



Institute of Medical Science Program Goals

The Institute of Medical Science graduate programs support translational research relevant to human health from bench to bedside across multiple disciplines in biomedical and clinical/health sciences. IMS provides diverse education and training opportunities to facilitate the growth of its students related to the key roles of an effective researcher.

Role:	During the program, students will have the opportunity to:	Graduates will:
Researcher	develop a broad and integrated knowledge of the contemporary principles and approaches to conducting biomedical research in their chosen field AND build and hone their research skills by engaging in practical, experiential learning opportunities that offer a chance to apply knowledge and skills in a meaningful way.	demonstrate excellence in the conduct of biomedical research by applying a broad and integrated knowledge of the contemporary principles and approaches to conducting biomedical research in their chosen field
Scholar	develop appreciation of and abilities for scholarly practice including contributing new knowledge to the chosen field, thinking critically about emerging concepts that may impact the field, a commitment to continuous learning, and teaching and mentoring others.	demonstrate a lifelong commitment to excellence through creation and critique of new knowledge, integration of new knowledge into practice where appropriate, involvement in knowledge translation and dissemination activities and commitment to lifelong learning.
Professional	develop a sense of professionalism to enable successful integration into the diverse and multidisciplinary research environment through formal curriculum and extracurricular opportunities	function as professionals and responsible and collaborative members of the interdisciplinary team with ethical practice, high personal standards of behaviour and accountability to the community
Citizen	explore and consider ethical and cultural perspectives (such as race, gender, class, sexuality, language, disability. etc.) in the conduct of research in medical science.	foster and promote equity, diversity, and inclusion in research by considering, synthesizing, and advocating for multiple perspectives, theoretical standpoints, and contributions by individuals from diverse backgrounds.

IMS PROGRAM GOALS

Identify which role(s) the course will address. Check all that apply.

X Researcher

X Scholar

X Professional

Citizen

COURSE CODE: Startups in the Medical Sciences (MSC1122H)

COURSE INFO

Course Date/Time: January 24th to April 3rd, 2023. Classes will be held every other Wednesday from 6-7:30PM for 6 sessions.

Course Location: In person (RM location TBD) with option for virtual attendance (hybrid format)

Course Credit: 0.25 FCE CR/NCR

Prerequisites: None

Exclusions: None

Course Drop Deadline:

for 0.25 FCE courses, students can drop the course without academic penalty before 50% of the course has been delivered (before Feb 28th, 2024).

CONTACT INFO

Course Director(s): Prof Pascal Tyrrell, pascal.tyrrell@utoronto.ca

Course Lecturer(s): Prof Pascal Tyrrell, pascal.tyrrell@utoronto.ca

Teaching Assistant(s): TBD

GENERAL INFO

Target Audience:

All graduate students or medical trainees with an interest in entrepreneurship in the medical sciences.

Course Description:

Majority of most early-stage emerging biomedical firms are coming from academic institutions. To leverage on the cutting-edge research performed by graduate students in the Institute of Medical Sciences, this course serves as a catalyst for innovation and growth. The introduction of novel commercialization concepts as well as providing real-time examples of companies in the industry will provide students a substantive understanding of being a founder or part of a startup.

Has your research or personal exploration sparked an idea you're eager to pursue but feel overwhelmed on where to start and how to go about it? Well look no further as this course combines the technical fortitudes surrounding startups, specifically in the field of medical

sciences. In addition to this, students will learn about the necessary soft skills of many successful founders. This 0.25 FCE course is primarily for students in a MSc or PhD program that would like to gain insight about startups. Topics discussed in the course include startup structure, value proposition, market and industry analyses, business planning, funding, and regulatory hurdles.

In light of inherent potential conflicts of interest, we prioritize transparency and have established clear guidelines for this course. Our instructor, who is also an entrepreneur, will openly disclose their roles and provide guidance regarding intellectual property (IP). These guidelines specify that students retain ownership of any created IP during the course. However, it is the student's responsibility to not publicly disclose any pre-existing IP. This approach ensures that students' IP rights are safeguarded within an ethically managed academic environment.

Course Objectives:

- *Students will develop the ability to critically analyze startup ecosystems, including the evaluation of market trends, funding dynamics, and regulatory landscapes*
- *Students will become adept at strategic planning, learning to articulate the value proposition of scientific innovations*
- *Students will learn to navigate the complex regulatory environments and ethical dilemmas surrounding data privacy and intellectual property in the startup landscape*
- *Students will develop an understanding of the vital role of team dynamics in startup success, learning to communicate effectively with diverse stakeholders*

Requirements:

None

SYLLABUS

Total contact time is 17 hours (0.25 FCE)

Format:

- *Asynchronous Lectures 8 hrs (47%)*
- *Group discussion 9 hrs (53%)*

Class	Date	Topic Description:	Instructor
1	January 24, 2023	Course Introduction and Basics of Startups	Prof Tyrrell
2	February 7, 2023	Value Proposition	Prof Tyrrell
3	February 21, 2023	Market & Industry Analysis	Prof Tyrrell
4	March 6, 2023	Business plan and Team Structure	Prof Tyrrell
5	March 20, 2023	Funding & and Managing Money	Prof Tyrrell
6	April 3, 2023	Regulatory Challenges	Prof Tyrrell

EVALUATION

Grading Option: CR/NCR or Letter Graded

(Guidelines: Participation mark should not exceed 20% of the total marks; students should be graded on at least 2 pieces of work; avoid having all assigned work due at the end of the course; students should receive their grades for at least one course assessment before the course drop date deadline)

Assessment	Deadline Description:	Grade Weighting
Participation in seminars/meetings and other educational program activities	Must attend a minimum of 3 discussion sessions in person and the remainder virtually or view recording if absence is justified.	10%
Student collaboration	Students must pair up with another student from the class to discuss their proposals/ final projects. 1hr	10%
Startup Proposal	Provide a written one-page proposal for a startup in the medical sciences.	25%
Field Review of a startup	Critically review an existing startup in the medical science space	25%
Final project (3 minute pitch)	Provide a 3-minute video of an investor pitch for their startup proposal/ project.	30%
TOTAL		100%

