



**Carleton University
Sprott School of Business
BUSI 4607 - Section A
Fall Term 2018**

MANAGEMENT OF TECHNOLOGY AND INNOVATION

Instructor: Tom Duxbury, P.Eng., MBA, CPA, CMA
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Course meets: UC 279
Fridays 11:35 am – 2:25 pm

Pre-requisites & precluded Courses: Third-year standing, and BUSI 2204 or BUSI 2208, and BUSI 3103 (with a grade of C- or higher in each).

1.0 COURSE CALENDAR DESCRIPTION

Integration of technology and strategy; design of technological strategy; development of new business around new technology; and management of corporate research and development, including pre-competitive consortia.

2.0 PREREQUISITES

Third-year standing, and [BUSI 2204](#) or [BUSI 2208](#), and [BUSI 3103](#) (with a grade of C- or better in each). The School of Business enforces all prerequisites. It is your responsibility to ensure that you meet the prerequisite requirements for this course. Lack of prerequisite knowledge may lead to failure in the course. Only the Undergraduate Program Advisor of the School can waive prerequisite requirements.

3.0 LEARNING OBJECTIVES

The objective of *BUSI 4607 Management of Technology & Innovation* is to understand how companies can manage technology and innovation for competitive advantage and sustainable growth. The course focuses on the strategic issues posed by emerging new technologies; with implications for pioneering and incumbent firms who are faced with disruptions in their existing business. The course provides details of frameworks and tools critical for managing technology-led industries such as IT, pharmaceuticals and biotechnology. Throughout the course the discussion will deal with strategic and managerial, rather than technical choices – technical expertise is neither expected nor required. The emphasis in the course is on the development and application of conceptual models which clarify the interaction between competition, patterns of technological change, and the structure and development of firm capabilities. Technology and innovation management is a managerial art that requires practice and reflection to master. The course emphasizes practical applications using topical case studies and demands a high degree of interactive participation from the students. With the successful completion of the course, the student will understand the vocabulary and practices of innovation management, and be able to plan and critique innovation strategies for new and existing technology ventures.

4.0 READINGS/TEXTBOOK

Required Text. The following textbook is a requirement for BUSI 4607:

Trott, Paul. (2017). *Innovation Management and New Product Development (6th Edition)*. Harlow, UK: Pearson Education. ISBN-13: 978-1-292-13342-3

Note that only the 6th edition (2017) will be supported in this course.

Supplemental Reading Links. Extra reading material links will be posted on cuLearn; while students will not be tested on them, these papers will provide added depth and may be helpful in preparing project work.

5.0 METHOD OF INSTRUCTION

Students will learn key concepts through experiential learning, lectures, simulations, case studies, videos and interactions with practitioners. The format of the course consists generally of one 170-minute class meeting per week. The primary role of the course instructor is to lead discussion and experiential learning in practical applications of course concepts. Class sessions entail a mixture of lecture, videos, problem analysis, case studies and class discussion. The content of any lecture presumes and expects that you have carefully studied the assigned reading. Lectures emphasize major topics and readings, yet you are responsible for all assigned materials. It requires active learning, which means that the student must take responsibility for the learning that takes place. It is critical that students prepare for each class by reading the assigned case studies ahead of time, and are prepared to discuss them thoughtfully. Failure to prepare for weekly case study discussions will be reflected in poor participation grades. Students are encouraged to ask questions and to stimulate discussion on topics that are of interest to the class.

6.0 EVALUATION

Participation	10%
Mid-Term Test	20%
Final exam (online via cuLearn)	25%
Team Case Project (groups of 2-3)	
Presentation	5%
Final Paper Submission	25%
Personal Assignments (two)	<u>15%</u>
	100%

Participation. Innovation management has many nuances in practice that cannot be gleaned from a textbook alone, and active engagement is essential to the successful completion of this course. You are expected to come to class prepared to learn, ask questions, share your knowledge, and challenge each other every week. Case study discussions are a great tool for bringing innovation concepts to life, but they require preparation to be effective. Many classes

involve short case studies that you must have read and thought about prior to the class. You may expect to be quizzed about the cases on the weeks they are discussed. Case discussions will count towards class participation marks. Your participation mark will be based on a) attendance; b) preparation; c) evidence of supplemental reading, and d) quality of contribution and questions.

Mid-Term Test. There will be an in-class test held mid-way through the term, worth 20% of the final grade. Those missing the midterm with medical documentation will be permitted to arrange for a make up test. Further details will be announced in class.

Note (1): To pass the course, individual capability must be demonstrated. Students must achieve a minimum grade in the midterm test of 40%, in addition to other requirements.

Note (2): Satisfactory performance in personal work is required in order to pass the course, see section 18.0 at the end of this outline.

Final Exam. The final exam for this course will be held online via cuLearn after classes end. The final exam includes all concepts covered in the course, including case studies, videos, guest lectures and class presentations. The final exam is an assessment of individual learning during this course, and not a "group effort". Exam rules will apply and students are not permitted to communicate in any way with others regarding the exam content. Failure to observe the confidential nature of the final exam will be treated like any other exam violation at Carleton, as a serious academic offence. Further instructions will be posted on the course cuLearn site.

Note (3): To pass the course, individual capability must be demonstrated. Students must achieve a minimum grade in the final exam of 40%, in addition to other requirements.

Note (4): Satisfactory performance in personal work is required in order to pass the course, see section 18.0 at the end of this outline.

Team Case Project. The primary objective of the group project in this course is to demonstrate the ability to apply innovation concepts to real-world situations of interest to them. Students may elect to complete the case project in teams of two or three. The deliverables

consist of a written report and an in-class presentation. No late submissions will be accepted. Further instructions will be posted on the course cuLearn site.

Personal Assignments. The objective of these two assignments are to allow students to explore, reflect, and add their own interpretation on current topics in innovation. Details will be provided on cuLearn. As these assignments are posted well in advance of their due dates, no late submissions will be accepted.

7.0 CONDUCT

Professional conduct is built upon the idea of mutual respect. Such conduct entails (but is not necessarily limited to):

- *Attending the class.* Each class benefits from the attendance and participation of all students. Your grade for participation will be affected by absences. Regular class attendance is important and required. I expect you to attend class and contribute to a quality discussion. Class and team discussion of the materials (e.g., readings, assignments, and cases) are an important part of the learning process. If circumstances prevent attendance at a class meeting, please remember that you are responsible for all materials discussed, handouts distributed, assignments covered, and announcements made.
- *Arriving on time.* Late arrivals are disruptive to both lectures and class discussion, and show disrespect to those who are on time.
- *Minimizing disruptions.* You should not leave and re-enter the class. You should avoid engaging in side conversations after class has begun.
- *Focusing on the class.* While you may take notes on laptops, do not use laptop computers or hand-held devices for other tasks while in class. Activities such as net surfing, and answering email are very impolite and disruptive both to neighbors and the class.
- *Being prepared for class.* You should be ready to discuss any assigned readings and to answer any assigned questions for each day's class, including being ready to open a case assigned for that day.
- *Cellular phones.* The use of cellular phones IS NOT PERMITTED in this class. It is disruptive to the instructor and class members. If you carry a phone to class, please make sure it is turned off. If an emergency situation requires you to keep your cell phone turned on you may wish to keep the silent mode on, please discuss this with the instructor prior to the class starting.

8.0 OFFICE HOURS

The course instructor is available for consultation by email daily, and office hours are generally by appointment, either before or after class. Teaching assistants may be available for consultation depending on budget allocation. Days, times and location will be announced in class by the instructor and posted to the course website, if any.

9.0 SCHEDULE

BUSI 4607 - FALL 2018

Week	Date	Topics (Reading)	In-Class Case Discussion
1	Sept 7	Overview & Introduction to Innovation Management (Ch. 1)	
2	Sept 14	Disruptive Change & the Innovator's Dilemma (Ch.16)	Drone Delivery (Trott, p.76)
3	Sept 21	Managing Uncertainty (Ch. 4)	Gore-Tex (Trott, p.145)
4	Sept 28	Innovation Inside Firms (Ch. 4) Intellectual Property (Ch. 6)	Emerging Tech- TBA
5	Oct 5	Open Innovation (Ch. 11) Ecosystems, Knowledge Networks & Strategic Alliances, (Ch. 6, 7,10) Personal Assignment 1 due	Proctor & Gamble (CuLearn)
	Oct 12	Mid-term Test	
	Oct 19	Managing Research & Development (Ch. 9, 10, 11)	Pfizer Viagra (Trott, p.330)
6	Oct 26	No Class - Fall Break	
7	Nov 2	Business Models (Ch. 12)	TBA
8	Nov 9	Strategy & Innovation (Ch. 13) New Product Development (Ch. 14)	3M (Trott, p.612)
9	Nov 16	Service Innovation (Ch. 15) Marketing Research & Innovation (Ch. 16) Managing New Product Process (Ch. 17) Personal Assignment 2 due	Spotify M&Ms (cuLearn)
10	Nov 23	Entrepreneurship and Innovation (Lean Startup - reading on CuLearn)	Ecotraction Oculus Rift (cuLearn)
11	Nov 30	Term Case Project Presentations	Case Project Reports Due

IMPORTANT ADDITIONAL INFORMATION

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).

Required calculator in BUSI course examinations

If you are purchasing a calculator, we recommend any one of the following options: Texas Instruments BA II Plus (including Pro Model), Hewlett Packard HP 12C (including Platinum model), Staples Financial Calculator, Sharp EL-738C & Hewlett Packard HP 10bII

Group work

The Sprott School of Business encourages group assignments in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, follower-ship and other group skills. Group assignments are also good for learning integrative skills for putting together a complex task. Your professor may assign one or more group tasks/assignments/projects in this course. Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.

In accordance with the Carleton University Undergraduate Calendar (p 34), the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D+ = 57-59
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A - = 80-84	B - = 70-72	C - = 60-62	D - = 50-52
F = Below 50			

Grades entered by Registrar:

WDN = Withdrawn from the course

DEF = Deferred

Academic Regulations

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

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

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

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 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

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 its 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

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that 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>

For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline

Academic Integrity

Violations of academic integrity are a serious academic offence. Violations of academic integrity – presenting another's ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student – weaken the quality of the degree and will not be tolerated. Penalties may include; a grade of Failure on the submitted work and/or course; academic probation; a refusal of permission to continue or to register in a specific degree program; suspension from full-time studies; suspension from all studies at Carleton; expulsion from Carleton, amongst others. Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy which is available, along with resources for compliance at: <https://carleton.ca/registrar/academic-integrity/>.

Sprott Student Services

The Sprott student services office, located in 710 Dunton Tower, offers academic advising, study skills advising, and overall academic success support. If you are having a difficult time with this course or others, or just need some guidance on how to successfully complete your

Sprott degree, please drop in any weekday between 8:30am and 4:30pm. Our advisors are happy to discuss grades, course selection, tutoring, concentrations, and will ensure that you get connected with the resources you need to succeed! <http://sprott.carleton.ca/students/undergraduate/learning-support/>

Centre for Student Academic Support

The Centre for Student Academic Support (CSAS) is a centralized collection of learning support services designed to help students achieve their goals and improve their learning both inside and outside the classroom. CSAS offers academic assistance with course content, academic writing and skills development. Visit CSAS on the 4th floor of MacOdrum Library or online at: carleton.ca/csas.

Important Information:

- Students must always retain a hard copy of all work that is submitted.
- All final grades are subject to the Dean's approval.
- For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton CMail account. If you do not have or have yet to activate this account, you may wish to do so by visiting <http://carleton.ca/ccs/students/>

18.0 SATISFACTORY IN-TERM PERFORMANCE

Students may not rely on group work to pass a course they would have otherwise failed on their own. The requirement for Satisfactory In-term Performance is set at **50%** of all personal term work combined. This includes personal assignments, the midterm test, and participation, which comprise 45% of the course grade total. The requirements for satisfactory in-term performance does *not* include the Team Case Project, nor the Final Exam. It is the student's responsibility to monitor and maintain their own performance during the course of the term. Unsatisfactory In-term Performance in this course will lead to failure in this course, regardless of test or exam performance.