

## Institute of Technology Entrepreneurship and Commercialization

### TIMG 5103W PROJECT BASED LEARNING

Winter 2023 (January 9<sup>th</sup> to April 9<sup>th</sup>, 2024)

#### TIME, PLACE AND DELIVERY MODE

Tuesdays, 2:35 p.m. – 5:25 p.m. Eastern Time (Ottawa time)

In person: Nicol Building 3038

Online: <https://carleton-ca.zoom.us/j/92858390444>

All course participants must use Carleton email accounts.

Delivery mode: HyFlex, students can attend in person, online or a combination of in-person and online.

#### INSTRUCTOR

Professor Nusa Fain

[nusa.fain@carleton.ca](mailto:nusa.fain@carleton.ca)

Office: Nicol Building 5025

#### ABOUT THE COURSE

This course helps a TIM student prepare:

- A GO slide deck and a GO presentation that secures a faculty supervisor.
- A Supervisor Assignment Request (SAR) form to which the supervisor agrees.
- The first draft of TIM project proposal's preliminary pages, abstract, and chapter 1. Introduction and chapter 2. Literature Review, the list of references, and the TIM project shell.

#### COURSE DESCRIPTION

TIMG 5103W Advanced Topics in Technology Innovation Management [0.5 credits]

#### Project Based Learning

This course provides an environment where TIM students in their 2<sup>nd</sup> and 3<sup>rd</sup> term can develop TIM Project proposals. The client of the TIM project may be a large firm, a small- or medium- sized company, an entrepreneur, or a Carleton department, faculty, research organization, or support group. Project proposals will follow the established TIM Gate Process for student research. Students will present their project proposals in class and at the TIM Gate 0 Review.

## TARGET AUDIENCE

TIMG 5103S (Project-based Learning) is for graduate students in the Technology Innovation Management (TIM) program registered in one of the project degree pathways – the Master of Engineering (MEng), Master of Entrepreneurship (MEnt), the Master of Applied Business Analytics (MABA) or the Master of Digital Transformation & Entrepreneurship (MDTE) – in their second or third term of study.

## LEARNING SPACE

Course participants will engage in a learning space with synchronous and asynchronous learning activities. All course content, instructions, links, and submission portals are available in Carleton University’s Brightspace Learning Management System (LMS):

<https://brightspace.carleton.ca/d2l/home/224614>

You can learn about Brightspace here: <https://carleton.ca/brightspace/students/>

Instructions for synchronous and asynchronous learning activities are available for each class inside the course’s Brightspace page. Students must review these instructions in advance and complete activities and assignments on time. Each student is responsible for the submission of their own assignment and the assessments they receive. Students will work in groups during class; however, each student controls their own submissions. All classes follow a consistent pattern of learning activities to complete prior to, during, and after class time. Figure 1 illustrates the pattern of the course. The pattern incentivizes consistent effort from students (effort is correlated to learning) and ensures active class discussions and applications of course concepts rather than passive listening and low student engagement.

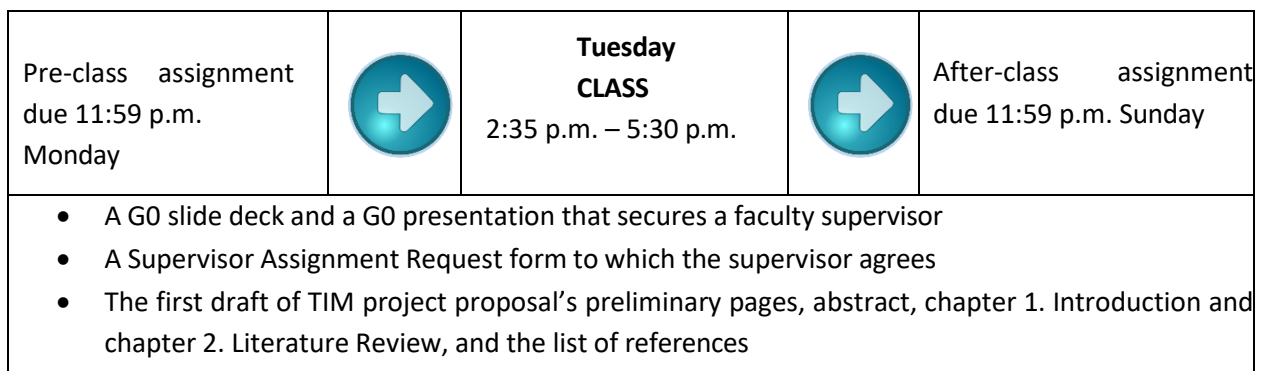


Figure 1 – Consistent pattern of learning activities prior to, during, and after class time.

## Synchronous portion – class sessions

Class sessions are the *synchronous* portion of our learning space where all of us, from anywhere in the world, come together at the same time to interact. Class sessions will include combinations of group discussions, project work, lectures, student presentations, Q&A sessions, and learning reflections.

Students have the option to join class sessions in person in room 3038, Nicol Building, or online via: <https://carleton-ca.zoom.us/j/92858390444>

The HyFlex classroom has video conferencing facilities including cameras, speakers, and large display screens to bridge the online and offline worlds productively. Students must engage in class regardless of in-person or online attendance.

### **Asynchronous portion – outside class sessions**

The *asynchronous* portion of our learning space involves work done by students on their own time (i.e., activities completed outside of class).

Pre-class – Students receive a combination of readings and videos to consume and instructions to complete a pre-class assignment ahead of each class. Students will engage with the material on their own time and at their own pace, while meeting expected assignment deadlines. Students will arrive prepared to engage in higher-order learning activities by completing the readings and videos and the pre-class assignments.

After-class – Students receive instructions on the assignments they must submit after the synchronous classes. The after-class assignments build on the pre-class assignments and the in-class learning activities. Students will complete the after-class assignments on their own time and at their own pace while meeting expected assignment deadlines.

### **COURSE-RELATED QUESTIONS AND OFFICE HOURS**

Course-related questions – Students should post all questions about the course, including questions about course content, procedures, and assignments, to the discussion forum on Brightspace titled “Ask the Instructor.” Students who send course related questions to the instructor’s email will receive a reply asking the student to post their questions to the Ask the Instructor discussion forum. Response time: please allow 24-48 hours for responses to questions posted during the work week. The instructor will answer the questions posted on the weekend on Mondays.

The instructor is available via email at any time during the weekday. Please use email to inform the instructor of emergencies, request in-person or virtual appointments, and for other non-course-related subject matter. Email is the preferred mode as it keeps a record of the student-instructor exchanges.

### **RULES OF CONDUCT**

#### **Engagement**

Student engagement with their peers and the course content is important for learning. Students’ success depends on the extent and intensity of their engagement. Students will engage with the course individually and as part of groups. There are two types of groups students will engage with: “Learning Groups”, and “Domain Groups”. The instructor assigns students into Learning Groups and Domain Groups. Students can request to be transferred from one group to another.

Each student is to interact with members of their groups actively and respectfully to complete assignments and assimilate the content covered in the course.

### EXPECTATIONS

	The instructor expects the students to:
Academic integrity and participation	<ul style="list-style-type: none"> <li>• Deliver excellent presentations. An excellent presentation is clear, concise, insightful, and completed within the allotted time</li> <li>• Submit assignments that meet specifications on time</li> <li>• Deliver professional-quality work (i.e., your work is clear, influential, organized, and free of spelling errors, poor grammar, inconsistent formatting, and other mistakes)</li> <li>• Comply with the university’s academic integrity standards (e.g., will not plagiarize)</li> <li>• Interact with peers and the instructor to produce new knowledge</li> </ul>
Teamwork and communication	<ul style="list-style-type: none"> <li>• Arrive prepared to team meetings</li> <li>• Not permit (i.e., not allow) or engage in freeloading for team projects or group work</li> <li>• Work through adversity and disagreement while maintaining a positive and respectful mindset (towards others and oneself)</li> <li>• Deal with uncertainty productively</li> <li>• Respond to emails reliably and promptly</li> <li>• Work respectfully and collaboratively with others</li> </ul>
Classroom etiquette	<ul style="list-style-type: none"> <li>• Be prepared for each class and fully participate in all classes</li> <li>• Show up to class on time</li> <li>• Manage time by scheduling course assignment due dates and requisite study time into their personal calendar</li> </ul>

### COURSE LEVEL LEARNING OUTCOMES

A learning outcome is what you will be able to do after completing this course. The table below provides the learning outcomes at the course level.

You can:	Assignments
<b>Execute</b> – do what you are required to do	Exceed or meet specifications on all assignments
<b>Synthesize</b> – figure out what is important	Gate 0 slide deck
<b>Recommend</b> – determine what should be done	Supervisor Assignment Request
<b>Generate</b> – create something from nothing	First draft of the TIM Project Report
<b>Communicate</b> – deliver high-quality presentations	Gate 0 presentation to TIM faculty

## **TIM PROJECT**

The TIM project is a project that has a research component that is essential to creating value for an identifiable client. It is part of what makes the TIM program unique and is a requirement to qualify for a graduate degree.

To produce the research component of a TIM project, a TIM student does the following tasks:

- Review the research literature to identify the “conceptual things” that will guide the research work, including theories, frameworks, processes, and tools.
- Apply findings from the literature and insights gained from the course to shape two to four project deliverables and the method used to produce them.
- Identify what is known and not known about what is required to deliver on the research’s objective.
- Collect data and describe the collection of data that can be analyzed to complement the selected research theories, frameworks, insights, and tools, and inform the method of producing the project deliverables.
- Provide a detailed analysis of how the lessons learned producing the project assignments could enhance the practical application of the adopted research theories, frameworks, insights and tools in other TIM projects and application contexts.

The TIM Project Report is an 80+ page document. A TIM faculty member grades the document using TIM standards for graduate students. A TIM student can leverage what the client provides to produce a TIM Project Report. The TIM program will assign a supervisor for each successful TIM Project at the G0 event. The course instructor advises the formulation of the G0 slide deck and presentation. Students can collaborate with other advisors as well.

## **SUPERVISOR ASSIGNMENT REQUEST FORM**

TIM students need to complete the Supervisor Assignment Request (SAR) form with their supervisors after the Gate 0 presentations. A TIM student and a supervisor sign the form and submit it to the TIM Office for approval. Students in this course must submit the approved Supervisor Assignment Request form along with the final assignments at end of the examination period for the term.

Students will not be able to remain registered in any of the TIM project courses, TIMG 5901

(MEng Project), TIMG 5905 (MEnt Project), TIMG 5907 (MABA Project) or TIMG 5908 (MDTE Project) without an approved Supervisor Assignment Request form. Students without a completed form will be deregistered.

## ASSIGNMENTS

You can:	Assignments	Number of submissions
Take responsibility for your education	Pre-class assignments	11
Take responsibility for your education	In-class assignments	13
Take responsibility for your education	After-class assignments	13
Prepare a slide deck to propose a TIM project	Gate 0 slide decks, (versions 1, 2 and Official)	3
Communicate with skill	G0 presentations (two dry run presentations to peers and one Official presentation to TIM faculty at a Gate 0 review)	3
Revise G0 slide deck	Incorporate faculty feedback into G0 presented to them	1
Work with TIM faculty to complete a Supervisor Assignment form	Supervisor Assignment form approved by the TIM Office	1
Prepare first draft of chapters 1 and 2 of the TIM Project Report	TIM Project Report (first draft of: shell for TIM Project Report, Abstract, Table of Contents, Introduction and Literature Review chapters, and List of References)	1
		46

## ASSESSMENT

This course uses the specification grading system<sup>1</sup> to assess 45 of the 46 assignments and the traditional grading system to assess one assignment – TIM Project Report. Specification grading allows students to choose the grade they wish to earn based on the amount of effort they wish to put in.

Students receive clear specifications for their assignments, and the instructor evaluates whether the submitted assignments meet the stated specifications. The specification grading system is not concerned with points, partial credits, or course pass or fail. An assignment that a student submits either meets specifications or it does not. An assignment that meets specifications receives an “M” (meets specification). An assignment that does not meet specifications receives an “N” (not assessable) or an “R” (revision required).

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<sup>1</sup> See Nilson, L.B., 2015. Specifications grading: Restoring rigor, motivating students, and saving faculty time. Stylus Publishing, LLC.

To assess assignments, the instructor uses the NRM specification system shown below:

**Grade**

- M (2)** The assignment clearly meets all stated specifications. No additional work is required
- R (1)** Revision is required. The assignment provides clear evidence that effort to meet specifications was given. However, significant gaps remain. Needs further work.
- N (0)** Not assessable.
- Assignment was not submitted on time.
  - Assignment does not provide enough clear evidence that earnest effort was given. Work contains significant omissions, parts are not connected in a logical manner, ideas are expressed poorly, work contains errors in spelling, grammar, and capitalization.

**YOUR LETTER GRADE**

To determine your letter grade in this course, we use a formula that considers your TIM Project Proposal grade and the number of assignments you complete with a grade of M.

To make this adjustment, we use a constant value for each letter grade (which we call K) and subtract from it the number of assignments that receive an M grade. We then take half of this difference and round it to the nearest whole number to get an integer adjustment.

Assignments that receive an R (1) or N (0) grade do not count towards completing an assignment to specification. For example, let's say you received an "A" grade on your TIM Project Proposal and completed 35 assignments with an M (2) evaluation. To calculate your final letter grade, we would use the formula:  $(K - M)/2$ , where K is the constant value for the letter grade that you're aiming for, and M is the number of assignments completed to specification.

If K for an "A" grade is 40, and a student completes 35 assignments, then we would calculate the adjustment as:  $(40 - 35)/2 = 2.5$ , which rounds up to 2. This means that your final letter grade would be adjusted down by two levels from an A to a B+.

To summarize, your final letter grade is determined by the grade assigned to your TIM Project Proposal adjusted based on the number of assignments completed to specification using the formula  $(K - M)/2$  rounded to the lower integer. K to be determined as semester starts.

## COURSE SCHEDULE

Note that the TIM faculty delivers a “G0 workshop” during class in week 2. The schedule for TIMG 5103W Project Based Learning is below.

Class #	Class date	Topic	Assignments (Pre-, In-, After class)
1	January 9 <sup>th</sup>	Overview & problem	Synthesize # 1
2	January 16 <sup>th</sup>	Slide 4	Synthesize # 2
3	January 23 <sup>rd</sup>	Slides 4, 5 and 9	Synthesize # 3
4	January 30 <sup>th</sup>	Slides 1, 2, 3, 4, 5 and 9	Synthesize #4
5	February 6 <sup>th</sup>	Slides 6-8	Synthesize #5
6	February 13 <sup>th</sup>	G0 slide deck and presentations for dry run 1 part 1	Recommend 1.1
	February 19 <sup>th</sup> – 23 <sup>rd</sup>	No classes – break week	
7	February 27 <sup>th</sup>	Presentations for dry run 1 part 2	Recommend 1.2
8	March 5 <sup>th</sup>	How to improve G0 decks & presentations	Recommend 2
9	March 12 <sup>th</sup>	G0 slide deck and presentations for dry run 2 part 1	Recommend 3.1
10	March 19 <sup>th</sup>	Presentations for dry run 2 part 2	Recommend 3.2
11	March 26 <sup>th</sup>	Revised G0 slide deck	Generation 1
12	April 2 <sup>nd</sup>	Signed Supervisor Assignment Request	Generation 2
13	April 9 <sup>th</sup>	TIM Project Report version 0	Generation 3
	April 20 <sup>th</sup>	Final assignments: <ul style="list-style-type: none"> <li>• Revised G0 slide deck</li> <li>• Approved Supervisor Assignment Request (SAR) Form</li> <li>• TIM Project report version 0 (preliminary pages and project report shell, Abstract, Chapter 1 Introduction, Chapter 2 Literature Review, List of References)</li> </ul>	

## ADDITIONAL RESOURCES

Within the course’s Brightspace there are documents providing detailed explanation of how the course works, what actions you can take to ensure your success, and learning resources you can use to do better in the course. These documents complement this course outline by going into greater detail and



providing actionable advice and tools. Students should carefully review all content in Brightspace.

### Generative AI

Students are encouraged to use generative AI applications such as ChatGPT (<https://chat.openai.com/chat>) responsibly within the course:

- Improve the content of the Gate 0 slide decks and Gate 0 presentations
- Align the parts of the Gate 0 slide deck to make a coherent whole
- Propose the steps of a research method
- Improve the explanation of data acquisition and data analysis
- Eliminate all errors in grammar, spelling, capitalization, and punctuation, and ensure that citations and references are complete and correct
- Generate ideas, make recommendations, and extract what is most important

### Futurepedia.io

Futurepedia (<https://www.futurepedia.io/>) provides an inventory of more than 1,200 AI applications organized in 50 categories.

## TIM BRAND, VALUES, GROUP WORK, PLAGIARISM, AND ISSUE TRACKING

### Brand

The brand of the TIM program is an asset that is valuable. All TIM students and course participants work hard to protect and enhance both their own brand and the TIM brand. Course participants should use Carleton email accounts.

### TIM Values

The table below identifies our expectations (what we value) and what is not acceptable in our value system. Individuals registered in this course must act accordingly.

	What the instructor expects	What the instructor finds unacceptable
<b>Course assignments</b>	<ul style="list-style-type: none"> <li>• Original work</li> <li>• High-quality work delivered on-time for public examination</li> </ul>	<ul style="list-style-type: none"> <li>• Plagiarized work</li> <li>• Low-quality work delivered late with excuses</li> </ul>
<b>Focus</b>	<ul style="list-style-type: none"> <li>• Co-create innovation to make a difference in our university, disciplines, and communities</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge that fills menial gaps and has little or no impact on communities, our region, country, or world</li> </ul>
<b>Source of information</b>	<ul style="list-style-type: none"> <li>• Reputable scholarly journals</li> </ul>	<ul style="list-style-type: none"> <li>• Low quality journals, individual opinions, and stories</li> </ul>

<b>Mode in which students acquire knowledge and skills</b>	<ul style="list-style-type: none"> <li>• Independent and critical thinking</li> <li>• Application of new knowledge to gain insights on how to launch and grow technology companies</li> </ul>	<ul style="list-style-type: none"> <li>• Memorization and regurgitation of information</li> <li>• Application of superficial opinions, stories, management fads, generalities</li> </ul>
<b>Challenge</b>	<ul style="list-style-type: none"> <li>• Trying new things, destroying boundaries, and being deep thinkers</li> </ul>	<ul style="list-style-type: none"> <li>• Over-extending yourself by taking on so many things that you no longer have the capacity to do a respectable job at any of them.</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>• Relevant, substantive, fun, positive, 24x7</li> <li>• experiential learning</li> </ul>	<ul style="list-style-type: none"> <li>• Worthless, trivial, theatre, boring, negative,</li> <li>• 3 hrs/week listening</li> </ul>

### **Plagiarism**

Plagiarism, including copying and handing in for credit someone else's work, is a serious instructional offence that will not be tolerated. Please refer to the section on instructional offenses in the Carleton Graduate Calendar for additional information. Plagiarism is against the TIM culture. A case of plagiarism will be referred to the Dean of the Faculty of Graduate and Postdoctoral Affairs (FGPA). The instructor will not deal with the matter directly. Carleton University has a clear process to deal with allegations of plagiarism.

### **Issue tracking and technical support**

Students should alert the instructor of any content or technical issues you encounter in this course.

### **INFORMATION ON ACADEMIC ACCOMMODATIONS**

#### **Requests for Academic Accommodation**

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

#### **Pregnancy obligation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website:

[carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

#### **Religious obligation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more

details, visit the Equity Services website:

[carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

### **Academic Accommodations for Students with Disabilities**

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation or contact your PMC coordinator to send your

instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. [carleton.ca/pmc](http://carleton.ca/pmc)

### **Survivors of Sexual Violence**

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: [carleton.ca/sexual-violence-support](http://carleton.ca/sexual-violence-support)

### **Accommodation for Student Activities**

Carleton University recognizes the substantial benefits, both to the individual student and for the university, which result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

### **Course Sharing Websites**

Materials created for this course (including presentations and posted notes, labs, case studies, assignments, and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

### **Other information**

For more information on academic accommodation, please contact the departmental administrator [timprogram@CUNET.Carleton.ca](mailto:timprogram@CUNET.Carleton.ca) or visit: [students.carleton.ca/course-outline](http://students.carleton.ca/course-outline)

**HAVE A GREAT WINTER TERM LEARNING!**