Syllabus

SCIE 4701 & 4702: Applied Innovation in Science

2024-25

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Teaching Team

Instructor

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Contents:

Dalhousie University acknowledges that we are in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People and pays respect to the Indigenous knowledges held by the Mi'kmaq People, and to the wisdom of their Elders past and present. The Mi'kmaq People signed Peace and Friendship Treaties with the Crown, and section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights. We are all Treaty people.

Dalhousie University also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity

and inclusiveness (Strategic Priority 5.2). Additional diversity and inclusion information can be found here.

Course Description

Hands-on experience in using scientific training and knowledge to create innovative solutions to real world problems. Topics include stakeholder discovery, problem-solution fit, brainstorming, project management, pitching, and business models (including entrepreneurship and not-for-profits). Experiential learning format, including data acquisition and analysis, team work, case studies, and guest presentations.

Prerequisites

There are no specific prerequisite classes; however, undergraduates should have completed at least two full years (60 credit hours) of university study, if not more. SCIE 4701 and SCIE 4702 must be taken in the same year, and a grade will be given for SCIE 4701 only after SCIE 4702 is completed.

Background and Rationale

This class departs from traditional science training by emphasizing the processes of innovation and commercialization: identifying problems that represent real needs in society and/or the world, and creating novel solutions that not only work, but are supported by a viable business model. Students will develop an understanding of how to design solutions that meet a real need, and have the potential to be commercialized or otherwise make it into the hands of people who can benefit from the solutions.

Students will find that the core principles taught in the class can be applied in a wide range of scientific and technological applications. This class will provide a unique perspective and new skills that are not typically offered in undergraduate or graduate programs in science or engineering.

Learning Objectives

At the end of this course, you should be able to do the following:

Innovation & Entrepreneurship

- Understand and explain the differences between discovery-based research and commercialization/translation-focused research and development
- Identify real-world problems in need of innovative solutions

- Engage in processes including **human-centred design** and **customer discovery** (qualitative research) to define problems and identify a range of possible solutions
- Use the **Value Proposition Canvas** to test alignment between needs and solutions
- Use the **Lean Canvas** (or related canvases such as the Mission Model Canvas) to develop, justify, and pitch a business model for an innovative solution to a real-world problem
- Constructively evaluate and critique business model canvasses developed by others
- Plan and develop **prototypes** over varying complexity levels, and articulate the value of prototyping in assessing the feasibility of a solution
- Explain technology readiness levels (TRL) and be able to assess products in terms of TRL
- Define and explain core principles of **intellectual property** and how it can be protected, including patents and trademarks in the Canadian, U.S., and other systems, and how intellectual property may be licensed
- Identify multiple options for funding commercial and not-for-profit ventures, and characterize these in terms of appropriate stages of enterprise growth, as well as benefits and costs of different options
- Explain roles and responsibilities of senior organizational leadership, and strategies for allocating rewards (compensation and ownership) to founders and executives
- Apply course material to analyze business cases

Personal/Leadership Skills

- Stand up in front of strangers and present an idea clearly and concisely with or without visual aids
- Accept and respond constructively to criticism of your ideas in a public setting
- Conduct interviews with strangers to gain insight into a problem they experience, and how well a proposed solution addresses their needs
- Work productively in multidisciplinary teams

Class Format

This course uses an experiential, team-based format and relies heavily on a *flipped classroom* approach in which students assume responsibility for learning material (via readings and videos) and conducting activities outside of class time. Class time is then productively spent in discussing and interpreting content from the readings, presenting updates on project progress, and receiving feedback form other students and the instructor and mentors on these progress reports. The nature of the experiential learning process, and team-based activities, **requires that students attend all classes and engage in all activities** synchronously

in real time during the scheduled class time. Please see the attendance policy below for details on missing class due to illness or other reasons.

Online Learning Platforms

Most course information is provided through this website. In addition, registered students will be added to an MS Teams site for this course, which will facilitate communication, virtual meetings, and submission of some assessment components (see below).

Course Structure and Outline

This pair of courses operates over two terms. Across both terms, students will build their understanding of the processes of innovation, commercialization, and entrepreneurship through team-based development of an innovative solution to a real problem, developing a business model for this innovation, and pitching their ideas to various audiences.

Fall Term (SCIE 4701)

The term starts with an overview of innovation and entrepreneurship, but the bulk of the term is focused on:

- Learning the processes of *design thinking* through experiential practice. This will involve a variety of in-class activities, as well as a multi-week team project, the human-centred design project.
- *Developing productive working relationships with classmates* through a variety of activities inside and outside of class time. It is important to get to know all of your classmates, and explore different working styles. Activities will "mix and match" students in small groups to facilitate this process.
- Learning about innovation and entrepreneurship through analysis of business *case studies*. Cases will be analyzed in class discussions in which everyone is expected to participate.

Winter Term (SCIE 4702)

The Winter term is devoted primarily to work on a single major project. These projects are conducted in teams, and involve engaging in *customer discovery* and *design thinking* to: - identify, define, and validate a specific unmet need (problem) - develop a range of possible solutions to this need - select a candidate solution based on its suitability, viability, and desirability - develop a business model to describe the process and viability of developing and implementing the proposed solution, using the business model canvas (or a related canvas, such as the social enterprise or mission model canvas)

The culmination of these efforts will be a final **lessons learned** presentation in which each team describes the process they went through, the conclusions they

arrived at (in particular, whether their solution is ultimately feasible), and what they learned along the way.

Class time during the Winter term will be 50% devoted to teams presenting weekly updates on the development of their projects. The other half of class time will involve presentations by *guests from the innovation and entrepreneurship community*, and additional *case discussions*.

Workload

This is an intensive, honours-level course. Expectations are high. It may be the most demanding course you have ever taken, in its own ways. Unlike many lower-level courses, this course does not emphasize your ability to read, memorize, and regurgitate information. There are no term papers, quizzes, or exams. Instead, it focuses on higher-level skills that will prepare you for a variety of careers and future educational pathways — like combining information from multiple sources (including prior courses, life experience, and self-directed reading and research), analyzing information, and applying this information to solve problems. Importantly, these problems do not have pre-defined answers that the instructor expects you to reproduce; rather, you are graded on your ability to understand and explain a problem, and design and defend a viable model to solve that problem.

Students have reported upwards of 10 hours of work each per week on this course, outside of class time. In addition to the required readings (and viewings), getting out of the classroom and collecting data — in the form of interviews and independent research — is an important part of the class in both terms.

Radical Candour

This class employs a method of giving feedback known as **radical candour**. This is a method of providing **direct, frank, and unapologetic feedback** to students, particularly during the weekly business model updates. The two principles of radical candour are **care personally** and **challenge directly**. The goal of radical candour is to improve the quality of your solutions and business model — and ultimately, your critical thinking abilities — through honest and constructive feedback.

Most people find radical candour unsettling at first, because it dispenses with norms of politeness, to the extent that these interfere with getting a point across clearly and effectively. With this said, radical candour is *not* intended to be aggressive or hurtful, or to criticize you as a person. If you have concerns about the feedback you are being given, please raise these with the instructor and/or TAs. Please also remember that radical candour is meant to work both ways — you should feel free to raise issues about the instructor(s) directly to them, in a way that is clear and direct but without criticizing them. The instructor and TAs will not penalize you for raising issues about your instruction.

This class pushes many people past their comfort zone. If receiving critiques that may feel abrupt and brusque in front of your peers — weekly — embarrasses you, you should be prepared to work through your discomfort. It's not personal, but it is by design a part of the class to emulate the pace, uncertainty, and pressures of a startup. In return, we also expect you to question us, challenge our point of view if you disagree, and engage in a real dialog with the teaching team.

Please note: *this is not intended to present a barrier to anyone on the basis of personality or background.* If you find the radical candour approach uncomfortable, but want to try it out anyway, then we will support you 100% and will be happy to talk with you privately or publicly about how to make it work for you.

Receiving Feedback

An important part of radical candour is learning how to take feedback constructively. It's very natural for humans to fall in love with their ideas, and to be defensive when they are criticized. You will be doing hard work and and presenting ideas that make the most sense to you based on our research, and it can be uncomfortable — if not disheartening — to have them criticized. And, the feedback you receive may not always be consistent, or ultimately "right" — in innovation and entrepreneurship, there are many uncertainties and we are always operating on hypotheses and incomplete information.

When receiving feedback, be mindful of your natural human tendency to be defensive, and try to turn it off. Listen politely to the feedback, and thank the person for their input. It is rarely necessary or appropriate to argue with them, or explain why you made the decisions you did (unless you are asked directly). Indeed, in class there is very little time to receive feedback, and that time is best spent listening to the input of others, not repeating and defending your ideas. After receiving the feedback, you are still free to make your own decisions on how to proceed.

Team work

Much of the work in this class, and correspondingly the assessments, is done in teams. The start of the Fall term will involved many short team activities in which team composition is determined by the instructor and varied each time. In this way, you will have the opportunity to work with all the other students in the class. Through these activities you should be able to make informed decision when choosing teams for the Fall term design project, and the Winter term major project.

Although team work has its challenges, it is central to this class — including the learning outcomes, activities, and assessments — for important reasons. First and foremost, this course is focused on how to approach solving significant problems, and implementing those solutions through an *organization* — an entity larger than one person. Whether this organization is a startup, social enterprise, nonprofit, or a team inside a larger organization (such as a company

or university), the scope of the work to be done is beyond the time and talents of any one individual. As such, making things happen depends on effective team work. Secondly and more generally, it is virtually inevitable that in your future life you will need to work on teams, probably with a more diverse and challenging group of people than the other students in this class. This course will provide experience and insights in team work and organizations that will serve you well regardless of where your future takes you.

Course Materials

Required Readings

- Constable, G. (2014). *Talking to Humans*. Free ebook: https://www.talkingtohumans.com/
- Steve Blank's *How to Build a Startup* course on Udacity (free signup required)
- A course pack of case studies and readings from Harvard Business publishing (link will be provided to registered students)
- Additional material may be posted on the course web site and will be announced there.

Optional Readings

These are not required but students may find them useful in the context of the class, and certainly if they pursue the topics of this class in the future.

- Wasserman, N. (2013). *The Founder's Dilemmas: Anticipating and Avoiding the Pitfalls That Can Sink a Startup*. Princeton University Press.
- Blank, S., & Dorf, B. (2012). *The startup owner's manual: The step-by-step guide for building a great company*. K & S Ranch.
- Ingle, B. R. (2013). *Introduction to design thinking*. doi:10.1007/978-1-4302-6182-7_1
- Keeley, L., Pikkel, R., Quinn, B., and Walters, H.. (2013). *Ten types of innovation: The discipline of building breakthroughs*. Hoboken, NJ: Wiley.
- Kelley, T. (2001). *The Art of Innovation: Lessons in creativity from IDEO, America's leading design firm*. New York.
- Maurya, A. (2012). *Running Lean*. Sebastapol, CA: O'Reilly Media.
- Osterwalder, A. (2010). *Business model generation: A handbook for visionaries, game changers, and challengers*. John Wiley and Sons.
- Osterwalder, A., Pigneuro, Y., Bernarda, G., and Smith, A., (2014). *Value Proposition Design*. Hoboken, NJ: Wiley.
- Ries, E. (2011). *The Lean Startup*. Crown Business.
- Zenios, S., Makower, J., & Brinton, T. J. (2015). *Biodesign: The process of innovating medical technologies*, 2nd edition. Cambridge University Press.

Assessment and Evaluation

Evaluation of performance in this class is not based on how well you can memorize material. Rather, it is focused on how well you can apply the principles you learn in the lectures and workshops to real-world problems. As well, you will be assessed on how well you are able to communicate your ideas orally, including your ability to defend decisions you have made and explain the processes by which you came to make critical decisions in designing your business model. You will also be evaluated on how effectively you work as part of a team. Grading is a combination of *formative assessments* - relatively low-value items whose purpose is to provide you with feedback and guidance in your learning — and *summative evaluation*, which are relatively high-value items used to evaluate the outcomes of your learning and work.

Grading

Grading will be according to the Dalhousie University standard grading scale. A grade will be given for SCIE 4701 only after SCIE 4702 is completed. The same grade will be assigned for both SCIE 4701 and 4702, reflecting the average for your Fall and Winter term grades. Your grades for each term will be available separately on Brightspace.

SCIE 4701 (Fall Term)

Component	% of final grade
Attendance	5
Self-Assessments	7
Peer Assessment	8
Case/Guest Discussions	40
Design Sprint Project	40

SCIE 4702 (Winter Term)

Component	% of final grade
Attendance	5
Self-Assessments	7
Peer Assessment	8
Case/Guest Discussions	40
Weekly Project Update Presentations	20

Component	% of final grade
Final Lessons Learned Presentation	20

Details

Attendance

Attendance at all class meetings is mandatory. Attendance will be taken at the start of each class; **if you are late, you will get half points for attendance for that day**. Your attendance grade will be calculated as the proportion of classes that you attended (e.g., if you attend 95% of class meetings you will get 95% of the possible attendance points). **If you are unable to attend all or part of a class**, please submit a Student Declaration of Absence (SDA) form to the instructor via a direct message on Teams. **You may submit up to 2 SDAs per term.** If situations arise that mean you have to miss more classes, please discuss these — ideally in advance — with the instructor.

Self-Assessments

You will submit regular (bi-weekly) assessments of your own learning progress over the term via Brightspace. Grading is pass/fail based on submitting something appropriate to the questions, or not. **Late work will not be accepted**. This is because the instructor will start reviewing them right after the due date/time (which is soon before Tuesday classes), allowing for feedback to be given in the next class.

Peer Assessments

Effective teamwork depends on effective teams. The teaching team can only have limited insight into the inner workings of a team, based on what we see in class. Effective teams will likely perform well in public, but the contributions of individual members to that effort may not always be balanced. Peer assessments are a mechanism to identify and reward the differences between strong leadership, effective contribution, and poor or unhelpful performance.

Peer assessment will involve bi-weekly surveys during each term's major project (design sprint and business model project), as well as a final assessment at the end of each project. During each project, bi-weekly **formative** peer assessments (meant to help improve performance) will serve as a check on the contributions of each team member. These allow the teaching team to keep tabs on any issues that might be arising. You will get full points for these as long as you submit them on time (as with self-assessments, late submissions will not be accepted).

Summative (graded) peer assessments will be due at the end of the human-centred design project in Fall term, and at the end of the Winter term major

project (i.e., at the end of term). Evaluations will employ the Team Peer Review Rubric.

Submitting the peer assessment itself is worth only a few points towards your final grade. However, it is also an opportunity for teams to identify individuals who did not contribute substantially to the project work. The peer assessment asks each team member to estimate the proportion of work done on the project by each team member. If any team member is identified by a majority of other team members as having done substantially less then their fair share of the work ("substantially less" being less than half as much work as others), the average contribution rating of all team members (other than the student in question) will be used to reduce the student's grade on the team project.

For example, imagine a team of 4 members: A, B, C, and D. D slacks off and does little to none of the work, and members A, B, and C rate D's contribution as 0, 2, and 4% of the project respectively (where equal work would have been 25% each). The team project receives a grade of 80/100 points. In this case, D's grade on the project would be 2/25 or 8% of the points awarded for the project, i.e., 0.08 * 80 = 6.4 points.

Please note that this is a "worst case" scenario. We much prefer it if issues are identified before things get this bad. The bi-weekly formative peer assessments are intended to help catch these issues early. Teams should first try to contact the team member who seems to be doing less work, and discuss the issue with them to try to find a resolution. Secondly, *before the project deadline*, teams should contact the instructor to discuss the problem.

If you are on a team and are having trouble completing your fair share of the work, likewise please first discuss this with your team members, and if you can't resolve it that way, please contact the instructor to discuss — ideally well before the project deadline. The purpose of this mechanism is to prevent students from "freeloading" on the work of others, but it is *not* meant to penalize people who are experiencing genuine struggles of any kind. The instructor is eager to support students who are struggling in any way.

Case Discussions We will discuss a range of case studies focused on different topics relevant to the course. These serve both to teach material, and allow for analysis and synthesis of course content. Each student is expected to be able to make productive and substantive contributions to every discussion. It is recognized that not everyone is equally comfortable speaking in class, and the instructor(s) will call on or otherwise encourage those who seem to need it. Feel free to raise any concerns with the instructor about this. Grading will be based on the Case Discussion Rubric.

Guest Discussions Throughout both terms, we will periodically invite guests from the entrepreneurship community to class. These guests will normally make a short presentation, followed by time for discussion. As with case discussions,

students are expected to actively contribute to these discussions in every class. Grading will be based on the Guest Presenter Rubric.

Design Sprint Project

The major project for Fall term is a multi-week design project. This is a structured process for developing and evaluating a novel solution to a problem over several weeks. This is completed in a team, and involves a number of in-class, facilitated activities, as well as work outside of class time. Outside of class, each team will be required to do work individually and in teams, including conducting research and interviews. Each team will make a final presentation, which will be graded according to the Design Project Rubric.

Weekly Update Presentations

Winter term is primarily focused on a single-term long team project, building a business model around a proposed solution to a problem. Each week, students will engage in "customer discovery" interviews and focus on developing one cell of the business model canvas. Each team will be required to present a 10 minute update of their progress in class, every second week, followed by a question period that includes feedback from the teaching team. Each presentation will be graded according to the Weekly Update Rubric. Weekly updates will be a weekly feature of class time, with groups alternating which weeks they present.

Lessons Learned Presentation

At the end of the Winter term, each team will describe their final business model and summarize the lessons they have learned along the way. This is not a pitch – it is recognized that not every effort will result in a viable business model. Rather, you will be graded on how deeply and thoroughly you pursued the development of the model, and how you reflect on all of the learning that has occurred throughout the course. This will occur publicly in a 15 minute team presentation. Grading will be according to the Lessons Learned Rubric.

Late Work

For all assessment and evaluation components with due dates and times listed on Teams, **late work will be penalized 2% per hour**, with the clock starting the minute after the deadline has elapsed.

Schedule

The class-by-class schedule is available on Brightspace. This includes required pre-class readings, videos, and assignments.

Policies

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate.

Attendance

The course format is synchronous in-person, and attendance for the full duration of all scheduled class times is required as noted above under grading. **If you are unable to attend all or part of a class**, please submit a Student Declaration of Absence (SDA) form to the instructor via a direct message on Teams. **You may submit up to 2 SDAs per term.** If circumstances arise that necessitate your missing more than two classes per term, please contact the instructor to discuss the matter. For reference, please consult Dalhousie's missed or late academic requirements due to student absence policy.

Scent Free Policy

Dalhousie University has a scent-free policy which prohibits perfume and other scented products in the workplace. Your instructor has chemical sensitivities to certain perfumes, which can be unpleasant and disruptive — and other class members may as well. **Please refrain from wearing scented products to class.**

Academic Freedom

Freedom of speech and of thought are cornerstones of academic institutions such as Dalhousie. Our goal in science is to observe and characterize the world accurately and objectively. However, we must realize that our perceptions of reality are often coloured by our beliefs and assumptions, some of which we may not be aware of. Academic freedom includes not only the freedom to think as you please, but others' freedom to express their beliefs as well. Please do not hesitate to express your ideas, but do so in a way that is respectful of others. This is the only avenue for the free expression and exchange of ideas.

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity. For more details please see: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia). Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Artificial Intelligence (AI)

Dalhousie University is committed to the highest standards of academic integrity and ethical conduct in research and scholarship. The University's Policy on Artificial Intelligence (AI) Research and Scholarship is intended to provide guidance to researchers and scholars on the ethical use of AI in research and scholarship. The policy applies to all members of the Dalhousie community, including faculty, staff, students, and visitors.

Within this class, we will discuss the opportunities and challenges of AI in the context of innovation and entrepreneurship. We will even explore the use of AI tools to facilitate processes such as brainstorming. We will also discuss the ethical implications of AI, and how to ensure that AI is used in a way that is ethical and responsible.

Conduct in the Classroom – Culture of Respect

Substantial and constructive dialogue on challenging issues is an important part of academic inquiry and exchange. It requires willingness to listen and tolerance of opposing points of view. Consideration of individual differences and alternative viewpoints is required of all class members, towards each other, towards instructors, and towards guest speakers. While expressions of differing perspectives are welcome and encouraged, the words and language used should remain within acceptable bounds of civility and respect.

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness (Strategic Priority 5.2). Additional diversity and inclusion information can be found at: http://www.dal.ca/cultureofrespect.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution. For more information please see https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/student-lifepolicies/code-of-student-conduct.html

Sexualized Violence Policy

Fair Dealing Policy

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie. Additional information regarding the Fair Dealing Policy can be found at: https://www.dal.ca/dept/university_secretariat/policies/academic/fair-dealing-policy-.html

Student Use of Course Materials

Course materials are designed for use as part of this course at Dalhousie University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as books, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law. Copying this course material for distribution (e.g. uploading to a commercial third-party website) may lead to a violation of Copyright law.

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Learning and Support Resources

Advising

General Advising: https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: https://www.dal.ca/faculty/science/current-students/academic-advising.html

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: https://libraries.dal.ca

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: https://libraries.dal.ca/services/copyright-office.html

Fair Dealing Guidelines: https://libraries.dal.ca/services/copyright-office/fair-dealing.html

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/servicessupport/student-health-and-wellness.html

Student Advocacy: https://dsu.ca/dsas

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Biosafety: https://www.dal.ca/dept/safety/programs-services/biosafety.html

Chemical Safety: https://www.dal.ca/dept/safety/programs-services/chemical-safety.html

Radiation Safety: https://www.dal.ca/dept/safety/programs-services/radiation-safety.html

Scent-Free Program: https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html