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Lectures: Wednesdays 6-9pm, starting Wednesday January 12, 2022
Location: Online with Video Recording (Asynchronous)
*Classes, Tutorials & Workshops will be held online*
*For all classes only, the Zoom link* [https://utoronto.zoom.us/j/81715614344](https://utoronto.zoom.us/j/81715614344)

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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.

## Grade Breakdown & Assignment Due Dates Schedule

**[Team grade 75%, individual grade 25%]**
**[Assignments 75%, final assessment 10%, participation\* 15%]**

| | |
|---|---|
| Due all of the time | **PARTICIPATION\*** (15%) |
| January 5, 2022 10pm TBA | **Assignment 1:** Individual Written Introductions (5%) |
| January 25, 2022 10pm Quercus | **Assignment 2a:** Business Opportunity, Market Analysis, and Startup Team (10%) |
| January 26, 2022 In-class | **Assignment 2b:** Team Pitch (10%) |
| February 8, 2022 10pm Quercus | **Assignment 3:** Team Written Customer Segment (10%) |
| February 19, 2022 10pm Quercus | **Assignment 4a:** Team Written Value Proposition, Competition, Tech Know How (10%) |
| March 2, 2022 In-class | **Assignment 4b**: Team Pitch (10%) |
| March 22, 2022 10pm Quercus | **Assignment 5:** Financials & Risk (10%) |
| April 6, 2022 In-class | **Assignment 6:** Team Pitch (10%) |
| April 11, 2021 10pm Quercus | **FINAL ASSESSMENT:** (10%) |

**Participation\***
**1) Contributing to discussions in class (5%)**
**2) Contributing verbally to team presentations either in the presentation itself or in the Q&A sessions (5%)**
**3) Contributing to team meetings in tutorials, mentoring sessions, Quercus discussions, GitHub and product participation is mandatory. Details can be found at https://learnsoftware.engineering/t/f2021/dcsil/documents/16-participation (5%)**

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

# COURSE SCHEDULE

## PRE-SEMESTER PREPARATION
**Winter 2022**

**Students are expected to sign up for the mandatory Entrepreneurship Librarian's (Carey Toane) Workshop. This will be held at a convenient date in January 2022. Signing up will commence once Carey introduces herself on Quercus and circulates a virtual sign-up form.**

**Business of Software CSC454/2527**

**Assignment 1 (Individual Written Introduction) Issued – Due on as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

## WEEK 1 – START OF WINTER SEMESTER
**Wednesday, January 12, 2022**

**Business of Software CSC454/2527**

**Students will be attending the Entrepreneurship Librarian's workshop during January 2022 as organized by Carey Toane**

**Lecture Topics (6:10 – 9:00pm)**
- Course Introduction
- Tech Industry Overview
- Framing the Commercialization Problem – The Self-Inflicted Wound

**Assignment 1 (Individual Written Introduction) Due as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**Assignment 6 (Team Final Pitch) Issued – Due in-class as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**Final Assessment (Executive Summary) Issued – Due on Quercus at Noon as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**Assignment 2a (Team Written: Business Opportunity, Market Analysis, and Startup Team) Issued – Due on Quercus as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**Assignment 2b (Team Pitch: Business Opportunity, Market Analysis, and Startup Team) Issued - Due in class as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

## WEEK 2

**Wednesday, January 19, 2022**

**Business of Software CSC454/2527**

**6:10 – 7:00pm**
- Industry Partner segment

**Lecture Topics (7:10 – 9:00pm)**
- The First Asset
- Team Dynamics & Team Building
- Market Opportunity and Sizing (TAM, SAM, SOM)

## WEEK 3

**Wednesday, January 26, 2022**

**Business of Software CSC454/2527**

**Assignment 2a (Team Written: Industry Analysis + Market Opportunity) – Due yesterday on as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus Quercus at 10pm,**

**6:10 – 7:10 pm**
**Assignment 2b (Team Pitch: Industry Analysis + Market Opportunity) – Due in class as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**Lecture Topics (7:20 – 9:00pm)**
- Business Model Canvas
- Value Proposition

**Assignment 3 (Team Written: Customer Segment) Issued – Due on Quercus, as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

## WEEK 4

**Wednesday February 2, 2022**

**Business of Software CSC454/2527**

**Lecture Topics (6:10– 9:00pm)**
- Customer Discovery
- Customer Validation

**WEEK 5**

**Wednesday, February 9, 2022**

**Assignment 3 (Team Written: Customer Segment) – Due on Quercus, as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**Business of Software CSC454/2527**

**Lecture Topics (6:10 – 9:00pm)**
- Customer Acquisition/ Creation
- Company Building
- Pricing Models
- Customer Lifetime Value & Acquisition Costs

**Assignment 4a (Team Written: Value Proposition, Competition, Know-How) Issued – Due on Quercus as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**Assignment 4b (Team Pitch: Value Proposition, Competition, Know-How) Issued – Due in class, as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**WEEK 6**

**Wednesday, February 16, 2022**

**Business of Software CSC454/2527**

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

**Reading week – no classes February 21-25, 2022**

**WEEK 7**

**Wednesday, March 2, 2022**

**Assignment 4a (Team Written: Value Proposition, Competition, Know-How) - Due on Quercus as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**Assignment 5 (Team Written: Financials & Risk) Issued – Due on Quercus as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**Business of Software CSC454/2527**

**6:10 – 7:10pm**
**Assignment 4b (Team Pitch: Value Proposition, Competition, Know-How) – Due in class, as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

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

## WEEK 8
**Wednesday, March 9, 2022**

**Business of Software CSC454/2527**

**Lecture Topic (6:10 – 9pm)**
- Introduction to Financial Statements, Modeling, Projections

## WEEK 9
**Wednesday, March 16, 2022**

**Business of Software CSC454/2527**

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

## WEEK 10
**Wednesday, March 23, 2022**

**Assignment 5 (Team Written: Financials & Risk) – Due on Quercus as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**Business of Software CSC454/2527**

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

**Assignment 6 (Final Slide Deck Pitch) Issued - Due in class, as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**Final Assessment (Team Written: Business Plan Outline) Issued – Due on Quercus as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**

**WEEK 11**

**Wednesday, March 30, 2022**

**Business of Software CSC454/2527**

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

**WEEK 12**

**Wednesday, April 6, 2022**

**Business of Software CSC454/2527**

**(6:10 - 9pm)**
<span style="color:green">**PITCH DAY: Assignment (Team Final Pitch) – Due in class, as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**</span>

**March 2022**

<span style="color:green">**Final Assessment (Team Written: Executive Summary) - Due as per the Grade Breakdown & Assignment Due Dates Schedule on page 2 of this syllabus**</span>

## 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 (Quercus) for class discussion and coordination. Announcements, lecture notes, assignments, etc. will be posted to Quercus. 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 Quercus. 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, Quercus 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 CSC454/2527 – Business of Software**
Team matters contact in Quercus (default)
For private or highly sensitive matters requiring confidentiality Email: mario.grech@utoronto.ca
LinkedIn Profile: http://www.linkedin.com/in/mariogrech
Biography: https://drive.google.com/open?id=0B51-wIK4rwiuZDg1ZkhPSEtKOEU

**Julian Nadeau, Instructor CSC491/2600 – Capstone Design**
Team matters contact in Quercus (default)
For private or highly sensitive matters requiring confidentiality Email: julian.nadeau@utoronto.ca
LinkedIn Profile: https://www.linkedin.com/in/juliannadeau/

**Rachel Phinnemore, Teaching Assistant CSC454/2527 – Business of Software**
Contact in Quercus (default)
For private or highly sensitive matters requiring confidentiality Email:
Rachel.phinnemore@mail.utoronto.ca
LinkedIn Profile: https://www.linkedin.com/in/rphinnemore/?originalSubdomain=ca

**Micheal Cooper, Teaching Assistant CSC454/2527 – Business of Software**
Contact in Quercus (default)
For private or highly sensitive matters requiring confidentiality Email: coopermj@cs.toronto.edu
LinkedIn Profile https://www.linkedin.com/in/coopermj/?originalSubdomain=ca

## 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 contacts is:
Pavi Chandrasegaram, *Graduate Program Manager*
Email: pavi@cs.toronto.edu

If you are a Computer Science undergraduate student your contacts is:
Emily Greenleaf, *Undergraduate Program Manager*
Email: emily.greenleaf@utoronto.ca

## 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 Quercus 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 Code of Student Conduct and the Code of Behaviour on Academic Matters

## 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.

## WINTER 2022 Important Dates

The dates listed at this link https://artsci.calendar.utoronto.ca/sessional-dates#fall2021 pertain to students registered in the Faculty of Arts & Science, St. George campus only (unless explicitly stated otherwise). Students must follow their own faculty/division's dates for registration (e.g., add/drop deadlines). Check with your faculty/divisional registrar's office for registration dates. The sessional dates below (e.g., beginning and ending of classes) apply to all students taking a Faculty of Arts & Science, St. George campus course.

Note that the academic drop deadline (i.e., last day to cancel a course without academic penalty) listed below is not the same as the financial refund deadline; see the Office of Student Accounts website for refund schedule and information.

## Questions, Comments, Feedback, Errors & Omissions?

Questions regarding this course or syllabus can be directed to the instructor through Quercus 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 Quercus or you have items of a sensitive/confidential nature to discussion, contact the instructor at mario.grech@utoronto.ca