



FOR APPROVAL

PUBLIC

OPEN SESSION

TO: Academic Affairs Committee

SPONSOR: Kelly Hannah-Moffat, Interim Vice-Principal Academic and Dean
CONTACT INFO: 905-828-3719, vpdean.utm@utoronto.ca

PRESENTER: Robert Reisz, Vice-Dean, Graduate
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DATE: March 17, 2016 for March 24, 2016

AGENDA ITEM: 3

ITEM IDENTIFICATION:

Minor Modification: New Courses in the Institute for Management and Innovation

JURISDICTIONAL INFORMATION:

Under section 5.6 of its terms of reference, the Academic Affairs Committee is responsible for major and minor modifications to existing programs.

GOVERNANCE PATH:

- 1. Academic Affairs Committee [For Approval] (March 24, 2016)**

PREVIOUS ACTION TAKEN:

No previous action in governance has been taken on this proposal.

HIGHLIGHTS:

The University of Toronto Mississauga (UTM) currently houses four Professional Graduate Masters Programs and one Professional Graduate Diploma Program under the Institute for Management and Innovation (IMI). Currently, all graduate courses are offered through one of the graduate programs and, as such, course codes have a program-specific course designator: Master of Biotechnology (Course designator BTC); Master of Management & Professional Accounting (Course designator MGT); Master of Management of Innovation (Course designator MMI); Master of Science in Sustainability Management (Course designator SSM); Diploma of Investigative & Forensic Accounting (Course designator IFA). With the two proposed courses in this proposal – IMI1001 Innovation and Entrepreneurship and IMI3001 Biocommercialization: Analysis of Technology Driven Innovation – the Institute for Management and Innovation will launch its first non-program-specific, elective courses with the new course designator, IMI.

These courses will be open to any graduate student at the University of Toronto Mississauga and are intended to complement the curriculum of IMI's professional graduate programs as well as to allow students in other graduate programs to explore innovation or commercialization in order to identify ways in which their research or areas of study may provide opportunities for entrepreneurship.

IMI1001H5 Innovation and Entrepreneurship is a regular half-credit (0.5 FCE) course in which students will gain insight into the challenges of bringing innovation to market and learn to identify factors and issues to consider when starting a new business venture. Guest lectures from entrepreneurs, early-stage investors, technologists and IP lawyers will complement the analysis of business cases and academic studies and address topics such as market and industry analysis, business plans and models, funding sources, and growth and exit strategies. Course material and course work will be accessible to students with or without previous business training. This course will be offered simultaneously as an undergraduate and graduate course. The undergraduate course, IMI400H5 Innovation and Entrepreneurship, a half-credit (0.5 FCE) course open to any 2nd, 3rd or 4th year student, was approved at the November 18, 2015 meeting of the Academic Affairs Committee, as part of the Social Sciences undergraduate curriculum changes for 2016-17. While the graduate and undergraduate students will attend the same lectures, their evaluation will be different, as follows:

- Undergraduate Students will be evaluated for their participation to the in-class discussion, weekly assignments, and a final team project consisting in the outline of a business plan.
- Graduate students will need to additionally complete a 5-7 page market analysis of their customers and provide an overview of their competitors along with a business model canvas.

There are no prerequisites for this course; however Master of Management of Innovation courses, MMI1080 Management of Technology and MMI1090 Technology, Strategy and Policy, and a Master of Biotechnology course, BTC2030 Management of Technological Innovation, will be listed as exclusions in the School of Graduate Studies Course Calendar entry because course material overlap and similarity of topics covered.

The resources required for IMI1001H5 include a teaching stipend and one TA stipend, both of which were previously approved by the Dean's Office when the undergraduate course proposal was approved.

IMI1001H5 was approved by the IMI Curriculum Committee on February 16, 2016.

IMI3001H5 Biocommercialization: Analysis of Technology Driven Innovation is an extended half-credit (0.5 FCE) experiential course in which student teams will assess the business cases of early-stage life science technology companies, either through in-person or virtual presentations from real biotechnology, digital health, or technology-focussed companies seeking investment, or through case studies when real businesses are unavailable to present. Students will have the opportunity to pose questions to the business proponents and with the guidance of the IMI faculty member or associate member instructing the course and industry mentors, each student

team will produce a due diligence report for the company that will assess not only the scientific and technological aspects of the proposed business, but also include an evaluation of the business plan. Lectures will provide a theoretical business framework and will complement the business case presentations. To foster mentorship relationships between alumni and current students, alumni, particularly those with entrepreneurship experience, will serve as the industry mentors for student teams. The goal of the course is to help graduate students, particularly those in the life sciences, MBIotech, MMI and MScSM, approach entrepreneurship more analytically by providing them with a business framework and a practical understanding of entrepreneurship and intrapreneurship in life science technology-driven enterprises. As a non-program specific IMI course offering open to a range of graduate students, the course is also intended to instil an entrepreneurial culture at UTM.

The course will be distinct from current MBIotech electives that deal with innovation and commercialization, and will serve to replace a Health Administration course offered at the St. George Campus by the Institute of Health Policy, Management and Evaluation, HAD5735H Commercialization of Health Research, as an elective option for both the MMI and MBIotech programs. The Director of the Institute of Health Policy, Management and Evaluation has been consulted about the new course proposal and its impact on enrolments for HAD5735H. Throughout the development of the course, the directors of the MBIotech, MMI and MScSM programs have been consulted, as have MBIotech students.

The course will consist of two evening sessions each month over two terms (September – April), for a total of twelve sessions, and the student teams will be drawn from students from any IMI program and select individuals from doctoral programs at UTM. There are no resource implications for the course beyond a classroom and video conferencing equipment, which IMI will provide.

The course was approved by the IMI Curriculum Committee on December 8, 2015.

FINANCIAL IMPLICATIONS:

There are no net implications for the campus' operating budget.

RECOMMENDATION:

Be it Resolved,

THAT the new courses proposed by the Institute for Management and Innovation (IMI) to be offered by the Institute for Management and Innovation (IMI), recommended by the Interim Vice-Principal Academic & Dean, Professor Kelly Hannah-Moffat, and described in the proposals dated March 8, 2016, be approved, effective on the date specified for each course in each proposal.

DOCUMENTATION PROVIDED:

Minor Modification Proposal – New Graduate Courses: IMI1001

Minor Modification Proposal – New Graduate Courses: IMI3001

School of Graduate Studies Calendar Entry



University of Toronto Minor Modification Proposal – New Graduate Courses, or Changes to Existing Graduate Courses

This template should be used to: create a new graduate course; reactivate a closed/deactivated course; rename an existing course; renumber an existing course; etc. A complete list of all course changes is available on the [Vice-Provost, Academic Programs website](#).

If you have questions while you are filling out this document, please contact your Dean’s Office.

Graduate Department /Unit/Centre/Institute: <i>For courses offered by collaborative programs list supporting unit.</i>	Institute for Management & Innovation (IMI)
Faculty / Academic Division:	University of Toronto Mississauga
Dean’s Office contact:	Jessica Eylon Program & Curriculum Officer Office of the Dean, UTM jessica.eylon@utoronto.ca

Part 1: ROSI *Please complete this section. The data will be used to complete the ROSI record.*

New Course – fill out all fields	
Course Designator and Number:	<i>IMI 1001H5</i>
FCE Weight:	<i>0.5</i>
Full Course Title for Transcript:	<i>Innovation and Entrepreneurship</i>
Abbreviated Title:	<i>Innovation and Entrepreneurship</i>
Available via Student Web Service:	<i>No</i>
Course Type:	<i>Regular</i>
Online Course:	<i>No</i>
Required Course:	<i>No</i>
Grading Scale:	<i>Letter grades</i>
Course Prerequisites, if yes please list:	<i>None</i>
Course Credit Exclusions, if yes please list:	<i>IMI400, MMI1080, MMI1090, BTC2030</i>
Or Changes to an Existing Course (require unit level approval only) – fill out applicable fields	
Current Course Designator and Number (required):	<i>(e.g. HIS 5XXXH)</i>
Deactivated Course designator, number and weight:	<i>(e.g. HIS 5XXXH)</i>
Splitting or Amalgamating Courses:	<i>List courses designators, numbers and weights</i>
New Designator and Number:	<i>(e.g. HIS 5XXXH)</i>
New/Renamed Full Course Title for Transcript:	<i>(max 60 characters)</i>
New/Renamed Abbreviated Title:	<i>(max 30 characters)</i>
New FCE Weight:	<i>(e.g. 0.5, 1.0)</i>
Change to Grading Scale (Letter Grades or CR/NCR):	<i>(from Letter Grades to CR/NCR, or vice versa)</i>
Change to Course Type:	<i>(from regular to continuous, modular, extended, etc.)</i>

Effective Date

September 2016

Part 2: Other Changes to Existing Courses

Optional Field – This section may be used to describe other types of changes to existing courses your Faculty/Division tracks. These changes are not posted to the GCT.

Part 3: New Course Documentation

For Faculty / Divisional approval of new courses, please append the approved course documentation, or complete the template below.

Course Description

Students in this course will analyse business cases, read academic studies, and interact with guest lecturers to gain familiarity with the major challenges that entrepreneurs encounter in successfully bringing innovations to market. Topics to be addressed include market and industry analysis, managing value chains, competing and positioning in the marketplace, negotiating for and obtaining financial resources, defining a business model, writing a business plan, and growth and exit strategies. In addition to more “traditional” lectures, there will be a number of guest lectures, especially in the second half of the course, provided from practitioners in different areas of interest, including current entrepreneurs, technologists, early-stage investors, and IP lawyers.

- Objective: To expose students, both with and without previous business training, to the major challenges and choices to be made to successfully bring new products and services to the marketplace.
- Topics: Main topics include market and industry analysis, managing value chains, competing and positioning in the marketplace, negotiating for and obtaining financial resources, defining a business model, writing a business plan, and growth and exit strategies.
- Evaluation:
 - Undergraduate Students will be evaluated for their participation to the in-class discussion, weekly assignments, and a final team project consisting in the outline of a business plan.
 - Graduate students will need to additionally complete a 5-7 page market analysis of their customers and provide an overview of their competitors along with a business model canvas.

Academic Rationale

The Institute for Management & Innovation has begun to offer what is expected to be a slowly-growing number of cross disciplinary courses under a new IMI course designator, to indicate that they are intended for students in any IMI (and, normally, any other) program. Individual

programs may choose to designate them as either core or electives.

There are many good business ideas out there, but very few make it to the commercialization stage and even fewer succeed. Although it is always hard to predict whether a business idea will be successful and there are no easy “recipes,” it is possible to identify some factors and issues to consider when thinking about starting a new business. This is what this first IMI-designated course, IMI1001H Innovation and Entrepreneurship, plans to do. The overall approach is that innovation and entrepreneurship need to be intended very broadly; they are not limited to having a great idea, discovery or product, but also concern the organizational form of a business, the competitive strategy, financial choices, and the business model, for example. Through a combination of case discussions, scholarly readings and guest lectures from practitioners, students will be exposed to a vast range of challenges to be considered when starting a new business. These challenges, moreover, are for the most part also central to developing new ideas and products within established firms.

This course will be an elective open to any graduate student at UTM and is intended to both complement the curriculum of IMI’s professional masters’ programs and also provide an opportunity for students in other graduate programs to be exposed to the study of the challenges and opportunities posed by innovative strategies in both startup and established companies, and the business skills required to achieve successful innovation. This course will include access to experienced entrepreneurs.

Learning Outcomes (if applicable)

- Understanding the challenges of commercializing new products, services and processes within existing companies and via new ventures
- Graduate students will be required to create and present a business model canvas and will also be required to conduct a market analysis and submit a 5-7 page paper on this analysis

Similarity/Overlap with other Courses & Consultation

Course content of MMI1080 Management of Technology, MMI1090 Technology, Strategy & Policy, and BTC2030 Management of Technological Innovation overlap with the proposed course. Like IMI1001, these courses are also focused on the management of technology and innovation; as such, several topics treated in these courses (competitive analysis of innovative products, intellectual property strategies, business models, incentives for creativity, and so on) result in too great an overlap with the proposed course so that they will be shown in the calendar entry as exclusions. MMI 1080 and MMI1090 are required courses for the MMI program and are restricted to MMI students. BTC2030 is a required course for the MBiotech program and is restricted to MBiotech students. None of these courses can be opened up to other students because these courses are taught at a level that assumes the students have already taken several of the MBiotech and MMI courses prior to these. There are no listed prerequisites for these courses as all program students are required to complete the courses in the same order.

Resource Requirements (if required)

- One teaching stipend
- One TA stipend

- One classroom

These resources have already been approved by the Dean’s office since the course has been approved as an undergraduate course and a graduate course concurrently.

Governance Approval

Unit Sign-Off (Committee name and meeting date)	IMI Curriculum Committee, Feb. 16, 2016
Faculty/Division Council (or delegated body) approval, if applicable (Name and Date)	[Empty box for signature and date]

University of Toronto Minor Modification Proposal – New Graduate Courses, or Changes to Existing Graduate Courses

This template should be used to: create a new graduate course; reactivate a closed/deactivated course; rename an existing course; renumber an existing course; etc. A complete list of all course changes is available on the [Vice-Provost, Academic Programs website](#).

If you have questions while you are filling out this document, please contact your Dean's Office.

Graduate Department /Unit/Centre/Institute: <i>For courses offered by collaborative programs list supporting unit.</i>	Institute for Management & Innovation (IMI)
Faculty / Academic Division:	University of Toronto Mississauga (UTM)
Dean's Office contact:	Jessica Eylon Program & Curriculum Officer Office of the Dean, UTM jessica.eylon@utoronto.ca

Part 1: ROSI *Please complete this section. The data will be used to complete the ROSI record.*

New Course – fill out all fields	
Course Designator and Number:	<i>IMI3001</i>
FCE Weight:	<i>0.5</i>
Full Course Title for Transcript:	<i>Biocommercialization: Analysis of Technology Driven Innovation</i>
Abbreviated Title:	<i>Biocommercialization</i>
Available via Student Web Service:	<i>No</i>
Course Type:	<i>extended H5</i>
Online Course:	<i>No</i>
Required Course:	<i>No</i>
Grading Scale:	<i>Letter grades</i>
Course Prerequisites, if yes please list:	<i>none</i>
Course Credit Exclusions, if yes please list:	<i>none</i>

Effective Date

Sept. 2016

Part 2: Other Changes to Existing Courses

Optional Field – This section may be used to describe other types of changes to existing courses your Faculty/Division tracks. These changes are not posted to the GCT.

Part 3: New Course Documentation

For Faculty / Divisional approval of new courses, please append the approved course documentation, or complete the template below.

Course Description

The Institute for Management & Innovation is proposing a team-based experiential course meant to facilitate a practical understanding of entrepreneurship and intrapreneurship in early-stage life science technologies. A significant component of the course will entail a team-focused “due diligence” project. This project will entail early stage companies presenting their business platforms (“business case presentations”) to student teams, much as new companies would present to potential investors. These early stage companies will come from the local biotech sector but representation from companies in sectors concerning sustainability and other business areas will also be sought. Student teams will have an opportunity to query company proponents in person, after which they will be tasked with producing a thorough due diligence report to the company. Much of the emphasis of the report will be in evaluating the scientific and technological aspects of the proposed business, but a key element will be an evaluation of the business plan.

Students will attend all business case presentations, which will likely amount to four evening sessions per course. The course will be facilitated and taught by a member or associate member of IMI faculty, who will draw upon business and management practices to illustrate best practices with regard to evaluating the proposed investor pitches. The goal of the course is to introduce students to the practice of implementation of new technologies in life science focused start-up companies, through real world examples and business/management theory.

Student teams will be drawn from IMI programs, in particular MBiotech, MMI, and MScSM as well as select individuals in doctoral programs across campus.

The course will (as much as possible) involve real biotechnology, digital health, or technology-focused companies seeking investment, in the hope that student teams may provide meaningful critiques for the companies, while learning from startup companies that have already gained some momentum and experience. Earlier stage business presentations, hosted by I-CUBE and the RIC Centre, may also represent a component of the course, depending on student registration numbers and demand. IMI faculty will also provide a theoretical business framework with which to evaluate and understand new businesses and associated risk. Student teams will be assigned an industry mentor who will help students in the evaluation process, while providing a more mature perspective on the proposed technology and on the

organizational issues it and its introduction raise. If real businesses are unavailable to present, case studies will be used.

Curriculum

1. Introductory lectures on procedures and practices associated with innovation strategies in the life sciences. (4 evenings)
2. Local RIC business pitches. Discussion and analysis exercises (4 evenings)
3. Industry high level pitches (4 evenings)

The total contact hours will be between 24 and 36.

Note that the course is expected to run twice monthly over two regular semesters (Sept-April) so that full-time students will have an opportunity to participate.

Academic Rationale

The Institute for Management & Innovation has begun to offer what is expected to be a slowly-growing number of cross disciplinary courses under a new IMI course designator, to indicate that they are intended for students in any IMI (and, normally, any other) program. Individual programs may choose to designate them as either core or electives.

With IMI3001H, the goal is to provide graduate students in the life sciences, MBiotech, MMI, and Master of Sustainability with a business framework and an understanding of entrepreneurship in technology-driven enterprises. Rather than challenge the students to create their own product, we hope to pursue innovative ideas that are currently in early stages, largely in the hands of newly formed biotech companies. Through commentary and business principles provided by the instructor, we hope to help graduate students approach entrepreneurship more analytically. At the same time, IMI would like to instil an entrepreneurial culture at UTM and foster a mentor relationship between students and alumni in the area. Alumni, particularly in the entrepreneurial space, would serve as mentors to student teams in the evaluation of new business proposals. In conversations with several alumni, all offered to serve as mentors. The hope is to provide through this course a useful training ground for students in terms of business strategy, seeking investor support, and due diligence practices in technology driven commercialization.

Learning Outcomes (if applicable)

Analytical skills to evaluate new technology and entrepreneurship.

Similarity/Overlap with other Courses & Consultation

The proposed course is distinct from current MBiotech electives. Namely **BTC1850HY** Creating Life Science Products involves an interdisciplinary team from across all programs at UofT who design and create a product with the intention of commercializing it. In the proposed course, the intention is to teach methods of analysis (through mentored review of more mature business enterprises and business strategy classroom). **BTC 2030H** Management of Technological Innovation is a case based theory course and is required for MBiotech students. The emphasis in this course is in innovation in large companies. **BTC 1810H** Biotechnology and Ventures is an introductory course which explains the “Bench to Bedside” approach in pharma companies. There are a few case studies but much of the course is experiential. Finally,

HAD5735H Commercialization of Health Research is an elective offered on the downtown campus, and is attended by many MMI students and no MBiotech students though we have retained this course as an elective. Based on our review of the syllabus, there is no overlap with regard to management strategy and theory nor does the course offer “top down” evaluation of current investor pitches and business propositions. Once the proposed course is approved, it will replace HAD5735H as an elective for both the MMI and MBiotech programs; the Director of the Institute of Health Policy, Management and Evaluation, the unit that offers HAD5735H as part of the Master of Health Science program in Health Administration on the St. George campus, has been consulted about the new course and its expected effect on enrolments in HAD5735H.

In terms of fit and consultation, we have discussed the idea with the directors of MMI and Master of Sustainability and also the Director of IMI. All are very supportive. We ran a trial version of this course as an “investment club” in 2015, using the MBiotech students as a possible sample. Several students went on to write a business evaluation for a US company which was very happy with the feedback and interaction. The MBiotech students were supportive of the idea of launching an elective. We are also hoping to proactively create an investment and entrepreneurship culture here at UTM through the IMI program. Our hope is that this will filter through the doctoral programs as well.

Resource Requirements (if required)

Ideally an electronic classroom to host business pitches from outside the GTA.

Governance Approval

Unit Sign-Off (Committee name and meeting date)	IMI Curriculum Committee December 8, 2015
Faculty/Division Council (or delegated body) approval, if applicable (Name and Date)	

2015-16 SGS Calendar

Management & Innovation

Faculty Affiliation

University of Toronto Mississauga (UTM)

Degree Programs

Biotechnology

MBiotech

Management & Professional Accounting

MMPA

Management of Innovation

MMI

Sustainability Management

MScSM	<i>Concentrations:</i> Management Science
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Diploma Programs

Investigative & Forensic Accounting

DIFA

Overview

The Institute for Management & Innovation (IMI) offers sector-specific professional programs in management as well as cross-disciplinary, experiential professional programs that combine the study of a profession, science, or industrial sector with management. It fosters the development of mission-focused graduates who contribute innovatively to a profession, science, or industrial sector.

The **Master of Biotechnology** (MBiotech) is an interdisciplinary course-based professional degree program. Students come from varied backgrounds with the common goal of pursuing a career in the biotechnology, medical device, and pharmaceutical industries.

The program meets the evolving needs of students and this global industry sector. Lecturers from various University of Toronto Faculties and from biotechnology and pharmaceutical industries and governmental agencies provide a truly interdisciplinary learning experience. Introductory laboratory courses and a year-long work internship round out the broadly based learning environment.

The **Master of Management & Professional Accounting** (MMPA) is designed to educate future leaders of the accounting profession at the master's level in management and at the professional level in accounting and related subjects.

The curriculum is organized to provide an excellent understanding of:

- the challenges, functions, and needs of management;
- accounting, finance, auditing, and tax;
- essential professional subjects;
- management skills; and
- professional capabilities.

Students from any undergraduate background may apply. Advanced standing may be granted.

The **Master of Management of Innovation (MMI)** program is designed for students with a background in science and engineering. It is an accelerated 12-month professional degree for individuals pursuing management careers in technology-focused organizations. The MMI curriculum provides a strong foundation in economic analysis, technology management, business strategy, finance, accounting, marketing, and policy.

The **Master of Science in Sustainability Management (MScSM)** is an interdisciplinary, course-based professional program. The program provides education that integrates knowledge from management, social, and natural sciences to address sustainability issues. The MScSM provides a strong foundation in sustainability management while offering an opportunity to specialize in a management or science concentration. The program is designed for students from diverse educational backgrounds such as management, social science, natural science, and engineering. The program was developed in consultation with leaders and prospective employers in business, non-profit, research, and government organizations.

The **Diploma in Investigative & Forensic Accounting (DIFA)** provides a rigorous and comprehensive education in investigative and forensic accounting (IFA) matters useful in becoming an expert IFA consultant, practitioner, and expert witness in legal proceedings. Expertise may include financial matters related to investigation for fraud, calculation of damages, advice in disputes, and preparation and delivery of information to the courts. For students who are graduate professional accountants, the diploma program is recognized as an excellent educational preparation for recognition as an expert in IFA.

Contact and Address

Institute for Management and Innovation

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Biotechnology

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Management & Professional Accounting

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Management of Innovation

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Sustainability Management

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Investigative & Forensic Accounting

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Diploma in Investigative & Forensic Accounting Program
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Non-Program Electives

Institute for Management and Innovation

These courses may be taken as an elective course by students enrolled in any graduate program.

Course List

IMI Elective Courses

A general description of each required course is posted on the IMI website.

IMI 1001H	Innovation and Entrepreneurship
IMI 3001H⁺	Biocommercialization: Analysis of Technology Driven Innovation

⁺ Extended course. For academic reasons, coursework is extended into session following academic session in which course is offered.

Degree Programs

Biotechnology

Master of Biotechnology

Admission Requirements

- Applicants are admitted under the General Regulations of the School of Graduate Studies. Applicants must also satisfy the Institute for Management and Innovation's additional admission requirements stated below.
- An appropriate bachelor's degree from a recognized university in any area of biological sciences, chemistry, engineering, or related field with a minimum mid-B standing in the final two years of study.
- Applicants who have completed their studies outside of Canada must also submit their Graduate Record Examination (GRE) Subject Test scores and meet the SGS minimum standards for English proficiency.
- The MBiotech program also evaluates applicants on their letter of intent, CV, three references, and both a science and business interview.

Program Requirements

- The program is a full-time, course-based master's degree which is launched in May each year.
- Students are required to complete 9.0 graduate full-course equivalents (FCEs) over a 24-month period:
 - 6.0 FCEs science credits (includes credits for Seminar and Placement)
 - 2.0 FCEs business credits
 - 1.0 FCE elective credit
- An ongoing seminar series led by university, industry, and government specialists links all the participants with the academic, practical, and applied aspects of the program.

Program Length

6 sessions full-time (typical registration sequence: S/F/W/S/F/W)

Time Limit

3 years full-time

Course List

Required Courses

A general description of each required course is posted on the website.

BTC 1600H	Seminar in Bioscience/Biotechnology I
BTC 1610H	Seminar in Bioscience/Biotechnology II
BTC 1700H	Molecular Biology Laboratory
BTC 1710H	Biomaterials and Protein Chemistry Theory
BTC 1720H	Biomaterials and Protein Chemistry Lab
BTC 1800H	Biotechnology in Medicine
BTC 1810H	Biotechnology and Ventures
BTC 1820H	Biotechnology in Agriculture and Natural Products
BTC 1900Y ⁰	Work Term I
BTC 1910Y ⁰	Work Term II
BTC 2000H	Effective Management Practices
BTC 2010H	Fundamentals of Managerial Concepts
BTC 2020H	Society, Organizations, and Technology
BTC 2030H	Management of Technological Innovation

⁰ Course that may continue over a program. The course is graded when completed.

Elective Courses

BTC 1830H	Medical and Scientific Challenges in Marketing Therapeutics
BTC 1840H	Patent Law for the Life Sciences
BTC 1850H	Creating Life Science Products
BTC 1860H	Generations of Advanced Medicine: Biologics in Therapy (GAMBiT)
BTC 1920Y	Work Term III
BTC 2040H	Change Management

BTC 2100Y	Topics in Biotechnology
BTC 2110H	Topics in Biotechnology
BTC 2120H	Topics in Biotechnology

Other graduate courses approved by Program Directors.

Program Committee

Cell and Systems Biology

Lange, Angela - BSc, PhD

Revers, Leigh - MA, DPhil (**Associate Director**)

Westwood, J. Timothy - BSc, MSc, PhD

Chemistry

Krull, Ulrich - BSc, MSc, PhD, AstraZeneca Professor of Biotechnology

Prosser, Scott - BSc, MSc, PhD (**Director**)

Management

Tombak, Mihkel - BASc, MBA, AM, PhD

Additional faculty are selected from Cell and Systems Biology, Chemistry, and related departments as well as from experts in industry and government.

Management & Professional Accounting

Master of Management & Professional Accounting

Minimum Admission Requirements

27- Month Program; 24- and 12-Month Advanced-Standing Options

- Applicants are admitted under the General Regulations of the School of Graduate Studies. Applicants must also satisfy the Institute for Management and Innovation's additional admission requirements stated below.
- An appropriate bachelor's degree with a standing equivalent to at least a University of Toronto mid-B.
- Satisfactory Graduate Management Admission Test (GMAT) score.
- Proof of English proficiency if the applicant's first language is not English. See details on English-language requirements in General Regulations section 5.5.

Eligibility for Admission to the Advanced-Standing 24-Month Option

- Applicants who have previously completed MGT 1210H, MGT 1211H, MGT 1221H, MGT 1222H, MGT 1250H, and MGT 1382H, or equivalent, with a grade of B- or better, may be eligible for admission to the 24-month option.

Eligibility for Admission to the Advanced-Standing 12-Month Option

- Applicants from a BCom (Accounting Specialist) program, with a CGPA of B+ or higher, who have previously completed MGT 1210H, MGT 1211H, MGT 1221H, MGT 1222H, MGT 1272H, MGT 1323H, MGT 1330H, MGT 1382H, MGT 2014H, MGT 2205H, MGT 2206H, MGT 2207H, MGT 2224H, MGT 2225H, MGT 2250H, MGT 2251H, MGT 2260H, MGT 2261H, and MGT 2301H, or equivalent, with a grade of B- or better, may be eligible for admission to the 12-month option.
- Applicants to the 12-month option must have completed the courses listed while in a program accredited by the Chartered Professional Accountants of Canada.

Program Requirements

27-Month Program

- The program runs for 27 months covering seven sessions of full-time study.
- The program requires the successful completion of 18.0 full-course equivalents (FCEs) in required courses, as listed below.
- Students will also complete two co-op work placements (MGT 1090H and MGT 2090H) in accounting or finance-related areas.

Required Course List

Notations for all courses are indicated in parentheses following the course code and are determined as follows:

Credit Hours	Notation
0	CR/NCR (Credit/No Credit)
1	one module

2	two modules
3	three modules

One module equals five weeks with three contact hours per week. One module equals 0.25 FCE.

MGT 1090H(0) ⁺	Accounting Work-Term Course I
MGT 1160H(1)	Communications
MGT 1181H(1)	Introduction to Integration and Professional Decision Making
MGT 1202H(2)	Ethics and Governance
MGT 1210H(2)	Managerial Economics
MGT 1211H(2)	Economic Environment of Business
MGT 1221H(2)	Financial Accounting I
MGT 1222H(2)	Managerial Accounting
MGT 1241H(2)	Operations Management
MGT 1250H(2)	Marketing
MGT 1272H(2)	Management Information Systems
MGT 1301H(3)	Fundamentals of Strategic Management
MGT 1323H(3)	Auditing and Reporting
MGT 1330H(3)	Business Finance
MGT 1362H(3)	Managing People in Organizations
MGT 1382H(3)	Statistics for Management
MGT 2004H(2)	Advanced Concepts in Strategic Management
MGT 2014H(2)	The Legal Environment of Professions and Corporations
MGT 2090H(0) ⁺	Accounting Work-Term Course II
MGT 2200H(1)	Government and Not-for-Profit Accounting, Reporting, and Control
MGT 2205H(3)	Advanced Financial Accounting
MGT 2206H(3)	Taxation I
MGT 2207H(3)	Taxation II
MGT 2224H(2)	Computer Auditing
MGT 2225H(2)	Advanced Auditing Topics
MGT 2250H(3)	Financial Reporting I
MGT 2251H(3)	Financial Reporting II
MGT 2260H(2)	Management Control
MGT 2261H(2)	Advanced Management Accounting
MGT 2280H(2)	Accounting Theory and Research
MGT 2281H(1)	Mergers, Acquisitions, and Valuations
MGT 2282H(2)	Integration and Professional Decision Making Initiatives I
MGT 2283H(2)	Integration and Professional Decision Making Initiatives II
MGT 2284H(1)	Capstone—Integrative Board Report
MGT 2301H(2)	Financial Management

Plus one of the following electives:

MGT 2070H(1)	Management Consulting
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MGT 2208H(1)	Taxation III
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⁺ *Extended course. For academic reasons, coursework is extended into session following academic session in which course is offered.*

Program Length

7 sessions full-time (typical registration sequence: S/F/W/S/F/W/S)

Time Limit

3 years

Program Requirements for the Advanced-Standing 24-Month Option

The program runs for 24 months, covering six sessions of full-time study, and requires:

- the successful completion of 14.75 full-course equivalents (FCEs) in required courses, as follows: MGT 1160H, MGT 1181H, MGT 1202H, MGT 1241H, MGT 1272H, MGT 1301H, MGT 1323H, MGT 1330H, MGT 1362H, MGT 2004H, MGT 2014H, MGT 2200H, MGT 2205H, MGT 2206H, MGT 2207H, MGT 2224H, MGT 2225H, MGT 2250H, MGT 2251H, MGT 2260H, MGT 2261H, MGT 2280H, MGT 2281H, MGT 2282H, MGT 2283H, MGT 2284H, MGT 2301H, and one of MGT 2070H or MGT 2208H;
- two co-op work placements (MGT 1090H and MGT 2090H) in accounting or finance-related areas.

Program Length

6 sessions full-time (typical registration sequence: F/W/S/F/W/S)

Time Limit

3 years

Program Requirements for the Advanced-Standing 12-Month Option

The program runs for 12 months, covering three sessions of full-time study, and requires:

- the successful completion of 6.5 full-course equivalents (FCEs) in required courses, as follows: MGT 1160H, MGT 1181H, MGT 1202H, MGT 1241H, MGT 1250H, MGT 1301H, MGT 1362H, MGT 2004H, MGT 2200H, MGT 2208H, MGT 2280H, MGT 2281H, MGT 2282H, MGT 2283H, MGT 2284H; and;
- one co-op work placement (MGT 2090H) in accounting or finance-related areas taken in the Winter session.

Program Length

3 sessions full-time (typical registration sequence: F/W/S)

Time Limit

3 years

Management of Innovation

Master of Management of Innovation

Minimum Admission Requirements

- Applicants are admitted under the General Regulations of the School of Graduate Studies. Applicants must also satisfy the Institute for Management and Innovation's additional admission requirements stated below.
- Bachelor's degree in sciences or engineering or equivalent from a recognized university. Minimum overall average grade of B+ over the last two years of full-time academic study.
- Prerequisites or their equivalents are set by the MMI program.
- A resumé, a letter of intent, and at least two academic letters of reference must be submitted by the applicant. One reference must be provided directly from a faculty member familiar with the applicant's work and who holds an appointment in the program where the applicant most recently graduated.
- Applicants who obtained a degree outside North America must arrange for GMAT or GRE (General) examination results to be sent to the department.
- An on-site written personal statement.
- Attend an interview where evaluative problem-solving capabilities and communication skills are assessed.

Program Requirements

- The 12-month program consists of an intensive 8-month core academic curriculum and a 4-month experiential term consisting of:
 - 4.0 FCEs (see list below)
 - 2.0 FCEs electives (1.0 FCE per session in each of the Fall and Winter sessions)
 - MMI 1100H, a final capstone course (Group Project, equivalent to 0.5 FCE) during the final four months of the

- All requirements must be completed within a minimum of one year of study and a maximum of three years from the date of first enrolment.

Program Length

3 sessions full-time (typical registration sequence: F/W/S)

Time Limit

3 years full-time

Course List

Required Core Courses

MMI 1010H	Prices and Markets
MMI 1020H	Introduction to Big Data Analysis
MMI 1030H	Marketing Science
MMI 1050H	Accounting and Negotiations
MMI 1060H	Finance
MMI 1070H	Economics of Business Strategy
MMI 1080H	Management of Technology
MMI 1090H	Technology, Strategy, and Policy
MMI 1100H	Capstone Course—Final Group Project

Elective Courses

Students are encouraged to select electives that allow them to focus on their individual areas of interest. For this reason, the MMI program does not impose a selection of electives. Students are free to choose from all graduate courses across all disciplines at the University of Toronto. All selections are subject to approval in advance by the Program Director.

Sustainability Management

Master of Science in Sustainability Management

Minimum Admission Requirements

- Applicants are admitted under the General Regulations of the School of Graduate Studies. Applicants must also satisfy the Institute for Management and Innovation's additional admission requirements stated below.
- An appropriate undergraduate degree from a recognized university in any area of natural science, social science, management, and engineering or any management, environment, or natural resource-driven background with a standing equivalent to at least a mid-B in the final year of the program.
- Successful completion of an undergraduate statistics or mathematics course (0.5 full-course equivalent [FCE] or equivalent).
- Resumé/curriculum vitae (CV).
- Letter of intent outlining interest in sustainability issues (750 words).

Program Requirements

Students are required to select a concentration (either Management or Science) and complete the following:

- A total of 9.0 FCEs
 - 10 required courses (6.0 FCEs) including *Capstone Course* (SSM 1090H) and *Research Paper* (SSM 1100Y)
 - A summer internship placement (two to four months)
 - Six elective courses (3.0 FCEs) selected by chosen concentration—see below:
- **Management** concentration: 2.0 FCEs from the selection of Management elective courses and 1.0 FCE from the Science electives
- **Science** concentration: 2.0 FCEs from the Science elective courses and 1.0 FCE from the Management electives.

Program Path

Year 1: Fall

SSM 1010Y	Principles of Sustainability Management
SSM 1020H	Decision Making for Sustainability Management

SSM 1040H	Managerial Economics for Sustainability Management
SSM 1050H	Ecosystem Science
Year 1: Winter	
SSM 1030H	Environmental Science
SSM 1060H	Managing Sustainable Organizations
Plus 0.5 FCE elective	
Summer	
SSM 1110H	Sustainability Management Internship
Year 2: Fall	
SSM 1070H	Sustainability Law and Policy
SSM 1080H	Strategies for Sustainability Management
SSM 1100Y	Research Paper
Plus 1.5 FCE elective	
Year 2: Winter	
SSM 1090H	Capstone Course—Sustainable Enterprise
SSM 1100Y	Research Paper
Plus 1.0 FCE elective	

Program Length

5 sessions full-time (typical registration sequence: F/W/S/F/W)

Time Limit

3 years full-time

Course List

Required Courses

SSM 1010Y	Principles of Sustainability Management
SSM 1020H	Decision Making for Sustainability Management
SSM 1030H	Environmental Science
SSM 1040H	Managerial Economics for Sustainability Management
SSM 1050H	Ecosystem Science
SSM 1060H	Managing Sustainable Organizations
SSM 1070H	Sustainability Law and Policy
SSM 1080H	Strategies for Sustainability Management
SSM 1090H	Capstone Course—Sustainable Enterprise
SSM 1100Y	Research Paper

Elective Courses

Course selections need to be approved in advance by the Program Director.

Science Electives

JPG 1407H	Efficient Use of Energy
JPG 1408H	Carbon Free Energy
EES 1107H	Remediation Methods
EES 1117H	Climate Change and Impact Assessment
EES 1125H	Contaminated Site Remediation
ENV 1002H	Environmental Policy

ENV 1704H	Environmental Risk Analysis and Management
Management Electives	
SSM 2010H	Marketing in Sustainability Management
SSM 2020H	Sustainability Ethics
SSM 2030H	Advanced Sustainability Management
SSM 2040H	Applied Sustainability Management
ENV 1707H	Environmental Finance and Sustainable Investing
EES 1124H	Environmental Project Management
ECO 2908H	Environmental and Resource Economics
MGT 2918H	Multidisciplinary Special Topics
RSM 2216H	Special Topics in Accounting

Diploma Programs

Investigative & Forensic Accounting

[Diploma of Investigative & Forensic Accounting](#)

[Minimum Admission Requirements](#)

- Applicants are admitted under the General Regulations of the School of Graduate Studies. Applicants must also satisfy the Institute for Management and Innovation's additional admission requirements stated below.
- An appropriate bachelor's degree from a recognized university in commerce, business administration, or accounting, with standing equivalent to at least a University of Toronto mid-B in the final year.
- Two years of relevant experience in accounting.
- An advanced-standing option is available for qualified students with comparable university-level or Chartered Business Valuator program courses.

[Program Requirements](#)

- Ten half-course program over a minimum 2.2-year period. Courses are taken sequentially and advanced-standing course exemptions are possible. The program is offered using a combination of two one-week intensive in-residence sessions, e-learning, and teleconference modules, with group discussions, assignments, and formal examinations. It is possible for students to participate from anywhere in the world. Advanced standing is available for qualified students; up to two courses in loss quantification and law may be counted.

[Program Length](#)

6 sessions (26 months) part-time

[Time Limit](#)

6 years part-time

[Course List](#)

IFA 1900H	Introduction to Investigative and Forensic Accounting
IFA 1901H	Investigative and Forensic Accounting Practice Issues
IFA 1902H	Legal Process—Introductory
IFA 1903H	Investigative-Related Matters—Introductory
IFA 1904H	Loss Quantification—Introductory
IFA 2900H	Loss Quantification—Advanced
IFA 2901H	Investigative-Related Matters—Advanced
IFA 2902H	Legal Process—Advanced
IFA 2903H	Advanced Topics/Emerging Issues
IFA 2904H	Integrative Capstone

The courses IFA 1900H and IFA 2904H each involve a mandatory in-residence session at the University of Toronto Mississauga. IFA 2904H requires participation in moot court and other experiential learning sessions. The remaining eight courses are offered via weekly online sessions.