

DATE: March 20, 2020

TO: Senate

FROM: Dr. Dwight Deugo, Vice-Provost and Associate Vice-President (Academic), and Chair, Senate Quality Assurance and Planning Committee

RE: 2020-21 Calendar Curriculum Proposals  
**Graduate & Undergraduate Major Modifications**

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### **Background**

Following Faculty Board approval and, as part of academic quality assurance, major curriculum modifications are considered by the Senate Committee on Curriculum, Admissions and Studies Policy (SCCASP) and the Senate Quality Assurance and Planning Committee (SQAPC) before being recommended to Senate.

### **Library Reports (as required)**

In electronic communication members of the Library staff, upon review of the proposals, confirmed no additional resources were required for the 2020-21 major modifications included below.

### **Documentation**

Recommended calendar language, along with supplemental documentation as appropriate, are provided for consideration and approval.

### **Omnibus Motion**

In order to expedite business with the multiple major modifications that are subject to Senate approval at this meeting, the following omnibus motion will be moved. Senators may wish to identify any of the following 2 major modifications that they feel warrant individual discussion that will then not be covered by the omnibus motion. Independent motions as set out below will nonetheless be written into the Senate minutes for those major modifications that Senators agree can be covered by the omnibus motion.

**THAT** Senate approve the major modifications as presented below with effect from Fall 2020.

### **Major Modifications**

#### **1. Master of Applied Business Analytics**

SCCASP approval: March 3, 2020

SQAPC approval: March 5, 2020

#### **Senate Motion March 27, 2020**

**THAT** Senate approve the introduction of the of the Master of Applied Business Analytics and TIMG 5907 as presented with effect from Fall 2020.

#### **2. Master of Information Technology**

SCCASP approval: January 21, 2020  
SQAPC approval: March 19, 2020

**Senate Motion March 27, 2020**

**THAT** Senate approve the major modifications to the Master of Information Technology programs as presented with effect from Fall 2020.

## MEMORANDUM

**To:** Senate Quality Assurance and Planning Committee (SQAPC)

**From:** Steven Muegge (Director, TIM)

**CC:** Dana Brown (Dean, Sprott)  
Larry Kostiuk (Dean, FED)  
Patrice Smith (Dean, FGPA), James Opp (Associate Dean, FGPA)

**Date:** January 17, 2020

**Subject:** Major Modification to the Technology Innovation Management (TIM) program. Track A2.  
Introduction of a new graduation pathway: Master of Applied Business Analytics (MABA)

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### *Program Description*

The **Master of Applied Business Analytics (MABA) in Technology Innovation Management** is a new graduation pathway within Carleton University's Technology Innovation Management (TIM) program. TIM is an inter-faculty program of the Sprott School of Business and the Faculty of Engineering and Design (FED), and governed within the Institute for Technology Entrepreneurship and Commercialization (ITEC).

The changes associated with the proposed modification include a new named MABA graduation pathway and three new course proposals: two 0.5 credit courses, TIMG 5301 (Applied Analytics for TIM) and TIMG 5303 (Machine Learning for Technology Entrepreneurship Problem-Solving), and one 1.0 credit graduate project course, TIMG 5907 (MABA Project).

- Versions of the two new 0.5 credit courses were offered previously as sections of TIMG 5103: Advanced Topics in TIM. These courses are compulsory for students on the new MABA graduation pathway, and are available as electives for TIM students on other graduation pathways.
- The graduate project course for the MABA project is comparable to the existing graduate project courses for the TIM Master of Engineering (MEng) degree (TIMG 5901) and the TIM Master of Entrepreneurship (MEnt) degree (TIMG 5905). It follows the same TIM program Gate Process for project proposals, supervisor assignment, graduate supervision, and evaluation.

The MABA graduation pathway in TIM is uniquely positioned at Carleton.

- It targets individuals who wish to specialize in the application of advanced business analytics to solve technology innovation management and technology entrepreneurship problems – as founders of new companies, as leaders of innovation within entrepreneurial companies, and as providers of services to improve the health of ecosystems that support technology entrepreneurship. This is a new emerging niche that did not exist when the TIM program was founded in 1995-1996, or when the MEnt graduation pathway was introduced in 2016-2017.

- It is distinct from the Sprott MBA concentration in Business Analytics, which addresses business analytics applications in finance, marketing, human resources, production and operations management, for business students seeking to earn an MBA.
- It is distinct from all of the various specializations offered in Data Science, including Biology, Cognitive, Computer Science, Communications, Economics, Engineering, Electronics, Geography, Health Sciences, History, Information Technology and Psychology. Each specialization addresses a different range of domain problems. This new graduation pathway is unique in addressing the application of business analytics to technology innovation management and technology entrepreneurship problems.

The name of the graduation pathway, **Master of Applied Business Analytics**, provides parity with leading universities and business schools that currently offer Master of Business Analytics degrees, including **MIT Sloan School of Management** (the MIT Sloan MBAn) and the **Schulich School of Business** at York University (the Schulich MBAN). Within this category of Master of Business Analytics degrees, the Carleton MABA in TIM offers at least two distinct and compelling points of difference:

- It is unique in targeting experienced professionals with at least two years of relevant work experience in addition to degrees in engineering, science, or business.
- It is unique in targeting solutions to technology innovation management and technology entrepreneurship problems, including the launch and growth of new companies, wealth creation at the early stages of company or opportunity life cycles, and improving the health of entrepreneurial ecosystems.

The branding and positioning of the Carleton MABA provides parity with leading universities and business schools as well as unique differentiation from other Master of Business Analytics degrees available elsewhere. This combination of parity and differentiation in the Carleton MABA is of strategic importance to both the TIM program and the Sprott School of Business.

After the addition of this proposed graduation pathway, the four TIM program graduation pathways will be balanced evenly between the engineering and business faculties, with two graduation pathways from the Faculty of Engineering and Design (the TIM MASc and TIM MEng) and two graduation pathways from the Sprott School of Business (the TIM MEnt and the new TIM MABA).

### ***Impact on Other Programs***

No impact is foreseen on other Carleton programs.

The MABA does not compete for enrolment with existing programs at Carleton, such as the Sprott MBA or the various Carleton degrees with specialization in data science. It appeals to different students with very different career goals.

Some MABA students may request to register in elective courses from other programs. Decisions on admitting TIM students to courses from other departments would follow standard Carleton processes.

### ***Student Demand***

There is high demand for business analytics training by students and for business analytics talent by employers. In response to this market demand, the professors and students of the TIM program have

increasingly employed advanced business analytics in course work, in theses and graduate projects, in lead projects with industry partners and funding agencies, and in the launch and growth of new companies. In Fall 2019, half of the completed TIM graduate projects used business analytics (n=12/24 completed projects in TIMG 5901 and TIMG 5905). TIM faculty and students have developed a toolbox of in-house and open source analytics tools that continues to expand.

This proposal responds to market demand from students and employers for a new TIM graduation pathway that emphasizes specialization in the application of advanced business analytics to solve technology innovation management and technology entrepreneurship problems – as founders of new companies, as leaders of innovation within entrepreneurial companies, and as providers of services to improve the health of ecosystems that support technology entrepreneurship.

Similar to the launch of the MEnt graduation pathway in 2016-2017, we expect enrolment in the MABA graduation pathway to begin modestly then grow each term for the next four years. There were 8 full-time MEnt students registered in 2016-17, 27 in 2017-18, 41 in 2018-19, and now 47 in the current Winter 2020 term. Although we expect the initial MABA cohort to be applicants already applying to the TIM program, we anticipate that future MABA cohorts will include new applicants to Carleton that would otherwise have applied elsewhere to other universities with business analytics programs.

The MABA will follow the existing processes of the TIM program for applications and admissions, with two student intakes each year in Fall (September) and Winter (January), and continuous operation through the Summer term with courses and graduate supervision.

### ***Resources***

No new resources are required to launch the graduation pathway and to service the first student cohort:

- a. *Faculty resources:* none. Versions of the two new classroom courses (TIMG 5301 and TIMG 5303) were previously delivered as Advanced Topics courses (as multiple sections of TIMG 5103: Advanced Topics in TIM), and will continue to be delivered by the same instructors. Graduate supervision of MABA projects (TIMG 5907) will follow the same processes used for TIM MEng and MEnt projects (TIMG 5901 and TIMG 5905).
- b. *Contract instructors:* none
- c. *Administrative support:* none. The MABA will use the existing administrative support of the TIM program.
- d. *Library resources:* none
- e. *Space:* none. The MABA will use the existing space of the TIM program.
- f. *Equipment:* none. The TIM program computer lab was updated in 2019 with high-performance computers configured specifically for advanced business analytics and machine learning. The MABA will use the existing equipment of the TIM program.
- g. *Graduate student funding:* none

At current resource levels, the TIM program is operating at near-capacity. In the future, the deans may choose to assign more resources to grow the capacity of the TIM program to admit more students, especially as the new graduation pathway attracts new high-quality applicants to Carleton that would otherwise have applied elsewhere. Otherwise, if no new resources are added, the TIM program will continue to admit students up to current capacity.

# New Program Proposal

Date Submitted: 11/17/19 9:28 pm

Viewing: **TBD-1992 : Master of Applied  
Business Analytics - Technology Innovation  
Management**

Last edit: 01/21/20 11:56 am

Last modified by: sandrabauer

Changes proposed by: stevenmuegge

## In Workflow

1. TIMG ChairDir GR
2. ENG Dean
3. BUS Dean
4. GRAD Dean
5. PRE GRAD FCC
6. GRAD FCC
7. GRAD FBoard
8. PRE SCCASP
9. SCCASP
10. SQAPC
11. Senate
12. CalEditor

## Approval Path

1. 11/17/19 10:06 pm  
Steven Muegge  
(stevenmuegge):  
Approved for TIMG  
ChairDir GR
2. 12/16/19 10:19 am  
Jerome Talim  
(jerometalim): Rollback  
to TIMG ChairDir GR for  
ENG Dean
3. 12/20/19 12:49 pm  
Steven Muegge  
(stevenmuegge):  
Approved for TIMG  
ChairDir GR
4. 12/20/19 3:11 pm  
Jerome Talim  
(jerometalim): Approved  
for ENG Dean
5. 12/22/19 5:21 am  
Dana Brown  
(danabrown): Approved  
for BUS Dean
6. 01/20/20 1:58 pm  
Sandra Bauer  
(sandrabauer): Approved  
for GRAD Dean
7. 01/20/20 1:59 pm  
Sandra Bauer  
(sandrabauer): Approved  
for PRE GRAD FCC
8. 01/28/20 12:28 pm  
Sandra Bauer

(sandrabauer): Approved  
for GRAD FCC  
9. 02/19/20 2:10 pm  
Sandra Bauer  
(sandrabauer): Approved  
for GRAD FBoard

Effective Date	2020-21
Workflow	majormod
Program Code	TBD-1992
Level	Graduate
Faculty	Sprott School of Business Faculty of Engineering and Design
Academic Unit	Technology Innovation Management Program
Degree	
Title	Master of Applied Business Analytics - Technology Innovation Management

## Program Requirements

# Master of Applied Business Analytics - Technology Innovation Management (5.5 credits)

### Requirements – Project pathway:

1. 2.5 credits in:	2.5
<u>TIMG 5001</u> [0.5]	Principles of Technology Innovation Management
<u>TIMG 5002</u> [0.5]	Technology Entrepreneurship
<u>TIMG 5003</u> [0.5]	Issues in Technology Innovation Management
<u>TIMG 5301</u> [0.0]	Applied Analytics for Technology Innovation Management
<u>TIMG 5303</u> [0.0]	Machine Learning for Technology Entrepreneurship Problem-Solving
2. 1.0 credit in approved TIMG elective	1.0
3. 1.0 credit in approved electives in engineering, business, or science	1.0
3. 1.0 credit in:	1.0
<u>TIMG 5907</u> [0.0]	M.A.B.A. Project
Total Credits	5.5

New Resources No New Resources

Summary This modification is a new graduation pathway within Carleton University's Technology Innovation Management (TIM) program.

The admission requirements for the MABA graduation pathway are identical to those of the existing MASc, MEng, and MEnt graduation pathways in Technology Innovation

## Management.

The MABA graduation pathway is uniquely positioned within the TIM program. It targets individuals who wish to specialize in the application of advanced business analytics to solve technology innovation management and technology entrepreneurship problems – as founders of new companies, as leaders of innovation within entrepreneurial companies, and as providers of services to improve the health of ecosystems that support technology entrepreneurship. The existing MASc and MEng graduation pathways target founders of new companies, people seeking more senior leadership roles within established companies, and talented professionals building credentials and expertise for their next career move. The existing MEnt graduation pathway targets individuals who wish to work for or supply specialized services to founders of new companies or new lines of business of existing companies, and people who wish to improve the health of ecosystems that support technology entrepreneurship.

All students in all four graduation pathways of the TIM program, including the new MABA pathway, are required to complete three compulsory courses about Technology Innovation Management: TIMG 5001, TIMG 5002, TIMG 5003. TIM students in the MABA pathway are also required to complete two additional compulsory courses in applied business analytics: TIMG 5301 and TIMG 5303. This MABA requirement is comparable to the existing requirement of the MEnt pathway: TIM students in the MEnt degree are required to complete two additional compulsory courses in entrepreneurship: TIMG 5005 and TIMG 5201. Both TIMG 5301 and TIMG 5303 are new course numbers introduced at the same time as the MABA graduation pathway, however, versions of both courses were offered previously in 2018 and 2019 as sections of TIMG 5103: Advanced Topics in Technology Innovation Management.

All students in all four graduation pathways of the TIM program, including the new MABA pathway, are required to complete 2.0 credits in approved restrictive elective courses. For TIM students in both the proposed MABA pathway and the existing MEnt pathway, 1.0 credits must be TIMG courses from within the TIM program and 1.0 credits must be courses from engineering, business or science. These elective courses must be approved by the student's program advisor or project supervisor, and by the TIM Director.

Technology Innovation Management is a research-based program, thus all students in all four graduation pathways of the TIM program are required to complete a thesis or graduate project. TIM students in the MABA pathway are required to complete TIMG 5907: Master of Applied Business Analytics Project, a new course number introduced at the same time as the MABA graduation pathway. This MABA project requirement is comparable to the graduate project requirement of the MEng pathway (TIMG 5901: Master of Engineering Project) and the MEnt pathway (TIMG 5905: Master of Entrepreneurship Project), and supervision of MABA projects will follow the same processes already in place for other TIM graduate projects. The core requirements of the new TIMG 5907 course are partly shared (0.35 credits) with the existing existing TIMG 5905 course, and are partly new (0.65 credits).

Over-all, the proposed MABA graduation pathway shares 70% core requirements with the existing MEnt degree path (2.85/5.5 credits) and differs in 30% of the core requirements (1.65/5.5 credits).

## Rationale

In recent years, the professors and students of the Technology Innovation Management program have increasingly employed advanced analytics in course work, in theses and graduate projects, in lead projects with industry partners and funding agencies, and in the launch and growth of new companies. In addition, TIM faculty and students have developed a toolbox of in-house and open source analytics tools that continues to expand. The TIM program computer lab was updated in 2019 with high-performance computers configured specifically for big data analytics and machine learning. This proposal responds to market demand from students and employers for a graduation pathway in Technology Innovation



Management that emphasizes specialization in the application of advanced business analytics to solve technology innovation management and technology entrepreneurship problems – as founders of new companies, as leaders of innovation within entrepreneurial companies, and as providers of services to improve the health of ecosystems that support technology entrepreneurship. The degree name, Master of Applied Business Analytics (MABA), provides parity with leading universities and business schools currently offering a Master of Business Analytics degree, including the MIT Sloan School of Management and the Schulich School of Business at York University.

**Transition/Implementation** Pending approvals, the TIM program would begin accepting students to the MABA graduation pathway for Fall admission in the 2020-21 academic year (beginning September 2020).

**Program reviewer  
comments**

**jerometalim (12/16/19 10:19 am):** Rollback: As requested

**stevenmuegge (12/20/19 12:44 pm):** Revised to address comments from the Vice-Provost and FGPA. Discussed by the TIM Steering Committee on Friday December 13, and approved to proceed (unanimously) by e-vote on Friday December 20. Submitted as a Track B major modification following the same approach used to introduce the Master of Entrepreneurship modification in the 2016-2017 Annual Curriculum Review.

**danabrown (12/22/19 5:21 am):** This program proposal has my full support. I discussed this with the Provost as well, who indicated that he was supportive of using the same approach to new program development that we used when establishing the MEnt. This program meets visible market needs and will provide us an opportunity for growth.

Key: 1992

# New Course Proposal

Date Submitted: 02/25/20 1:23 pm

Viewing: **TIMG 5907 : M.A.B.A. Project**

Last edit: 02/25/20 1:25 pm

Changes proposed by: sarahcleary

Programs referencing this course Master of Applied Business Analytics - Technology Innovation Management

## In Workflow

1. **TIMG ChairDir GR**
2. **BUS Dean**
3. GRAD Dean
4. GRAD FCC
5. GRAD FBoard
6. PRE SCCASP
7. SCCASP
8. SQAPC
9. Senate
10. Banner

## Approval Path

1. 11/17/19 10:05 pm  
Steven Muegge  
(stevenmuegge):  
Approved for TIMG  
ChairDir GR
2. 12/17/19 10:41 am  
Sarah Cleary  
(sarahcleary): Rollback to  
Initiator
3. 12/20/19 12:58 pm  
Steven Muegge  
(stevenmuegge):  
Approved for TIMG  
ChairDir GR
4. 01/28/20 12:29 pm  
Sandra Bauer  
(sandrabauer): Approved  
for GRAD FCC
5. 02/19/20 2:11 pm  
Sandra Bauer  
(sandrabauer): Approved  
for GRAD FBoard
6. 02/25/20 1:22 pm  
Sarah Cleary  
(sarahcleary): Rollback to  
Initiator
7. 02/25/20 1:25 pm  
Sarah Cleary  
(sarahcleary): Approved  
for TIMG ChairDir GR

Effective Date 2020-21

Workflow majormod

New Resources	No New Resources
Level	Graduate
Course Code	TIMG
Course Number	5907
Title	M.A.B.A. Project
Title (short)	M.A.B.A. Project
Faculty	Sprott School of Business
Academic Unit	Technology Innovation Management Program
Credit Value	1.0
Significant Experiential Learning	Applied Research Project
Course Description	Master of Applied Business Analytics Project.
Prerequisite(s)	
Class Format	
Precluded Courses	
Also listed as	
Piggybacked Courses	
U Ottawa Code	
Grade Mode	Standard Letter Grade
Schedule Type	*Research Project  *May constitute a major modification under Carleton's IQAP. Please consult <a href="https://carleton.ca/viceprovost/major-minor-modifications/">https://carleton.ca/viceprovost/major-minor-modifications/</a> for more details.
Unpaid Placement	No
Summary	New course proposal: graduate project course for the Master of Applied Business Analytics (MABA) graduation pathway in Technology Innovation Management.
Rationale for new course	TIMG 5907 is the graduate project course for the Master of Applied Business Analytics (MABA) graduation pathway in Technology Innovation Management. It is comparable to the graduate project courses for the TIM MEng graduation pathway (TIMG 5901: Master of Engineering Project) and the TIM MEnt graduation pathway (TIMG 5905: Master of Entrepreneurship Project).  All three graduate project courses have the same credit weight (1.0 credits).  The core requirements of TIMG 5907 are partly shared with the existing TIMG 5905 course (0.35 credits), and are partly new (0.65 credits).

Course reviewer  
comments

**sarahcleary (12/17/19 10:41 am):** Rollback: Rollback as requested.

**stevenmuegge (12/20/19 12:57 pm):** Approved by the TIM Steering Committee on Friday December 20 2019. Discussed at the December meeting (Friday December 13) and approved by e-vote.

**sarahcleary (02/25/20 1:22 pm):** Rollback: Rolling back to change workflow to a major mod as per OVPAVP. Will approve on behalf of TIMG ChairDir GR.

**sarahcleary (02/25/20 1:25 pm):** Approved on behalf of TIMG ChairDir GR, previous approval given on 11/17/19.

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Key: 9955  
Not an admin

# New Course Proposal

Date Submitted: 12/16/19 2:15 pm

Viewing: **TIMG 5301 : Applied Analytics for Technology Innovation Management**

Last edit: 01/30/20 10:42 am

Changes proposed by: **stevenmuegge**

Programs referencing this course [Master of Business Analytics - Technology Innovation Management](#)

## In Workflow

1. **TIMG ChairDir GR**
2. **GRAD FCC**
3. **GRAD FBoard**
4. **PRE SCCASP**
5. SCCASP
6. Banner

## Approval Path

1. 11/17/19 10:05 pm  
Steven Muegge (stevenmuegge): Approved for TIMG ChairDir GR
2. 12/16/19 1:44 pm  
Sarah Cleary (sarahcleary): Rollback to Initiator
3. 12/16/19 2:35 pm  
Steven Muegge (stevenmuegge): Approved for TIMG ChairDir GR
4. 01/30/20 10:42 am  
Sandra Bauer (sandrabauer): Approved for GRAD FCC
5. 02/19/20 2:11 pm  
Sandra Bauer (sandrabauer): Approved for GRAD FBoard

Effective Date	2020-21
Workflow	minormod
New Resources	No New Resources
Level	Graduate
Course Code	TIMG
Course Number	5301
Title	Applied Analytics for Technology Innovation Management
Title (short)	Applied Analytics for Tech Mgt

Faculty	Sprott School of Business
Academic Unit	Technology Innovation Management Program
Credit Value	0.50
Significant Experiential Learning	Industry/Community Research Projects
Course Description	Application of advanced business analytics in the domain of technology innovation management and technology entrepreneurship. Topics include supervised and unsupervised machine learning, anticipatory thinking, and anomaly detection, to inform managerial judgement and support strategic and operating decisions faced by managers and entrepreneurs.
Prerequisite(s)	TIMG 5001
Class Format	
Precluded Courses	
Also listed as	
Piggybacked Courses	
U Ottawa Code	
Grade Mode	Standard Letter Grade
Schedule Type	Seminar
	*May constitute a major modification under Carleton's IQAP. Please consult <a href="https://carleton.ca/viceprovost/major-minor-modifications/">https://carleton.ca/viceprovost/major-minor-modifications/</a> for more details.
Unpaid Placement	No
Summary	New course based on a popular section of TIMG 5301 (Advanced Topics in Technology Innovation Management) previously offered in multiple terms.
Rationale for new course	<p>A version of TIMG 5301 was offered previously as a section of TIMG 5103: Advanced Topics in Technology Innovation Management beginning in 2018. The Advanced Topics section was popular with students, and produced strong learning outcomes and assets, including conference papers. The department and the instructor wish to continue offering the course under its own course code.</p> <p>This modification was discussed and approved to proceed on Friday December 13 2019 by the TIM Steering Committee, the body responsible for (1) development of program and curriculum within the Technology Innovation Management (TIM) program, and (2) forwarding TIM program and curriculum changes to the Programs and Planning Committee of the FGPA.</p>
Course reviewer comments	<p><b>sarahcleary (12/16/19 1:44 pm):</b> Rollback: Rollback as requested from Dept.</p> <p><b>stevenmuegge (12/16/19 2:34 pm):</b> Approved by the TIM Steering Committee on Friday December 13 2019.</p>

# New Course Proposal

Date Submitted: 12/16/19 2:28 pm

Viewing: **TIMG 5303 : Machine Learning for Technology Entrepreneurship Problem-Solving**

Last edit: 12/16/19 2:39 pm

Changes proposed by: **stevenmuegge**

Programs referencing this course [Master of Business Analytics - Technology Innovation Management](#)

## In Workflow

1. **TIMG ChairDir GR**
2. **GRAD FCC**
3. **GRAD FBoard**
4. **PRE SCCASP**
5. SCCASP
6. Banner

## Approval Path

1. 11/17/19 10:05 pm  
Steven Muegge  
(stevenmuegge):  
Approved for TIMG  
ChairDir GR
2. 12/16/19 1:44 pm  
Sarah Cleary  
(sarahcleary): Rollback to  
Initiator
3. 12/16/19 2:39 pm  
Steven Muegge  
(stevenmuegge):  
Approved for TIMG  
ChairDir GR
4. 01/28/20 12:29 pm  
Sandra Bauer  
(sandrabauer): Approved  
for GRAD FCC
5. 02/19/20 2:11 pm  
Sandra Bauer  
(sandrabauer): Approved  
for GRAD FBoard

Effective Date	2020-21
Workflow	minormod
New Resources	No New Resources
Level	Graduate
Course Code	TIMG
Course Number	5303
Title	Machine Learning for Technology Entrepreneurship Problem-Solving
Title (short)	ML for Tech Entrepreneurship

Faculty	Sprott School of Business
Academic Unit	Technology Innovation Management Program
Credit Value	0.50
Significant Experiential Learning	Industry/Community Research Projects
Course Description	Application of machine learning tools to co-create solutions to entrepreneurial problems, with an emphasis on unstructured text analytics. Topics include machine learning tools, application of topic modeling and and text analytics, generation of practical competitive insights for managers, and analysis of publicly-available sources including websites.
Prerequisite(s)	TIMG 5002
Class Format	
Precluded Courses	
Also listed as	
Piggybacked Courses	
U Ottawa Code	
Grade Mode	Standard Letter Grade
Schedule Type	Seminar
	*May constitute a major modification under Carleton's IQAP. Please consult <a href="https://carleton.ca/viceprovost/major-minor-modifications/">https://carleton.ca/viceprovost/major-minor-modifications/</a> for more details.
Unpaid Placement	No
Summary	New course based on a popular section of TIMG 5103 (Advanced Topics in Technology Innovation Management) previously offered in multiple terms.
Rationale for new course	<p>A version of TIMG 5303 was offered previously as a section of TIMG 5103: Advanced Topics in Technology Innovation Management each year beginning in 2017. The Advanced Topics section was popular with students, and produced strong learning outcomes and assets, including conference papers. The department and the instructor wish to continue offering the course under its own course code.</p> <p>This modification was discussed and approved to proceed on Friday December 13 2019 by the TIM Steering Committee, the body responsible for (1) development of program and curriculum within the Technology Innovation Management (TIM) program, and (2) forwarding TIM program and curriculum changes to the Programs and Planning Committee of the FGPA.</p>
Course reviewer comments	<p><b>sarahcleary (12/16/19 1:44 pm):</b> Rollback: Rollback as requested from Dept.</p> <p><b>stevenmuegge (12/16/19 2:39 pm):</b> Approved by the TIM Steering Committee on Friday December 13 2019.</p>



## Institutional Quality Assurance Process

### Major Modifications Not Requiring a Library Report

*Date:* February 21, 2020

*From:* Sally Sax, Business, Public Affairs, and Legal Studies Collections Librarian

*To:* Sandra Bauer, Program Officer, Faculty of Graduate & Postdoctoral Affairs

*cc* Amber Lannon, Interim University Librarian  
Laura Newton Miller, Head of Collections & Assessment  
David Sharp, Head of Acquisitions  
Patti Harper, Head of Research Support Services

### Recommendation

After review of Carleton University Library's information resources and services, no additional Library resources are required and so no report from the Library is necessary for the QA process for the major modifications of the following programs:

- Technology Innovation Management (TIM) program. Track A2.  
Introduction of a new graduation pathway: Master of Applied Business Analytics (MABA)

This is a formal notification for your records.

Date Submitted: 08/30/19 10:44 am

Viewing: **TBD-1676 : R-GR-ADMREQT-  
Information Technology M.I.T.**

Last approved: 03/22/19 9:58 am

Last edit: 03/05/20 8:28 am

Last modified by: christinanoja

Changes proposed by: hanajabi

## In Workflow

1. BIT ChairDir GR
2. ENG Dean
3. GRAD Dean
4. GRAD FCC
5. GRAD FBoard
6. PRE SCCASP
7. SCCASP
8. SQAPC
9. Senate
10. CalEditor

## Approval Path

1. 09/09/19 11:08 am  
Chris Joslin (chrisjoslin):  
Approved for BIT  
ChairDir GR
2. 10/21/19 9:42 am  
Jerome Talim  
(jerometalim): Approved  
for ENG Dean
3. 10/22/19 12:54 pm  
Sandra Bauer  
(sandrabauer): Approved  
for GRAD Dean
4. 11/05/19 2:28 pm  
James Opp (jamesopp):  
Approved for GRAD FCC
5. 11/20/19 2:30 pm  
Sandra Bauer  
(sandrabauer): Rollback  
to GRAD FCC for GRAD  
FBoard
6. 11/26/19 4:12 pm  
Sandra Bauer  
(sandrabauer): Approved  
for GRAD FCC
7. 01/06/20 2:14 pm  
Sandra Bauer  
(sandrabauer): Approved  
for GRAD FBoard
8. 01/10/20 2:17 pm  
Sarah Cleary  
(sarahcleary): Approved  
for PRE SCCASP
9. 01/15/20 10:10 am  
Sarah Cleary  
(sarahcleary): Rollback to  
PRE SCCASP for SCCASP

10. 01/17/20 4:26 pm  
Sarah Cleary  
(sarahcleary): Approved  
for PRE SCCASP
11. 01/23/20 4:49 pm  
Erika Strathearn  
(erikastrathearn):  
Approved for SCCASP

## History

1. May 5, 2017 by Sandra Bauer (sandrabauer)
2. May 5, 2017 by Sandra Bauer (sandrabauer)
3. May 5, 2017 by Sandra Bauer (sandrabauer)
4. Mar 22, 2019 by Erenia Hernandez Oliver (ereniaoliver)

Calendar Pages Using this Program [Information Technology](#)

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Effective Date	2020-21
Workflow	majormod
Program Code	TBD-1676
Level	Graduate
Faculty	Faculty of Engineering and Design
Academic Unit	School of Information Technology
Degree	
Title	R-GR-ADMREQT-Information Technology M.I.T.

## Program Requirements

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### Admission

#### M.I.T. Digital Media

Students entering the program will have an undergraduate degree in one of the related three primary disciplines of Technology (e.g. Computer Science/Engineering and Information Technology), Content (e.g. Arts and Humanities), and People (e.g. Psychology, Communication and Business).

### **All students will apply for the 5.0 credit M.I.T. Digital Media.**

**Applicants with substantial professional experience in digital media in Canada may be considered for admission to professional entry, requiring them to complete 4.0 credits, to be determined by the School of Information Technology and the Faculty of Graduate and Postdoctoral Affairs.**

#### **Accelerated Pathway Digital Media**

The accelerated pathway in the Master of Information Technology - Digital Media (MIT-DM) is a flexible and individualized plan of graduate study. Students in their final year of a Carleton BIT IMD and IRM degree with demonstrated academic excellence and aptitude for research may qualify for this option.

Students in their third-year of study in the BIT IMD and IRM degree should consult with both their Undergraduate Program Coordinator and the Associate Chair for Graduate Studies to determine if the accelerated pathway is appropriate for them and to confirm their selection of courses for their final year of undergraduate studies.

#### **Accelerated Pathway Requirements:**

1. At least 0.5 credit in one of the following courses ITEC 52XX or ITEC 5920 with a grade of B+ or higher;
2. Minimum overall CGPA of A-.

Students may receive advanced standing with transfer of up to 1.0 credit, which can reduce their time to completion.

### **M.I.T. Network Technology**

Students entering the program will have an undergraduate degree in network technology, electrical engineering, computer science, engineering, or a closely-related discipline.

### **All students will apply for the 5.0 credit M.I.T. Network Technology.**

**Applicants with substantial professional experience in network technology in Canada may be considered for admission to professional entry, requiring them to complete 4.0 credits, to be determined by the School of Information Technology and the Faculty of Graduate and Postdoctoral Affairs.**

#### **Accelerated Pathway Network Technology**

~~The accelerated pathway in the Master of Information Technology - Network Technology (MIT-NET) is a flexible and individualized plan of graduate study.~~

**The accelerated pathway in the Master of Information Technology - Network Technology (MIT-NET) is a flexible and individualized plan of graduate study.** Students in their final year of a Carleton BIT Network Technology degree with demonstrated academic excellence and aptitude for research may qualify for this option.

Students in their third-year of study in the BIT Network Technology degree should consult with both their Undergraduate Program Coordinator and the Associate Chair for Graduate Studies to determine if the accelerated pathway is appropriate for them and to confirm their selection of courses for their final year of undergraduate studies.

#### **Accelerated Pathway Requirements:**

1. At least 0.5 credit from: [ITEC 5110](#), [ITEC 5111](#), [ITEC 5112](#), [ITEC 5113](#), [ITEC 5114](#) with a grade of B+ or higher;
2. Minimum overall CGPA of A-.

Students may receive advanced standing with transfer of up to 1.0 credit, which can reduce their time to completion.

New Resources

No New Resources

Summary

Adding second point of entry to Admission Requirements.