion of the course, you will have first-hand experience of the stages, processes, and challenges involved in transforming an idea into an investable and scalable business venture, and will be ideally positioned to begin launching your own tech venture.

In this program, you will learn techniques and methodologies that will give you a distinct career advantage after graduation, whether or not you intend to work in a tech field. It is designed to give you a true-to-life experience of the thought processes behind successful tech business ventures, which apply whether you are planning on creating your own startup or working for an established employer.

You and your team will devise a cool, innovative solution to a significant market problem. This will involve researching your customer base, forming and testing hypotheses, and producing a value proposition that will form the basis for your business model. You will investigate your customer base and market by identifying the key activities, resources and partners needed for fulfillment. This process culminates in a business model that both makes sense in a financial context and resonates with a venture capital (VC) or funding audience—the kind of audience who will eventually be visiting the class to critique your final product and business model.

This program sets very high standards for you because the business world demands nothing less. We have an obligation to ensure that your entrepreneurial education is thorough and demanding, and only students who are exceptionally dedicated and committed to developing mastery over the techniques and methodologies in this course will excel.

This program will involve guest speakers and panelists including entrepreneurs and investors that are currently active in the industry. Each will share their unique real-world experiences, insights, and perspectives on the future of software and software entrepreneurship.

COURSE SCHEDULE

PRE SEMESTER PREPARATION

Friday August 25, 2017

Students are expected to sign up for the mandatory Entrepreneurship Librarian's (Carey Toane) workshop. This will be held at a convenient date in September. Signing up will commence once Carey introduces herself on basecamp and circulates a virtual sign up form.

Business of Software CSC454/2527

Assignment 1 (Individual Written Introduction) Issued – Due on Basecamp at Noon, Friday September 8, 2017

WEEK 1 – START OF FALL SEMESTER

Wednesday, September 13, 2017

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6:10 – 7:00pm
- Guest Speaker: Matt McPherson – Quantum Capture
- Basecamp access
- DCSIL access

Lecture Topics (7:10 – 9:00pm)
- Course Introduction
- Tech Industry Overview
- Framing the Commercialization Problem – The Self Inflicted Wound

Assignment 1 (Individual Written Introduction) Due on Basecamp at Noon, Friday September 8, 2017

Assignment 7a (Team Final Pitch) Issued – Due in-class Wednesday December 6, 2017

Assignment 7b (Executive Summary) Issued – Due on Basecamp at Noon, Monday December 11, 2017

Assignment 2a (Team Written: Industry Analysis) Issued – Due on Basecamp at 10pm, Tuesday September 26, 2017

Assignment 2b (Team Pitch: Industry Analysis) Issued - Due in class Wednesday, September 27, 2017

WEEK 2

Wednesday, September 20, 2017

Students will be attending the Entrepreneurship Librarian's workshop during September as organized by Carey Toane

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Lecture Topics (6:10 – 9:00pm)
- The First Asset
- Team Dynamics & Team Building
- Market Opportunity and Sizing (TAM, SAM, SOM)

WEEK 3

Wednesday, September 27, 2017

Students will be attending the Entrepreneurship Librarian's workshop during September as organized by Carey Toane

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Assignment 2a (Team Written: Industry Analysis) – Due yesterday on Basecamp at 10pm, Tuesday September 26, 2017

6:10 – 7:10 pm
Assignment 2b (Team Pitch: Industry Analysis) – Due in class

Lecture Topics (7:20 – 9:00pm)
- Business Model Canvas
- Value Proposition
- Customer Segments Intro to Personas & Journeys (HK lectures)

Assignment 3a (Team Written: Market Opportunity and Size) Issued – Due on Basecamp, Monday October 9, 2017 at 10pm

Assignment 3b (Team Pitch: Market Opportunity and Size) Issued - Due in class Wednesday, October 11, 2017

WEEK 4

Wednesday October 4, 2017

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Lecture Topics (7:45– 9:00pm)
- Customer Discovery
- Customer Validation

WEEK 5

Wednesday, October 11, 2017

Assignment 3a (Team Written: Market Opportunity and Size) – Due on Basecamp, Monday October 9, 2017 at 10pm

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6:10 – 7:30pm
Assignment 3b (Team Pitch: Market Opportunity and Size) - Due in class today

Lecture Topics (7:40 – 9:00pm)
- Customer Acquisition/ Creation
- Company Building
- Pricing Models
- Customer Lifetime Value & Acquisition Costs

Assignment 4 (Team Written: Customer Segment, Persona) Issued – Due on Basecamp Tuesday, October 30, 2017 at 10pm

WEEK 6

Wednesday, October 18, 2017

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Lecture Topics (6:10 – 9:00pm)
- Competition
- SWOT Analyses

Assignment 5a (Team Written: Value Proposition, Competition, Know-How) Issued – Due on Basecamp Monday October 30, 2017 at 10pm

Assignment 5b (Team Pitch: Value Proposition, Competition, Know-How) Issued – Due in class, Wednesday November 1, 2017

WEEK 7

Wednesday, October 25, 2017

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Lecture Topics (6:10 – 9:00pm)
- Infrastructure (Key Activities, Key Resources, Key Partners)
- Channels Types & Phases

WEEK 8
Wednesday, November 1, 2017

Assignment 4 (Team Written: Customer Segment, Persona) - Due on Basecamp Monday, October 30, 2017 at 10pm

Assignment 5a (Team Written: Value Proposition, Competition, Know-How) - Due on Basecamp Monday October 30, 2017 at 10pm

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6:10 – 7:10pm
Assignment 5b (Team Pitch: Value Proposition, Competition, Know-How) – Due in class, Wednesday November 1, 2017

Lecture Topic (7:20 – 9pm)
- Introduction to Financial Statements, Modeling, Projections

Assignment 6 (Team Written: Financials & Risk) Issued – Due on Basecamp Tuesday November 21, 2017 at 10pm

Reading week November 6-10, 2017

WEEK 9
Wednesday, November 15, 2017

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Lecture Topics (6:10 – 9:00pm)
- Marketing & Branding
- Go-to Market Strategies

WEEK 10
Wednesday, November 22, 2017

Assignment 6 (Team Written: Financials & Risk) – Due on Basecamp Tuesday November 21, 2017 at 10pm

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Lecture Topics (6:10 – 9:00pm)
- Funding & Investor Psychology
- Business Structures, Agreements & Business Partners
- Exit Strategies

WEEK 11
Wednesday, November 29, 2017

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Guest Speaker Topics (6:10 – 9:00pm)
- Funding & Investors
- Intellectual Property

WEEK 12
Wednesday, December 6, 2017

Business of Software CSC454/2527

(6:10 - 9pm)
PITCH DAY: Assignment 7a (Team Final Pitch) – Due in class today

WEEK 13
Monday, December 11, 2017

12:00 Noon

Assignment 7b (Team Written: Executive Summary) - Due on Basecamp Monday December 11, 2017 at Noon

Grade Breakdown

[Team grade 70%, individual grade 30%, optional individual bonus 2.5%]
[Assignments 72.5, final exam 20%, participation 10%]

Due all of the time	**PARTICIPATION** (10%)
September 8, 2017, Noon Basecamp	**Assignment 1:** Individual Written Introductions (2.5% bonus)
September 26, 2017, 10pm Basecamp	**Assignment 2a:** Team Written Industry Analysis (5%)
September 27, 2017, In-class	**Assignment 2b:** Team Pitch (5%)
October 9, 2017, 10pm Basecamp	**Assignment 3a:** Team Written Market Opportunity (5%)
October 11, 2017, In-class	**Assignment 3b:** Team Pitch (5%)
October 17, 2017, 10pm Basecamp	**Assignment 4:** Team Written Customer Segment, Persona (10%)
October 30, 2017, 10pm Basecamp	**Assignment 5a:** Team Written Value Proposition, Competition, Tech Know How (5%)
November 1, 2017, In-class	**Assignment 5b:** Team Pitch (5%)
November 21, 2017, 10pm Basecamp	**Assignment 6:** Financials & Risk (10%)
December 6, 2017 In-class	**Assignment 7a:** Team Pitch (10%)
December 11, 2017, Noon Basecamp	**Assignment 7b:** Team Written Executive Summary (10%)
December 2017	**FINAL EXAM:** (20%)

Late Submissions

Five percent (5%) will be subtracted from the mark for an assignment for each twelve (12) hour period it is delivered late

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Companion Course (Optional but highly recommended)

CSC454/2527 - The Business of Software has an optional companion course titled;

CSC491/2600 - Capstone Design Course

You do not have to take CSC491/2600 course in order to take CSC454/2527 but you must take CSC454/2527 in order to take CSC491/2600 unless you have successfully taken CSC454/2527 in the past. Each course is a standalone for credit course which have separate instructors and syllabi. The syllabi of both courses have been coordinated to give you an authentic Customer Development driven experience of the Product Development side. Please refer to each syllabus for greater details of that course.

Course Materials and Communications

This term, we will be using an online forum (Basecamp) for class discussion and coordination. Announcements, lecture notes, assignments, etc. will be posted to Basecamp. Marks will be individually emailed to you. Have a laptop with you at all times that you are in class or working with the instructors and teaching assistances.

Email Contact Policy

The primary mode of contact with the teaching team is through Basecamp. The exception to the default is when wanting to take up a personal or sensitive matter that requires confidentiality. When contacting instructors or TAs through email please copy the instructors and TAs to avoid duplicate efforts. If you want a specific person to answer please name that person in the opening of the email and copy the others so that we are always aware of the situations and issues. Not following this policy will result in delays in responses until we determine if the other teaching team members have be included in the loop. Again, Basecamp is the default mode of communication for normal course matters.

Team Member Termination Policy

As in real business and entrepreneurial environments we are giving teams the ability to dismiss team members for cause with the instructors' review of the documented facts and subsequent approval. If teammates are not pulling their share of the workload or not attending vital meetings and failing the team on their deliverables we can address the issues with the underperforming member and attempt to rehabilitate the issue. If issues persist then more permanent remedies may be called including separation from the group. The options upon dismissal are to join another team, persist on your own which is futile or withdraw from the course. Choose your team members wisely.

Program Teaching Personnel

Mario Grech, Instructor
Team matters contact in Basecamp (default)
For private or highly sensitive matters requiring confidentiality Email: mario@cs.toronto.edu
LinkedIn Profile: http://www.linkedin.com/in/mariogrech
Biography: https://drive.google.com/open?id=0B51-wIK4rwiuZDg1ZkhPSEtKOEU

Helen Kontozopoulos, Instructor
Team matters contact in Basecamp (default)
For private or highly sensitive matters requiring confidentiality Email: helen@cs.toronto.edu
LinkedIn Profile: http://ca.linkedin.com/in/helenissocial/

Sayyed Nezhadi, Teaching Assistant
Contact in Basecamp (default)
For private or highly sensitive matters requiring confidentiality Email: sayyed.nezhadi@gmail.com
LinkedIn Profile: https://ca.linkedin.com/in/sayyednezhadi

Atoosa Nasiri, Teaching Assistant
Contact in Basecamp (default)
For private or highly sensitive matters requiring confidentiality Email: atoosa.nasiri@mail.utoronto.ca
LinkedIn Profile: https://www.linkedin.com/in/atoosa-nasiri-b325815/

Program Administrative Personnel
If you are a Computer Science student there are two professionals in this department who are available to assist you with every aspect of your enrollment in the program. Please email them directly when essential and relevant. They will keep me in the loop as needed. Students from all other faculties and departments should please coordinate with your respective administrative professionals. They will advise you of the best course of action.

If you are a Computer Science graduate student your contact is:
Celeste Francis-Esteves, *Graduate Program Administrator*
Email: Celeste@cs.toronto.edu

If you are a Computer Science undergraduate student your contact is:
Estina Boddie, *Undergraduate Program Administrator*
Email: Eboddie@cs.toronto.edu

Course Readings & Materials
Readings and other materials for the course include the following sources, augmented with various additional online tools and materials.

Required Texts:
These books contain essential readings that will be referenced throughout the course lectures, tutorials, and assignments

Osterwalder, Alex and Yves Pigneur, *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*, John Wiley & Sons, 2010 (ISBN - 13: 978-0-470-87641-1 (paperback)

Steve Blank, Steven Gary, *The Four Steps to the Epiphany: Successful Strategies for Products that Win,* 2nd Ed., Published 2013 (ISBN: 0-9989200-5-07, Print), (ISBN: 978-0-9892005-2-3, ePub)

Lecture Notes
Lecture slides and notes will be available on Basecamp after each lecture.

Rules and Regulations
Important University of Toronto rules and regulations can be found on the University of Toronto Arts & Science Registrar Office's website under "Rules & Regulations"
http://www.artsandscience.utoronto.ca/ofr/calendar/Rules_&_Regulations.html. It is the responsibility of professors and students to ensure Rules and Regulations are followed.

Academic Offenses
All group work you submit must be done by you and your group members only. Your work must not be submitted by someone else from another group. Plagiarism is academic fraud and is taken very seriously. Please read the Rules and Regulations from the U of T Calendar (especially the Code of Behaviour on Academic Matters): http://www.governingcouncil.utoronto.ca/policies/behaveac.html

Citation and Formatting Guidelines
We will be adhering to the APA (American Psychological Association) formatting and style guidelines to produce all reports, research and class assignments. Grades will be deducted if this is not followed.

Intellectual Property
Who owns the intellectual property (IP) that is created in this course? You own the IP that you bring to class No one can lay claim to that. You share what you develop in class. Anything that you build is jointly owned by your team so pick your teammates wisely. If the team is using U of T resources or related technologies (example: research from one of the team members at U of T) we will check with the Innovations & Partnerships Office on a case by case basis to frame out a deal with the university.

Fall 2017 Important Dates and Deadlines

M-F Dates	Important Dates
Sept 4-8	Sept 4: Labour Day Sept 7: Classes begin for courses meeting Thursday and Friday
Sept 11-15	Sept 11: Classes begin for courses meeting Monday, Tuesday, Wednesday
Sept 18-22	Sept 20: Last day to add courses
Sept 25-29	
Oct 2-6	
Oct 9-13	Oct 9: Thanksgiving
Oct 16-20	
Oct 23-27	
Oct 30-Nov 3	
Nov 6-10	Nov 6: Last day to drop F courses, READING WEEK (no classes)
Nov 13-17	
Nov 20-24	
Nov 27-Dec 1	
Dec 4-8	Dec 6: Last day of class
	Exams + Winter Holidays

Questions, Comments, Feedback, Errors & Omissions?
Questions regarding this course or syllabus can be directed to the instructor through Basecamp so that the entire class can derive the benefits of the interaction. This is the default mode.

If you do not yet have access to Basecamp or you have items of a sensitive/confidential nature to discussion, contact the instructor at mario@cs.toronto.edu