

**Vancouver Senate****THE SECOND REGULAR MEETING OF THE VANCOUVER SENATE  
FOR THE 2021/2022 ACADEMIC YEAR****WEDNESDAY, 20 OCTOBER 2021****6:00 P.M.****VIA REMOTE ATTENDANCE**

- 1. Welcome – Dr Santa J. Ono (information)**
- 2. Senate Membership – Dr Kate Ross (information)**  
New Member:  
Shaktiraj Kandola, Student Member, Faculty of Education, until 1 October 2022 and thereafter until replaced, to fill a vacancy.
- 3. Minutes of the Meetings of 10 and 22 September 2021 – Dr Santa J. Ono (approval)**  
(docket pages 3-13, 14-48)
- 4. Business Arising from the Minutes – Dr Santa J. Ono (information)**
- 5. Tributes Committee – Dr John H. V. Gilbert**  
Memorial Minute for Dr John Grace (approval) (docket pages 49-50)
- 6. Remarks from the Chair and Related Questions – Dr Santa J. Ono (information)**
- 7. Academic Policy Committee – Dr Kin Lo**
  - a. Classical, Near Eastern and Religious Studies Department Name Change**  
(approval) (docket pages 57-58)
  - b. Global Reporting Program Consortium Agreement (approval)** (docket pages 59-72)
- 8. Awards Committee – Dr Sally Thorne**  
New and Revised Awards (approval) (docket pages 73-82)
- 9. Joint Reports of the Admissions and Curriculum Committees – Prof. Carol Jaeger and Dr Claudia Krebs**
  - a. New Program: Master of Pharmacy Leadership (approval)** (docket pages 83-146)



- b. New Program: Doctor of Philosophy in Genetic and Genomic Counselling (approval) (docket pages 147-197)

#### **10. Curriculum Committee – Dr Claudia Krebs**

Curriculum Proposals from the Faculties of Forestry and Graduate and Postdoctoral Studies (approval) (docket pages 198-202)

#### **11. Teaching & Learning Committee – Dr Joanne Fox**

2020 Winter Update on Student Experience of Instruction - with Drs Simon Bates and Abdel Azim Zumrawi, (information) (docket page 203-218)

#### **12. Nominating Committee – Dr Paul Harrison**

- a. Amendment to the Rules and Procedures of Senate to Require Consideration of Equity, Diversity, and Inclusivity in Committee Deliberations (approval) (docket pages 219-221)
- b. Establishment of a Standing Committee on Equity, Diversity, and Inclusion (approval) (docket pages 219-221)
- c. Appointment to a President's Advisory Committee for the Extension of Appointment of the Vice-President Research and Innovation (approval) (docket page 222)
- d. Committee Adjustments (approval) (docket page 222)

#### **13. Research and Scholarships Committee – Dr Guy Faulkner**

Annual Report of the Vice-President Research and Innovation – With Vice-President Gail Murphy, (information) (docket pages 223-241)

#### **14. Report from the Provost – Dr Andrew Szeri**

- a. Re-envisioning the Student Experience of Instruction Survey Questions from the Student Perspective –with Drs Simon Bates, Stephanie McKeown, and Abdel Azim Zumrawi (information) (docket pages 242-280)
- b. Climate Action Plan 2030 – with Mssrs John Madden and Michael White (information)(docket pages 281-402)

#### **15. Report from the Registrar – Dr Kate Ross**

Faculty of Education Student Election to Senate Results (information) (docket page 403)

#### **16. Other Business**



# VANCOUVER SENATE

## MINUTES OF 10 SEPTEMBER 2021

**DRAFT**

### Attendance

**Present:** S. Point, S. Ono (Chair), K. Ross (Secretary), A. Szeri, S. Parker, S. Bates, J. Olson, M. MacDougall, D. Kelleher, J. Hare, R. Yada, S. Porter, M. Aronson, J. Benedet R, Kozak, R. Yada, M. Coughtrie, K. Lo, N. Ford, J. Bulkan, H. Zerriffi, J. Dierkes, J. J. Stewart, S. Matsui, M. Kuus, A. Fischer, A. Scott, A. Collier, K. Smith, P. Englezos, S. Forwell, J. Fox, M. MacPhee, C. Krebs, C. Marshall, H. von Bergmann, S. Grayston, A. Ivanov, Price, S. Pelech, S. Thorne, S. Singh, J. G. Stewart, , C. F. Andrew, G. Faulkner, J. Gilbert, M. Tan, B. Fischer, H. Leong, L. Burr, G. Tsiakos, M. Higgins, R. Topping, L. Shpeller, E. Cantiller, L. Wang, X. Jiang, J. Schumacher, L. White, A. Sandhu, S. Cooper, K. Yu, D. Agosti-Moro, E. Bhangu, G. Yee, J. Burnham, M. Lorenz, K. Khosla,

**Regrets:** G. Averill, R. Helsley, C. Menzies, S. Gopalakrishnan, R. Boushel, A. Pratap-Singh, B. Fisher, P. Choi, S. Pelech, A. Grieg, C. Jaeger, L. Stothers, P. Harrison, R. Spencer, M. Stewart, A. Uzama, A. Dulay, A. Zhou, C. Godwin, J. Greenman, D. Goyal, J. Schumacher, D. Born, S. Mehta,

**Clerk:** C. Eaton

### Call to Order

The Chair of Senate, Professor Santa J. Ono, called the special meeting to order at 4:09 pm

### Senate Membership

#### NEW MEMBERS:

The Clerk, Mr Eaton, welcomed Dr Jan Hare, Dean Pro Tem. of the Faculty of Education, to replace Dr Blye Frank (end of term) and Dr Robert Kozak, Dean of the Faculty of Forestry, to replace Dr John Innes (end of term)

#### RESIGNATION:

Mr Eaton advised Senate that a letter of resignation was received from Ms Pamela Wolf, who was elected by the Joint faculties. A by-election would be called for the seat.



## Chairs Remarks

The thanks everyone for being available on short notice for this meeting called at the request of 18 senators. The President updates the Senate on the state of affairs at UBC: British Columbia now has a requirements masks to be worn in all indoor public spaces throughout B.C. to help slow the transmission of COVID-19, and proof of vaccination will be required to access some events, services, and business. A first dose is needed by 13 September, and people need to be fully vaccinated by 24 October. Additionally, students living in on-campus housing must provide proof of vaccination, and students in health science programs must be fully immunized to participate in student practica or clinical placements in long-term care or extended care facilities.

Dr Ono advised that the Province has updated the Return-to-Campus guidelines to address in person teaching and research activities, and the Ministry of Advanced Education, Skills and Training has noted that Under the guidance of WorkSafeBC, all public post-secondary institutions have developed communicable disease prevention plans and as part of these plans, post-secondary institutions can implement their own proof of vaccination or testing policies beyond what is provincially required for faculty and staff.

Dr Ono noted that that of course doesn't address the largest demographic on our campuses: our students. There have been a lot of questions and concerns regarding the autonomy of UBC and other universities to make decisions regarding our community's health and safety, and how that intersects with the authority of Government and health officers. Dr Ono recognized that those questions will continue and need to be addressed at another time.

UBC and the other research universities in BC have worked with our relevant ministries and public health offices and as you now know UBC will require COVID-19 testing for all students, faculty and staff, with exemptions provided for those who are vaccinated against COVID-19. We have implemented a process for confidential self-disclosure of vaccination status for all those who access our campuses, including students, faculty, staff and visitors. Dr Ono noted that the website to declare one's vaccination status went live Tuesday and uptake has been high. Rapid testing access is under development and will be announced shortly.

Beyond Point Grey, Dr Ono acknowledged that Kelowna in particular has seen a large increase in COVID-19 infections in recent weeks. At a meeting at the end of August, the Okanagan Senate resolved to recommend to the Board of Governors that UBC mandate vaccinations for all faculty, staff, and students, rather than allowing vaccination of regular testing.

Dr Ono noted that this was a constantly evolving matter, and more information on the above will be shared as soon as it is available. Dr Ono said that he would be recognizing four guests to speak with the Senate this afternoon and help inform its deliberations:

Dr Dan Coombs, Professor and Head of Mathematics of the BC COVID-19 Modelling Group





Dr David Patrick, Epidemiologist and Professor of Public and Population Health  
Dr Alexandra Choi, Medical Health Officer for the Vancouver Coastal Health Authority;  
and  
Dr Reka Gustafson, Provincial Health Services Authority Vice-President, Public Health  
and Wellness, and Deputy Provincial Health Officer.

**The implementation of a vaccine requirement for all on-campus activities, increased flexibility for online teaching in the Fall term of 2021W, and other measures to ensure the safety of the wider UBC community in this challenging time.**

Dr Marshall introduced the topic (above) in the call for this meeting. Dr Marshall said that COVID for him was a personal matter as his mother died of COVID alone. He noted that BC was weeks behind other provinces in having a vaccine mandate. UBC pivoted at great cost to address the pandemic last march, but seems unwilling to pivot again as needed. He noted that the two specific motions below were recommended by the Academic Policy Committee to address the topic above and were in line with those approved by the Okanagan Senate. Dr Marshall noted that most COVID-19 cases in BC were of the Delta strain, the risk there for vaccinated people was low but the risk for unvaccinated people was very high. He suggested that the unvaccinated would risk death, and there are further vulnerable people – the elderly or the immunosuppressed – who may be at risk even if vaccinated. A pass would be required to go into a movie theatre but not a lecture theatre. Dr Marshall noted that among the unvaccinated there was much more viral spread and a mandate would be much safer than the current policy, and that he had heard no legal impediments to UBC going beyond what the province was requiring. If there were legal arguments that made BC different from other provinces, Dr Marshall said they should be brought forward.

Dr Ono recognized Dr Dan Coombs of the BC COVID-19 modelling group.

Dr Coombs said that today's discussion was in between science and policy and his personal risk assessment affected his judgments on policy matters.

Dr Coombs said SARS-CoV-2 is not going away and with the variants we have lost the potential to have herd immunity. The longer-term scenario is an endemic state that may be seasonal. The public health challenge will be the transition to endemicity, which may take years. The personal health choice will be gaining immunity by vaccination or by infection, and infection was 30 times more likely to result in hospitalization.

Short term for BC, Dr Coombs said that BC had very high vaccination rates but Delta was highly transmissible. BC had 500 000 unvaccinated people age 12 and above. Masks and vaccination passports flatten the curve in the short term while we vaccinate more people. Any relaxation in measures now will result in more illness. UBC has extremely high vaccination rates but part of



that is having very few children. Vancouver and BC have high relative rates as well but we are not decoupled from the regions around us. Importations happen but are less.

Dr Coombs said that it was very difficult to model a university and the best approach was to be as simple as possible. Currently, the viral reproductive number was close to 1 in most models. The estimated baseline for Delta  $R_0$  is  $\sim 8$ . With 80% vaccination it is closer to  $\sim 2$  and with masks, it is in range of 1, which would mean an epidemic isn't sustainable at UBC.

Dr Coombs went over the systems in place at some other institutions, including the University of North Carolina, Duke and The Ohio State University.

In conclusion, Dr Coombs said that he found a large outbreak at UBC to be unlikely but that importation was a risk and there may be pockets of risky behavior. He said that masking was a low barrier thing to do to lower the reproduction rate and this should be expanded to include instructors. COVID 0 wasn't achievable so the question is what is our goal and what metrics will tell us if we get there. Finally, Dr Coombs asked under what conditions would we withdraw mask and vaccine requirements.

The Chair recognized Dr David Patrick of UBC Population and Public Health.

Dr Patrick said that he was an epidemiologist and an infectious disease physician, largely dealing with serial epidemics, and taught graduate courses on communicable disease control.

Dr Patrick said that his opening premise was that we wanted to return to in-person learning, and that harm has been caused by our response to the pandemic around mental health, economic well-being, and increases in overdose deaths. A month ago, he would have agreed that we had a problem with our opening plans as we had no mask mandate and no extra encouragement to be vaccinated. The statistics we are now seeing though are reassuring. We do have a problem: transmission is continuing and we know the unvaccinated are getting infected at 17 times the rate of the vaccinated and hospitalized at 30 times. We also know with Delta that a vaccinated person can still transmit the virus, but at a lower rate. Delta has made it difficult-if-not-impossible to achieve herd immunity. Dr Patrick said that return of a mask mandate makes a huge difference and he agreed with the idea of making instructors wear masks as well. The provincial passes and the UBC declaration also help. Beyond that, Dr Patrick said that in public health they had an ethical obligation to go with the least restrictive but effective means to achieve a goal. We have to ask if all other less intrusive measures have been explored as we run into enforceability and human rights concerns with more stringent approaches. At this time, Dr Patrick said that there was no evidence that a stronger mandate was needed at this time.

With respect to modes of instruction. Dr Patrick said that while we were learning more on how best to teach online, in his experience students did better in person. He said that he was willing to teach the unvaccinated but it would make more sense for that person to learn online rather than the entire class. If UBC went to another term of online teaching we would have to ask if that best served our students or our instructors.



The Chair recognized Dr Alexandra Choi, Medical Health Officer with Vancouver Coastal Health

Dr Choi advised the Senate on where BC was on the epidemic curve, noting that Vancouver Coastal and BC in general were plateauing.

The goal in public health is limiting morbidity and mortality rather than pure infection rates. Right now, we are seeing an increase in hospitalizations and a smaller increase in deaths. This differentiates the 4<sup>th</sup> wave of COVID-19 from earlier waves which had higher rates of hospitalization and deaths. Dr Choi said that the 4<sup>th</sup> wave looked different due to vaccinations: vaccinations reduced the rates of cases by 11 times, hospitalizations 31 times, and deaths 4 times. Dr Choi noted the very high rates of vaccination around UBC Point Grey, and in Vancouver Coastal Health in general. Dr Choi went over the differences in health authorities, noting the current growth was largely in the interior and northern regions. Dr Choi noted that unvaccinated people were around twice as likely as vaccinated people based on surveillance.

With respect to the UBC campus, Dr Choi suggested that our vaccination rate may be as high as 98% and further gains would be marginal. She said that the risks and barriers caused by vaccine mandates may cause more harm than good. She said that a stronger vaccine mandate may marginalize equity-seeking groups further and bar them from education.

With respect to transmission analysis for the delta variant, while the data was still new, Dr Choi said it did not seem that the places where transmission occurred was that different from other strains or the original COVID and tended not to be in learning settings. We do see transmission in households and social settings. Parties, group meals, and roommates were likely sources of transmission, and it was important to let people have social connections. In closing, Dr Choi also noted the mental health and economic impacts on post-secondary students caused by COVID-19. She said that continued restrictive measures increase those impacts.

A senator asked if non-UBC people living on campus or UBC people living outside of Vancouver Coastal Health or international students were included in our data.

Dr Choi said that we had multiple sources of data when looking at vaccinated coverage; in this instance we had MSP data on where people live and other data on international student vaccination rates. We were confident that vaccination rates for students were above 95%.

In response to a question, Dr Patrick said that so long as masks were worn small group learning wasn't likely a large source of infections.

Senator Bhangu asked how the K-12 data could apply to post-secondary institutions.

Dr Choi said that we needed to recognize that post-secondary students had different types of interactions and we needed to monitor this.



The Chair recognized Dr Reka Gustafson, Deputy Provincial Health Officer, who noted that the use of K-12 models for post-secondary modelling was often a concern heard. She said that there were many different modes of instruction in post-secondary institutions; what has been consistent is that the most common places for infection were either at home or with friends in social settings. She said that vaccination was the primary means of protection.

Dr Choi said that there are parallel forums such as movie theatres and those types of events where did not actually see high rates of transmission. One area of concern is seminars which also had social interactions as those social networks did lead to more infections.

Senator Zerriffi said that the Senate needed to address UBC response to this pandemic and the past few months. He asked why didn't we have this conversation in June? He suggested that a post-mortem was needed and a larger governance conversation.

Senator Zerriffi said that risk was not uniform. Some people were at higher risk than others and if we did not approve this approach, he asked what mechanism UBC could use to take into account and accommodate that some people are at a higher risk

Dr Gustafson said the primary determinate for risk for COVID-19 was age. There are very few contra-indications for all of the vaccines but this is an extremely small number of people. She noted that immunocompromised people may need a booster dose. She also noted that there was a lot of discussion around children who are not yet able to be immunized. This may not become a routine childhood vaccine as COVID was not a high risk for them; the best way to protect children from COVID is to have adults immunized. Prior to the vaccine, our method of controlling COVID was social engineering and changing the way people interacted; our method now is largely vaccination.

Dr Ono said that UBC would continue to provide medical accommodations as needed.

Senator Burnham said that UBC needed a symptomatic testing centre, noting that as early as October 2020 it was noted at Senate that the nearest testing centre was 50 minutes away.

Senator Krebs said that surveys and other methods raised questions around data transparency. She said that the vaccination rates suggested of 98% were fabulous and as a scientist she would like to know what went into having those numbers and feel confident in those numbers. In recent months, many people have felt a lot of stress, due to isolation but also due to uncertainty and not having data.

Dr Choi set out the way in which they generated data. For MSP data, in particular a question is what would be the proper denominator. For the survey data we targeted every post-secondary institution in Vancouver Coastal and around 22% of UBC students



replied. That data is now outdated and suggested around 80%. This data was helpful in understanding the vaccination rates of inbound international students. Thirdly, they looked at preliminary results from Thrive, where we are currently at the attestation phase. The early data there is similar to the above and very high.

In response to a follow-up question from Dr Krebs, Dr Choi said that the rates for commuter students into Vancouver Coastal were similar; however, there were some communities with lower rates.

Dr S. Singh asked about the effectiveness of non-medical masks in a crowded laboratory setting.

Dr Patrick said that the masks tend to protect other people from you more than protect you from them.

Dr Kin Lo, Chair of the Senate Academic Policy Committee advised that his committee had met last week to consider this topic and had developed two motions for Senate's consideration.

#### MOTION ON MANDATORY VACCINATION

Kin Lo  
HsingChi Von Bergmann

}

*That the Vancouver Senate urges the President and Board of Governors to require all students, staff, and faculty attending, supporting, or delivering in-person classes, tutorials, or laboratories to be fully vaccinated against the COVID-19 virus prior to doing so.*

Approved

#### MOTION ON MODES OF INSTRUCTION

Kin Lo  
Eshana Bhangu

}

*That the Vancouver Senate affirms the need for flexibility for moving individual courses (subject to the approval of heads and directors for department or school-based courses, and deans for those courses offered directly by faculties) on and off line this year according to pedagogical*



*needs until October 22 ~~in accordance with a responsibility to maintain the health and safety of our classrooms and to minimize disruptions to course delivery.~~*

Dr Lo said the date of October 22<sup>nd</sup> was selected as it would be after the October Senate meeting where further revisions could be considered.

*By general consent the motion was amended to strike out “in accordance with a responsibility to maintain the health and safety of our classrooms and”*

Senator Szeri spoke against the motion. He noted that many instructors and staff were doing their utmost to support a return to in-person teaching. He suggested that this was because we have seen the evidence for the mental health concerns caused by on-line instruction. The Provost noted that some students decided to take courses online, but others want and need that in-person instruction. He said that UBC has been assured in writing that in-person teaching was safe with appropriate measures and accommodations.

Senator Bhangu spoke in favour of the motion, noting that thousands of international students are not yet able to return to campus due to visa issues or travel bans. She noted that the faculties were making extraordinary efforts to help affected students on an individual basis.

Dean Aronson said that as of today, we only expected 457 students to not be able to be on campus by Thanksgiving.

Dean Benedet said that except at the very early stages of the pandemic we have always been able to have in-person instruction; the main impediment was space for physical distancing. Taking both on-line and in-person courses at the same time was logistically complicated. We are assured by medical experts that it is safe to return to in-person instruction. Even with the notion of health and safety being removed, she suggested that this was still the motivation of the proponents of this motion.

Dean Olson said that in his faculty, around 50 students couldn't make it. Those who have made it have done so at tremendous personal and financial cost to get here for classes we said would be in person.

Senator Marshall said that this motion would be unnecessary if UBC took action earlier on a stronger mandate. He said that this motion is not about returning to online teaching; rather, it was about trusting our faculty to know what is best in the short term with the appropriate approvals.



Senator Thorne spoke against the motion, noting that a small number of faculty have had a concern in the name of safety and pedagogical preference to not teach online. All summer we have said that if there are pedagogical reasons to teach online then you can do so, but this shouldn't be an individual faculty member's decision.

Senator Hare spoke against the motion. She noted that she oversaw a professional program that couldn't quickly change its mode of instruction without approval from the Teacher Regulation Branch. She noted that they had worked hard to be flexibility with their faculty on learning approaches and to make necessary accommodations.

#### TIME TO ADJOURN

Eshana Bhangu  
Sally Thorne

}

*That the time to adjourn be extended by  
15 minutes.*

Approved

Senator Bhangu said that this motion just affirms a need for flexibility that deans had said they were already offering. This would not lead to entirely online instruction, rather a hybrid, and in the AMS survey that's what 65% of students said they would prefer.

Senator Fox said that this motion would take away the agency of students to select what mode of instruction they want for their courses by having them change after the course has started.

Senator Fischer said he was unclear as to the intent of the motion, with it giving flexibility to instructors but saying this was subject to approval. He asked how this was not already the state of affairs.

Senator Yee said that the motion could be clarified to state what this flexibility may be. She said that she was excited to attend in person but also anxious. The vast majority of her classes were offering live stream or recorded options as needed. She also noted that some students had said that they could not progress on their degrees due to a lack of online options and that there was a lot of uncertainty for students around timelines and flexibility.

Senator Lo said that the motion was worded as it was because there were both academic and collective agreement concerns that needed to be respected.

Senator Burnham said it was useful to understand that this motion still gave heads and deans oversight as needed to ensure that pedagogical and regulatory requirements were being respected. This motion was also similar to what several faculties were already doing at the Okanagan campus.



**TIME TO ADJOURN**

Laia Shpeller  
Susan Forwell

}

*That the time to adjourn be extended by  
10 minutes.*

Approved

Dean Kelleher said that he didn't know how to vote on a motion that seems to affirm what was already the status quo.

Kin Lo  
Eshana Bhangu

}

*That the Vancouver Senate affirms the  
need for flexibility for moving  
individual courses (subject to the  
approval of heads and directors for  
department or school-based courses,  
and deans for those courses offered  
directly by faculties) on and off line  
this year according to pedagogical  
needs until October 22 to minimize  
disruptions to course delivery.*

Not Approved

**Adjournment**

Seeing no other business, the meeting was adjourned at 6:26 pm



## MINUTES OF 22 SEPTEMBER 2021

**DRAFT****Attendance**

**Present:** S. Point, S. Ono (Chair), K. Ross (Secretary), A. Szeri, S. Parker, S. Bates, J. Olson, G. Averill, M. MacDougall, M. Coughtrie, J. Hare, J. Benedet, J. R. Kozal, R. Helsley, R. Yada, S. Gopalakrishnan, K. Lo, N. Ford, H. Zerriffi, J. Dierkes, A. Pratap-Singh, A. Collier, C. Marshall, C. Menzies, J. J. Stewart, S. Matsui, M. Kuus, A. Fischer, A. Scott, K. Smith, P. Englezos, S. Forwell, J. Fox, M. MacPhee, C. Krebs, H. von Bergmann, A. Ivanov, I. Price, C. Jaeger, S. Pelech, S. Thorne, S. Singh, J. G. Stewart, F. Andrew, G. Faulkner, J. Gilbert, P. Harrison, R. Spencer, M. Tan, B. Fischer, L. Burr, A. Uzama, G. Tsiakos, M. Higgins, R. Topping, L. Shpeller, E. Cantiller, L. Wang, X. Jiang, J. Schumacher, L. White, A. Sandhu, S. Cooper, D. Born, K. Yu, D. Agosti-Moro, E. Bhangu, S. Mehta, G. Yee, J. Burnham, K. Khosla.

**Regrets:** S. Porter, M. Aronson, D. Kelleher, R. Boushel, J. Bulkan, P. Choi, A. Greig, L. Stothers, S. Grayston, H. Leong, M. Stewart, A. Zhao, A. Dulay, C. Godwin, J. Greenman, D. Goyal, M. Lorenz.

**Clerk:** C. Eaton

**Call to Order**

The Chair of Senate, Professor Santa J. Ono, called the first regular meeting of the Senate for the 2021/2022 academic year to order at 6:08 pm. He noted that as chair we had approved an addition to the agenda under Other Business: Candidates for degrees.

**Minutes of the Previous Meetings**

Eshana Bhangu	}	<i>That the Minutes of 19 May 2021 be adopted as presented.</i>
HsingChi Von Bergmann		

Approved

**Remarks from the Chair**

Dr Ono noted that as of yesterday, 82 percent of students, faculty and staff had completed the online, confidential declaration of vaccination status, with 98 percent disclosing that they are already fully vaccinated. The President thanked every member of the UBC community for their commitment to a healthy and safe campus, as well as those people and groups who have been engaged on this matter.

Dr Ono set out his priorities and goals for the 2021-22 year. These were in the following categories: equity, diversity and inclusion; indigenous engagement and reconciliation; climate change; COVID-19 response; operational efficiency and the President's Academic Excellence Initiative.

In the area of Equity, Diversity and Inclusion:

- Work with the UBC community to complete the Taskforce Report of Anti-Racism and Inclusive Excellence;
- Identify priorities for implementation from the Taskforce Report;

- Support the implementation of top annual priorities from the Inclusion Action Plan;
- Release the Report from the National Forum on Anti-Asian Racism; and
- Ensure that the “Beyond Tomorrow Scholars Program” is successfully launched.

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#### In the area of Indigenous Engagement and Reconciliation:

- Work with the entire UBC community and indigenous partners to implement the Indigenous Strategic Plan;
- Continue to foster strong relationships with Musqueam;
- Work with the Executive, Provosts, Deans and ISP Coordinating Committee to plan Indigenous faculty, staff and student recruitment; and
- Work with Professor Sheryl Lightfoot and the Deans to develop a synergistic partnership between the Faculties of Applied Science and Science with 3 First Nations.

#### For Climate Change:

- Continue to lead climate action in my second year as the President of the University Climate Change Coalition (UC3);
- Continue to lead as Chair of the Committee of Presidents of the U7+ Alliance of 45 universities to address pressing global challenges such as climate change; and
- Prepare to host the global Climate Change Summit at UBC in summer 2022.

#### For the COVID-19 response:

- Continue to lead UBC’s strategy to support a healthy and safe community during this year of Return to Campus, working with provincial leaders and health authorities;
- Support the implementation of a remote work program that fosters employee engagement, attraction and retention, and considerations around environmental impacts;
- Work with the Executive and others to enhance programming for students as they return to campus after 18 months away; and
- Evaluate and apply lessons learned from the pandemic into future planning to mitigate risk and leverage opportunities.

#### In the area of Operational Efficiency:

- Work with Executive and experts in institutional finance to establish a UBCV/O operating model that optimizes the distribution of resources across UBCV and UBCO;
- Focus on UBCV and UBCO budgets with a clear delineation of administrative structures and an alignment of budget frameworks between both campuses;
- Support the implementation of a Thrive-based platform for monitoring testing of unvaccinated individuals at UBC; and
- Provide clear and visible leadership in the refinement of Workday HR and Finance and the implementation of Student within the Integrated Renewal Program.

#### Finally, for the President’s Academic Excellence Initiative- the academic renewal project:

- Oversee the accelerate phase of the PAEI and support the development of the campaign-phase for both campuses;
- Engage with the Provosts and Deans to leverage PAEI to support the EDI priorities of the university; and
- Work with the Provosts, VP Research and Deans to support infrastructure investments to support new faculty members recruited by PAEI.

Dr Ono reminded Senators that the first National Day for Truth and Reconciliation was in eight days; UBC would be observing this day as a holiday on both campuses and classes would not be held. He noted that in a recent broadcast email he encouraged the UBC community to honour the National Day for Truth and Reconciliation, whether through personal reflection, education and awareness activities, or by participating in Orange Shirt Day or other events. Dr Ono said that he was pleased to note that many UBC faculties, schools and departments are commemorating the National Day for Truth and Reconciliation and Orange Shirt Day through various activities that reflect on the legacy of residential schools and colonialism. Dr Ono further commented that UBC's overall response to residential schools and colonialism is guided by the Indigenous Strategic Plan, which we launched just over a year ago. Dr Ono suggested that the challenge was now looking forward: We need to keep ourselves accountable and ensure this plan is enacted and embedded into the structures, processes, and daily life of the university.

Finally, the President noted the past Monday's federal election. He said that he was looking forward to working with the next parliament and government and re-engaging on some of UBC's top priorities, including post-secondary accessibility and affordability, strengthening our research and innovation ecosystem, advancing climate action, equity, diversity and inclusion, and reconciliation and Indigenous human rights; and, of course, working with all levels of government to build the SkyTrain extension to UBC. In closing, Dr Ono noted his concern at seeing long lines at polling stations on campus and in Election Canada's decision not to run the Vote on Campus program during this election. Dr Ono noted that the university is committed to continuing conversations with Elections Canada to ensure the program is reinstated for future elections.

Senator S. Singh noted the increase in mental health challenges on campus. He asked for the President to please update the Senate on what UBC was doing in this area, especially in light of COVID-19.

Dr Ono said this was an area where we have made a considerable investment already with new staff and we are looking at how can improve our responsiveness.

Dr Marshall commented on the Ubysey article apparently quoting the president on rapid testing being a mater of optics.

Dr Ono said that both he and Dr Choi were misquoted on twitter.

Senator Harrison said that the Vice-President students should be invited to update the senate on student mental health supports

### **From the Board of Governors**

Dr Ono advised that set out on your agenda was confirmation from the Board of Governors of their concurrence to all of the matters forwarded to them from January to May.

In addition, Dr Ono noted that the Vancouver Senate passed a motion in August to make a recommendation to the Board to implement a vaccine mandate.

That recommendation read:

“That the Vancouver Senate urges the President and Board of Governors to require all students, staff, and faculty attending, supporting, or delivering in-person classes, tutorials, or laboratories to be fully vaccinated against the COVID-19 virus prior to doing so.”

“First, the Board appreciates the care and energy that the Senates have invested in considering this matter and producing recommendations for the Board’s consideration. These are challenging times and the health and safety of the UBC community is of paramount concern to all of us. We face difficult issues and the input and views of the Senates are important and deeply valued.

Having received the recommendations from the Senates, a significant amount of time was set aside on the Board agenda to ensure that they could be carefully considered.

The Board also invited public health experts, including Dr. David Patrick from UBC’s School of Population and Public Health and Dr. Daniel Coombs from UBC’s Department of Mathematics and a member of the BC-COVID Modeling Group, to share their expert advice on the measures that UBC should be taking to address public health and safety concerns arising from the pandemic. These experts, as well as medical health officers from Vancouver Coastal Health and Interior Health provided up-to-date, detailed data-driven presentations, including information about current vaccination rates.

The Board also obtained legal advice to ensure that it understood the legal framework within which these public health measures are being implemented.

Informed by these presentations and after deep and careful questioning from Governors, the Board believes that the most appropriate path at the current time is to require that all faculty members, staff members, and students be fully vaccinated or undergo regular COVID-19 testing.

In addition, mandatory masking and the use of the BC vaccine passport, as required by public health authorities, is required. Where necessary, appropriate accommodations will be made for those with particular concerns, such as disability, immunocompromised status, family/caregiving status, or religious beliefs.

Circumstances continue to evolve, especially as new variants arise. The Board will continue to keep a close eye on the impact of the pandemic and UBC’s response will continue to be updated and modified as changing circumstances warrant.

Finally, [the Board Chair is] committed to keeping the community informed on the implementation of the rapid testing program; for example, information on the frequency of testing, verification, and approaches to ensuring compliance.

[The Board Chair] would like to emphasize the Board’s appreciation for the Senate’s consideration of these matters and for reaching out to the Administration and the Board. The Board is interested in increased communication between the two Governance branches and the Executive to best serve the needs of UBC and has requested the Board Secretariat to work with the Senate Secretariat to explore how best to achieve that.”

Noting the discussion from the previous special meeting, Senator Pelech asked why we haven’t recognized prior COVID-19 infection as grounds for an exception.

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Senator Marshall said his past 1.5 weeks in the classroom is showing very high anxiety around both vaccinations, being in classrooms and UBC's planned testing regime.

Dr Ono said that testing in general was not adequate presently; we would be announcing a new site with higher capacity soon. With respect to the issue of theatres and classrooms having different rules, he noted that he could arrange for a conversation with medical health officials on why they felt there was a distinction.

### **Awards Committee**

The Chair of the Senate Awards Committee, Dr Sally Thorne, presented.

#### **NEW AND REVISED AWARDS**

*See Appendix A: Awards Report*

Sally Thorne	}	<i>That Senate accept the new awards as listed, that they be forwarded to the Board of Governors for approval, and that letters of thanks be sent to the donors.</i>
Sue Forwell		

Approved

### **Curriculum Committee**

The Chair of the Senate Curriculum Committee, Dr Claudia Krebs, presented.

#### **SEPTEMBER CURRICULUM PROPOSALS**

*See Appendix B: Curriculum Report*

Claudia Krebs	}	<i>That Senate ratify the decisions of the Senate Curriculum Committee regarding the attached proposals.</i>
Carol Jaeger		

Approved

### **NEW CERTIFICATE**

Dr Krebs advised Senate that the Senate Curriculum Committee had approved the following new certificate on behalf of Senate:

Certificate in Key Capabilities in Data Science

### **Nominating Committee**

The Chair of the Senate Nominating Committee, Dr Paul Harrison, presented.

#### **COMMITTEE ADJUSTMENTS**

*That Emmanuel Cantiller be appointed to the  
Senate Curriculum Committee until 21 March  
2022 and thereafter until replaced, to replace  
Eshana Bhangu;*

*That George Tsiakos be appointed to the Senate  
Committee on Student Appeals on Academic  
Discipline until 31 August 2023 and thereafter  
until replaced, to replace Pamela Wolf; and*

*That the appointment of George Tsiakos to the  
Senate Library Committee be rescinded.*

Approved

#### **AMENDMENTS TO POLICY AP5 (DEANS APPOINTMENT POLICY)**

Paul Harrison } *That Senate approving the amendments to Policy  
Andrew Szeri AP5 (Deans Appointments Policy) as set out in the  
attached proposal.*

Senator Harrison noted that these were the “non-controversial” aspects of the amendments to the policy; a further proposal would be forthcoming to address the issue of confidentiality vs openness in decanal searches.

Approved

#### **AMENDMENTS TO POLICIES AP 11 (REGISTRAR/LIBRARIANS APPOINTMENT POLICY) AND AP12 (ACADEMIC ADMINISTRATORS APPOINTMENT POLICY)**

Paul Harrison } *That Senate approve the amendments to Policies  
Susan Parker AP 11 (Registrar/Librarians Appointment Policy)  
and AP12 (Academic Administrators Appointment  
Policy) as set out in the attached proposals.*

Approved

#### **Tributes Committee**

Dr John Gilbert, Chair of the Senate Tributes Committee, presented.

#### **Process for Revoking Honorary Degrees**

Dr Ono noted the number of comments that the University had received on this matter and the importance of addressing concerns in a timely and fair manner.

Dr Gilbert introduced the topic and the seven questions that Senate was being asked to opine on this evening. Dr Gilbert advised that the Tributes Committee had issues a statement earlier this summer on the matter. He noted that after that discussion, he would move a motion regarding how to address honorary degrees this year. The seven questions before Senate were:

- 1) Does the Senate agree with the Tributes Committee that, in principle, honorary degrees may be revoked?
- 2) Under what criteria would the UBC revoke an honorary degree?
- 3) What information would be needed to consider revoking a degree and who, either within or beyond the University, should be involved in making such a decision?
- 4) What burden of proof, either for outside processes, or for processes within the University, should be required for UBC to revoke an honorary degree?
- 5) What procedural fairness considerations should be applied when considering revoking an honorary degree?
- 6) Would the procedural fairness considerations above necessitate someone being able to respond to allegations made against them?
- 7) What other actions, either in addition to, or instead of revoking an honorary degree should UBC consider when concerns are raised or substantiated regarding a past honoree?

Dr Gilbert asked for Chancellor Point to speak next, noting how helpful his advice was as a member of the Tributes Committee.

Chancellor Point said that as we were all aware now, 215 unmarked graves were confirmed on the grounds of Kamloops Indian Residential School, and similar confirmations were being made at other residential schools. This was a troubling issue for both indigenous peoples and Canada. Other first nations were waiting for Kamloops to finish their report on the matter out of respect for their process. The impact of this on residential school survivors and their family has been immense, and governments and other groups are turning to first nations to ask what to do. For him, the Chancellor said that if it was found that Bishop O'Grady was bishop or principal when these events occurred and played a direct or indirect role in the death of these children, we should undertake a process to reconsider the award, but he cautioned against reactionary judgment without investigation and forethought. In some cases, he noted the graves were not originally unmarked but markers were moved or lost over time, and what was being described here was an orderly plot of graves. The Chancellor said that there could be no doubt that residential schools were a horrible place for native children, where many were abused and had their culture denied.

With respect to the idea of reviewing all ~850 honorary degree recipients, the Chancellor opined that many humans had done horrible things to each other over history. Universities were supposed to be places that moved society forward. To go back and reconsider the worthiness of past rewards without information or evidence to do so would be, in his view, unnecessary. We granted honorary degrees with positive attention to reward things we felt benefit society at that time; we should allow things to stand as they are until a matter is brought to our attention. The Chancellor brought up the history of Judge Begbie or Prime Minister MacDonald and demands to remove statues of them and his preference that we add our understanding now to their plaques and statutes rather than remove them. By removing a monument, we remove the opportunity to understand that history fully. In closing, the Chancellor encouraged the University to not go hunting but rather to decide cases when brought before us, and to walk lightly with careful analysis.

Senator Yee thanked the Chancellor for his remarks. She noted if the Tributes Committee has considered the work of the review committee looking at the University's Naming Policy and in particular if its language on removing names could be applied in this instance. The current draft allowed groups to propose names to be removed if they harmed a welcoming environment at UBC, but still allowed things to be contextualized so that history was not lost. She said that she felt that UBC should review all of its past honorary degrees.

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Senator Menzies said that it was clear that history had bad people and bad aspects. No one denies the harm that people have caused to each other, but rather than cancelling history, to continue to honour these people portrays a wrong version of history. To revoke their honorary degrees would be a correction. Senator Menzies said in this instance we have a duty to act more quickly than UBC normally does and by keeping these people honoured we do not honour our University, province, or country in the present.

Senator Burnham said she appreciated the framework in the document and the background provided. She said that she hoped this conversation can be extended beyond the Senate to seek answers from our community on moving this matter forward. Senator Burnham said that she supported the pause in honorary degrees this year so that we could focus on this matter. She said that we needed to resource the Committee properly so that it could make timely decisions on this matter.

The President said that if the Committee needed any resources they should contact him.

Senator Pratap-Singh said that of the questions brought forward, the most important was what should be the burden of proof. He suggested that the standard should be if, knowing what we know now, we would award them an honorary degree. He suggested that we needed to act quickly on the O'Grady matter before acting on any other names people may want to have reconsidered.

Senator Zerriffi said he agreed with the comments of Senator Menzies on a need to act. In almost all cases people in the past knew or should have known that these actions were bad, but often those who knew were not in power. He also suggested that we should question why we give honorary degrees at all and who we honour; he said that he hoped that this would cause us to question these honours more generally.

Senator Thorne said that members of the Tributes Committee were appalled by the findings at Kamloops Indian Residential School but were given consistent and wise advice to not act precipitously. Canada, BC, and UBC were complicit in the residential school system and we cannot locate all of our judgment in one individual to absolve the rest of guilty.

Senator Cooper thanked the previous speakers. He echoed earlier comments about wanting speed and to accord this case priority, and the benefit of broader consultation with the community as UBC did not exist in isolation. He noted that of the comparable policies provided in background, that of McGill seemed most helpful to him as it was broader in its application while other universities looked for criminal convictions.

Senator Krebs thanked the Tributes Committee for their work. She said that the values of UBC should transcend history. Our understanding of power and history has changed, and what was acceptable by law and by society in the past is no longer; we should not continue to honour things that transgress our values. Addressing this in a timely manner shows our values and we need to move forward with accountability and transparency.

Senator Gilbert thanked the senators for their comments on how to proceed. He suggested that focusing on the seven questions or suggesting new questions may be helpful. Dr Gilbert suggested that this must be a matter of education not execution; we cannot just strike people from our books and pretend it did not happen. This was a complicated matter, we needed to reach out to the community, we needed to help of indigenous people in this work, and this will be time consuming.

Dr Ono noted that UBC had an indigenous advisory committee that could be of assistance to the Committee in its work.



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Senator Pelech said he appreciated the earlier comments, especially those of Chancellor Point. There could be no question of atrocities in the past and as a scholarly institution, it was our duty to understand the truth. In this instance, we do not yet know when these bodies were buried or if there was a connection with O'Grady's tenure. Senator Pelech said that we honoured O'Grady in the past because we believed he wanted to do good and provide education to people. We should consider if the intent was good even if the outcome was evil. Finally, we should consider what we are doing today that our descendants may judge us for, for instance, how we treat our environment. We need to proceed with caution, truth, and clarity.

Senator J. G. Stewart thanked the prior speakers. He noted that his scholarly work was on atrocities and how to address them historically. He spoke to the notion that stripping historical figures of honorifics was a highly individualized form of redress that located blame in particular individuals and to instrumentalize that for philosophical, political, and moral transformation. There are benefits to that, but there is also a concern in that this unintentionally absolves other people are structures that facilitated violence in the past. To address this, we needed to memorialize the collective shame in residential schools. There are examples of this is Germany, Rwanda, and the United States.

The President asked the Senator to reach out to him to discuss these ideas further.

### John Gilbert

John Gilbert	}	<i>That the Senate not approve honorary degrees for</i>
C.W. Marshall		<i>the 2021-2022 Academic Year.</i>

Approved

### Reports from the Emeritus College

Senate received the annual report of the UBC Emeritus College for information. College Principal, Professor Emeritus of Geography Graeme Wynne was in attendance to address the report.

### Reports from the Registrar

#### ROSS ON EMAIL APPROVAL

Dr Ross advised Senate that pursuant to Senate Rule 24, the following two proposals were both approved by email as of 16 August 2021:

Recommendation from the Academic Policy Committee Regarding 30 September 2021  
(National Day for Truth and Reconciliation)

Recommendation from the Awards Committee Regarding the St. Pierre, Romilly,  
Nathanson Entrance Award in Law for Black Students

Senator Harrison raised concerns with provincial government overstepping *University Act* in its communication with BC universities regarding the National Day for Truth and Reconciliation. He noted the merits of recognizing the day, but said that as it was not a provincial statutory holiday, it being imposed on universities was not respectful of their autonomy in academic matters, including scheduling.

### Other Business

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Paul Harrison  
Andrew Szeri

}

*That the candidates for degrees as recommended  
by the faculties be granted the degrees for which  
they were recommended, effective September 2021  
or as otherwise specified, and that a committee  
comprised of the Registrar, the dean of the  
relevant faculty, and the Chair of Senate be  
empowered to make any necessary adjustments*

The clerk noted that the one degree proposed to be granted for another date would be effective as of 1986.

### **Adjournment**

Seeing no other business, the meeting was adjourned at 9:06 pm

**Tom Bailey Memorial Award in Family Medicine**

Awards totalling \$2,000 have been made available through an endowment established by friends, family and colleagues in memory of Tom Bailey (1951-2019) for outstanding first or second-year medical residents in the Department of Family Medicine at the Vancouver Island site. Tom (B.Sc. 1973, M.D. 1976) was born in Vancouver, British Columbia, and spent his childhood in British Columbia, Ontario and the United Kingdom. After receiving his medical degree from UBC, he completed his residency in family medicine at Dalhousie University in 1978, and returned to British Columbia to open a family practice in Victoria. Tom served as the Medical Director for Residential Services with the Vancouver Island Health Authority from 2002 to 2019, and was President of the College of Family Physicians of Canada from 2006 to 2007. He was also a clinical associate professor in the UBC Department of Family Practice and an associate professor in the Division of Medical Sciences at the University of Victoria. This award was established in recognition of Tom's forty-year career as a family physician and his service to his profession. The awards are made on the recommendation of the Department of Family Medicine. (First award available for the 2021/2022 winter session).

**John and Barbara Barton Fellowship in Economics**

Fellowships totalling \$40,000 have been made available through an endowment established by Dominic Barton (B.A. 1984, M.Phil., LL.D. 2012), in honour of his parents, John and Barbara Barton, for outstanding international students entering the Ph.D. in Economics program in the Vancouver School of Economics. Conditional on the recipients' continued satisfactory academic progress, the award may be renewed for an additional year of study. John received degrees from the University of Toronto, the University of Cambridge and McGill University. After his ordination with the Anglican Church of Canada, he took a missionary appointment in Uganda to teach at the Bishop Tucker Theological College. Barbara grew up in Germany, and trained as a nurse at Royal Victoria Hospital in Montreal, Quebec. After they returned to Canada, John served in parish ministry in Chilliwack, British Columbia and Barbara received her nursing degree from Ryerson University, and worked as a nurse in Chilliwack and Oakville, Ontario. The fellowships are made on the recommendation of the Vancouver School of Economics, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available for the 2021/2022 winter session).

**Dr. Dennis McElgunn Memorial Award in Emergency Medicine**

Awards totalling \$2,600 have been made available through an endowment established by friends, family and colleagues in memory of Dr. Dennis McElgunn (1945-2020) for outstanding medical residents in the Department of Emergency Medicine at the Vancouver Island site who have demonstrated excellence in clinical care. Dr. McElgunn received his medical degree from the University of Alberta and began his career in emergency medicine at Royal Alexandra Hospital in Edmonton, Alberta in 1975. When Dr. McElgunn began practicing, he was one of the first specialists in emergency medicine in Canada. He practiced for twenty-one years at the Royal Alexandra Hospital, and in 1981 even climbed into a plane that had crashed into the hospital tower to care for the pilot. Dr. McElgunn and his family moved to Victoria, British Columbia in 1996, where he practiced full-time at the Royal Jubilee and Victoria General

### **Susan and John Pichugin Award in Forestry**

Awards totalling \$4,000 have been made available through an endowment established by Susan Pichugin (B.S.F. 2001) and John Pichugin (B.S.F. 1980), along with matching funds from the Faculty of Forestry, for domestic third-year Bachelor of Science in Forestry students majoring in Forest Resources Management who have demonstrated good academic standing. Susan and John are Registered Professional Foresters, who have worked their entire careers on the coast of British Columbia. The awards are made on the recommendation of the Faculty of Forestry. (First award available for the 2021/2022 winter session).

### **Project to Product Award in Computer Science**

Awards totalling \$3,200 have been made available through an endowment established by Dr. Mik Kersten (B.Sc. 1999, Ph.D. 2007) for students enrolled in an undergraduate degree program in the Department of Computer Science who have demonstrated leadership, community engagement or volunteerism. Preference will be given to students who are from communities that have been historically, persistently and systemically discriminated against. Dr. Kersten is the CEO of Tasktop, which he founded in 2007 from work he conducted as a Ph.D. student in the

UBC Department of Computer Science under the supervision of Dr. Gail Murphy. Dr. Kersten's book, *Project to Product: How to Survive and Thrive in the Age of Digital Disruption with the Flow Framework*, published in 2018, introduced a new way of measuring and managing software delivery. Tasktop and *Project to Product* have helped some of the largest organizations in the world succeed in their digital transformation. Dr. Kersten is passionate about helping individuals and organizations transform how software is built, and in making the technology industry more diverse. The awards are made on the recommendation of the Department of Computer Science. (First award available for the 2021/2022 winter session).

### **Harvey Sohi Bursary in Civil Engineering**

Bursaries totalling \$2,000 have been made available through an endowment established by friends and family in memory of Harvey Sohi for B.A.Sc. Civil Engineering students. Harvey (B.A.Sc. 2020) attended L.A. Matheson Secondary School in Surrey, British Columbia, and then enrolled at UBC. He completed three years of the B.A.Sc. Civil Engineering program, including two successful co-op work placements. Harvey was well-regarded by his peers and professors, and touched the lives of everyone he crossed paths with. In November 2020, he was awarded his B.A.Sc. in Civil Engineering posthumously. This bursary was established in recognition of Harvey's desire to give back to his community and the importance he placed on education by supporting students who face financial barriers. The bursaries are adjudicated by Enrolment Services. (First award available for the 2021/2022 winter session).

## **NEW AWARDS – ANNUAL**

### **Active Earth Engineering Ltd. Award for Indigenous Students in STEM**

Awards totalling \$2,500 have been made available annually through a gift from Active Earth Engineering Ltd., for First Nations, Inuit, or Métis undergraduate students enrolled in a STEM program who have achieved good academic standing. Active Earth Engineering Ltd. established this award to encourage Indigenous students interested in studying a STEM discipline. The awards are made on the recommendation of the First Nations House of Learning and Enrolment Services. (First award available for the 2021/2022 winter session).

### **Blake Cassels Graydon Prize in Contracts**

A \$750 prize has been made available annually through a gift from Blake Cassels & Graydon LLP for an outstanding J.D. student who has excelled in a first-year Contracts course. The prize is made on the recommendation of the Peter A. Allard School of Law. (First award available for the 2020/2021 winter session).

### **Blake Cassels Graydon Prize in Legal Research and Writing**

A \$750 prize has been made available annually through a gift from Blake Cassels & Graydon LLP for an outstanding J.D. student who has excelled in a first-year Legal Research and Writing course. The prize is made on the recommendation of the Peter A. Allard School of Law. (First award available for the 2021/2022 winter session).

### **Donna Jean Campbell Memorial Bursary in Special Education**

Bursaries totalling \$2,000 have been made available annually through gifts from the Campbell family and members of the fibre arts community in memory of Donna Jean Campbell (1946-2013), for students in the M.A. or M.Ed. in Special Education program. Donna (B.A 1969, Dipl. 1973, M.Ed. 1979) was born in Vancouver, British Columbia and grew up in Powell River, British Columbia. After receiving her undergraduate degree from UBC, she returned to Powell River, where she worked in the Municipal Recreation Department for several years before enrolling in UBC's Diploma in Special Education program. Donna taught at Betty Huff Elementary in Surrey, British Columbia as a Special Education teacher. She also taught an afterschool weaving class, which she continued to teach even after her retirement in 2006. Donna was an active member of the fibre arts community in the Lower Mainland of British Columbia, and enjoyed spinning, weaving and felting. The bursaries are adjudicated by Enrolment Service. (First award available for the 2021/2022 winter session).

### **Chavah Ruth Graduate Award in Arts**

Awards totalling \$10,000 have been made available annually through a gift from an anonymous donor for graduate students in the Department of Classical, Near Eastern and Religious Studies studying Jewish Studies. Preference will be given to students who are primary caregivers to children. Conditional on the recipients' continued satisfactory academic progress, the awards may be renewed until the recipients complete their degree requirements. Having pursued graduate degrees while raising four young children, the donor understands the financial and time pressures faced by graduate students who are parents. She hopes that this award will provide significant additional financial support to make it easier for the recipients to complete their degree. The awards are made on the recommendation of the Department of Classical, Near Eastern and Religious Studies, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available for the 2021/2022 winter session).

### **Beau Dick Memorial Award for Indigenous Students**

A \$20,000 award has been made available annually through a gift from Donald Ellis, in memory of Beau Dick (1955-2017), for a female student from the Kwakwaka'wakw Nation in any

undergraduate, post-baccalaureate, or graduate program who has achieved good academic standing and demonstrated leadership and community involvement. Conditional on the recipient's continued satisfactory academic progress, the award may be renewed until the recipient receives their first undergraduate degree, first post-baccalaureate degree, or in the case of a graduate student, first graduate degree. If a student from the Kwakwaka'wakw First Nation is not identified, the award may be given to a female student from another First Nation in British Columbia. Chief Beau Dick, Walas Gwy Um, was an expert carver and knowledge keeper of Kwakwaka'wakw ceremonial tradition who activated ceremony as a way to engage contemporary politics. Beau was the Department of Art History, Visual Art and Theory's Artist in Residence from 2013 to 2017. Donald is an internationally renowned art dealer who focuses on historical First Nations art. He established the Donald Ellis Gallery in Canada in 1976, and opened a New York City location in 2004. Donald counts the National Gallery of Canada, the Metropolitan Museum of Art and the Louvre Abu Dhabi among his clients. The award is made on the recommendation of Enrolment Services, and in the case of a graduate student, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available for the 2021/2022 winter session).

### **Dottori-Attanasio Family Black Opportunity Fund Beyond Tomorrow Award**

Renewable entrance awards totalling \$20,000 have been made available annually through a gift from the Dottori-Attanasio family for outstanding domestic students who identify as Black and are entering an undergraduate program directly from secondary school or transferring from another post-secondary institution. Recipients are academically qualified and would not be able to attend UBC without financial assistance. In addition to academic merit, consideration is given to qualities such as leadership skills, community service, and extra-curricular achievement. Preference will be given to students entering the Bachelor of Commerce program. Subject to continued academic standing, the awards will be renewed for a further three years of study or until the first undergraduate degree is obtained (whichever comes first). The Dottori-Attanasio family believes in the importance of diversity and inclusion in business and society. It is their belief that people and companies always do better when supported by persons with different backgrounds and perspectives. They created this award to support students in accessing a great education to reach their full potential. The awards are adjudicated by Enrolment Services. (First award available for the 2021/2022 winter session).

### **Eburne Mill Graduate Scholarship in Land and Food Systems**

Three \$5,000 scholarships have been made available annually through a gift from the Eburne Mill Fund for outstanding graduate students in the Faculty of Land and Food Systems who are conducting research at the UBC Farm. The scholarships are made on the recommendation of the

Faculty of Land and Food Systems, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available for the 2021/2022 winter session).

### **Donald Ellis Fellowship in Art History, Visual Art and Theory**

A \$20,000 fellowship has been made available annually through a gift from Donald Ellis for an outstanding M.A., M.F.A. or Ph.D. student in the Department of Art History, Visual Art and Theory who identifies as Indigenous and is studying Indigenous Art. Preference will be given to students studying historical art. Conditional on the recipient's continued satisfactory academic progress, the fellowship may be renewed until the recipient completes their M.A, M.F.A., or Ph.D. requirements. Donald is an internationally renowned art dealer who focuses on historical First Nations art. He established the Donald Ellis Gallery in Canada in 1976, and opened a New York City location in 2004. Donald counts the National Gallery of Canada, the Metropolitan Museum of Art and the Louvre Abu Dhabi among his clients. Donald established this award to support and recognize Indigenous students during their graduate curatorial, art history or visual art studies. The fellowship is made on the recommendation of the Department of Art History, Visual Art & Theory, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available for the 2021/2022 winter session).

### **Faculty of Applied Science Award in Chemical and Biological Engineering**

Awards totalling \$10,000 have been made available annually through a gift from Art Pithayachariyakul (B.A.Sc. 2011) for Bachelor of Applied Science students majoring in Chemical or Chemical and Biological Engineering who have demonstrated outstanding academic achievement and entrepreneurial drive through participation in extracurricular activities. Art received his B.A.Sc. in Chemical Engineering from UBC in 2011, and established this award to support students in the Department of Chemical and Biological Engineering. These academic awards are made on the recommendation of the Department of Chemical and Biological Engineering. (First award available for the 2021/2022 winter session).

### **Freybe Award in Nutrition and Dietetics**

Awards totalling \$2,000 have been made available annually through a gift from Freybe for students in the Master of Nutrition and Dietetics program who have demonstrated community involvement, volunteerism, or leadership. Preference will be given to students whose involvement is in the area of mental health advocacy. Freybe produces Germanic-style deli foods such as salami, pâté, hams, sausages, and pepperoni sticks. Freybe's dry cure products have won over four hundred and twenty-five international gold medals since the company was established in 1844. The awards are made on the recommendation of the Faculty of Land and Food Systems,

in consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available for the 2022/2023 winter session).

### **Jane Irwin Graduate Scholarship in Art History**

Two \$5,000 scholarships have been made available annually through a gift from Jane Irwin (B.A. 1990) for outstanding M.A. in Art History students. Jane is a Vancouver-based artist, advocate for the visual arts and art collector. She and her husband Ross Hill have been collecting contemporary art for over fifteen years, and work to support and promote the Canadian art scene. Jane is the former Chair of the Vancouver Art Gallery's Acquisitions Committee and served on the Board of Trustees of the Vancouver Art Gallery from 2008 to 2017 and 2019 to 2020. She established this scholarship to support the next generation of art historians. The scholarships are made on the recommendation of the Department of Art History, Visual Art and Theory, in

### **Kyleah Kubota and Jessie Park Memorial Scholarship**

Scholarships totalling \$2,000 have been made available annually through gifts from friends, family and the UBC Pharmacy Class of 2020, along with matching funds from the Faculty of Pharmaceutical Sciences, in memory of Kyleah Kubota (1996-2018) and Jessie Park (1996-2018), for outstanding students in the Entry-to-Practice Pharm.D. program. Kyleah was born in Vancouver, British Columbia and attended Sir Matthew Begbie Elementary and Vancouver Technical Secondary. She was an accomplished athlete, a talented baker and an enthusiastic outdoorswoman. Kyleah enjoyed sharing her passions with her friends and family, including her three younger siblings. Jessie was born in Seoul, South Korea and immigrated to Vancouver with her family at age nine. She graduated from Byrne Creek Community School in 2014, where she acted and sang in school plays. Jessie was a member of the UBC Pharmacy Vocal Ensemble, and sang and played violin with her church choir. This scholarship was established in recognition of Kyleah and Jessie's accomplishments, as well as the compassion, warmth, and positivity they imparted to the people in their lives. The scholarships are made on the recommendation of the Faculty of Pharmaceutical Sciences. (First award available for the 2021/2022 winter session).

### **Law 75th Anniversary Graduate Award**

Awards totalling \$13,800 have been made available annually through gifts from alumni of the Peter A. Allard School of Law for graduate students in the Peter A. Allard School of Law who are making continued satisfactory academic progress in their studies. The awards are made on the recommendation of the Peter A. Allard School of Law, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available for the 2021/2022 winter session).

### **Kory Nagata Memorial Thunderbird Football Award**

Awards totalling \$2,000, which may range from a minimum value of \$500 each to the maximum allowable under athletic association regulations, have been made available annually through a gift from Daryle Nagata, in memory of his son, Kory Nagata (1996-2020), for outstanding members of the UBC Thunderbirds Football team. Kory (B.Com. 2021) was born in Vancouver, British Columbia, and grew up in Virginia, United States and Richmond, British Columbia. He began his football career at Hugh Boyd Secondary School in Richmond, and played for two seasons for the Okanagan Sun, where he helped the team reach the finals of the 2015 Canadian Bowl. From 2016 to 2018 Kory was a running back for the UBC Thunderbirds Football team, and in 2019 was named a U SPORTS Academic All-Canadian. This award was established in recognition of Kory's contributions to the UBC Thunderbirds Football team. The awards are made on the recommendation of the Head Coach of the Football Team and the Athletics Awards Committee. (First award available for the 2021/2022 winter session).

### **Royal Canadian Legion, UBC Branch Award**

Awards totalling \$2,000 have been made available annually through a gift from the Royal Canadian Legion, UBC Branch for undergraduate and graduate students at the University of



British Columbia, Vancouver campus who are serving or who have served in the Regular or Reserve Force of the Canadian Armed Forces, or who have volunteered with an organization that works to support veterans. Candidates will have demonstrated good academic standing and/or community involvement. Preference will be given to students who have completed a certificate program offered by the Institute for Veterans Education and Transition (IVET) and are transitioning into a full-time course of study at UBC. The Royal Canadian Legion, UBC Branch is the first Royal Canadian Legion Branch established in Canada in over twenty-five years. The Branch was created through a partnership with the Institute for Veterans Education and Transition, in an effort to make UBC Canada's first veteran-friendly campus. The Branch works to uphold the Royal Canadian Legion's mission, vision and values by supporting veterans and military members navigating UBC's academic, social and recreational environment. The awards are adjudicated by Enrolment Services. (First award available for the 2021/2022 winter session).

### **Colin Scarlett & Family Equity, Diversity, and Inclusion Award**

Awards totalling \$10,000 have been made available annually through a gift from Colin Scarlett & Family for students in the Bachelor of Commerce program with an interest in commercial real estate who are from communities that have been historically, persistently and systemically

discriminated against. Leadership and financial need may be considered. Each award will ideally not be valued at less than \$2,500. Colin Scarlett and his family established this award to help increase equity, diversity and inclusion in the commercial real estate industry. The awards are made on the recommendation of the UBC Sauder School of Business. (First award available for the 2021/2022 winter session).

### **Smith + Andersen Scholarship in Engineering – Vancouver**

Scholarships totalling \$2,000 have been made available annually through a gift from Smith + Andersen for third or fourth-year female Bachelor of Applied Science students specializing in Mechanical or Electrical Engineering. The scholarships are made on the recommendation of the Faculty of Applied Science. (First award available for the 2021/2022 winter session).

## **NEW AWARDS – INTERNAL**

### **Beyond Tomorrow Scholar Travel Award (Vancouver)**

Travel awards of up to \$1,000 each have been made available annually by the University of British Columbia for outstanding domestic UBC Vancouver students who self-identify as Black and currently hold a Beyond Tomorrow Scholars Award. Recipients are academically qualified and participating in initiatives such as experiential learning components that are approved by the Beyond Tomorrow Scholars Program. Award funding can also be used towards relocation costs to UBC Vancouver. The awards are adjudicated by Enrolment Services.

### **Faculty of Applied Science Award for Indigenous Students**

Awards valued at up to \$10,000 each been made available annually by the Faculty of Applied Science for First Nations, Inuit or Métis students in the Bachelor of Applied Science program who demonstrate financial need, community involvement and leadership skills. The awards are made on the recommendation of the Faculty of Applied Science. (First award available for the 2021/2022 winter session).

Awards valued at up to \$10,000 each, have been made available annually by the Faculty of Applied Science for First Nations, Inuit or Métis students entering the Bachelor of Applied Science program who demonstrate financial need, community involvement and leadership skills. The awards are made on the recommendation of the Faculty of Applied Science. (First award available for the 2021/2022 winter session).

### **Master of Data Science Scholarship for IBPOC Students**

Scholarships of up to the full cost of tuition have been made available annually by the Master of Data Science program for outstanding domestic or international students in the Master of Data Science program who identify as Indigenous, Black or a Person of Colour. The scholarships are made on the recommendation of the Master of Data Science Admissions Committee. (First award available for the 2022/2023 winter session).

### **Thunderbird Leadership Award for IBPOC Students**

Awards have been made available annually by the Office of the Vice-President, Students for students who identify as Indigenous, Black or a Person of Colour, have achieved good academic standing and have demonstrated outstanding athletic and/or leadership abilities. The awards are made on the recommendation of the Athletics Awards Committee and the Office of the Vice- President, Students. (First award available for the 2020/2021 winter session).

*The following awards will be used by Enrolment Services to track one-time funding from the Student Directed Initiative program and General Bursary program to be disbursed to Vancouver students. As there are specific monthly and year-end reporting requirements for the usage of these funds, having separate awards for each initiative allows for easier reporting and tracking.*

### **Special University of British Columbia Award Supplement**

One-time supplemental funding provided by University of British Columbia to Vancouver students with financial need.

### **Technology Bursary**

Helping UBC Vancouver students with financial need to purchase technology-related equipment or services in support of their studies.

### **UBC Quarantine Bursary – Vancouver**

One-time bursary for qualified students with financial need, to assist with costs associated with quarantine period upon returning from abroad to resume studies at UBC.

### **UBCV One-Time Housing Support Bursary for Graduate Students**

One-time housing support provided by University of British Columbia for graduate students with financial need.

### **UBCV One-Time Housing Support Bursary for Undergraduate Students**

## **PREVIOUSLY APPROVED AWARDS WITH CHANGES IN TERMS OR FUNDING SOURCE**

### **Endowed Awards**

#### **5734 – Barbara Berthon Award in Ovarian Cancer**

##### **Research Rationale for Proposed Changes**

The description has been revised to move the adjudication of the award from the Faculty of Medicine to the Department of Obstetrics and Gynecology. Biographical information about Barbara Berthon has also been added. As discussed with University Counsel, this amendment to the award description is within the stated purpose of the endowment which is to support awards for M.D. and graduate students who demonstrate academic excellence in ovarian cancer research in the Faculty of Medicine.

##### **Current Award Description**

Awards totaling \$1,200 have been made available through an endowment established by Paul Berthon in memory of his wife, Barbara, for M.D., Masters or Ph.D. students who demonstrate academic excellence in ovarian cancer research. Recommendations are made by the Faculty of Medicine, and in the case of a graduate student, in consultation with the Faculty of Graduate and Postdoctoral Studies.

##### **Proposed Award Description**

Awards totaling \$1,200 have been made available through an endowment established by Paul Berthon in memory of his wife, Barbara Berthon (1947-2015), for M.D., Master's or Ph.D. students who demonstrate academic excellence in ovarian cancer research. Barbara was born in Winnipeg, Manitoba, and studied interior design at the University of Manitoba. After graduating in 1969, she moved to Vancouver, British Columbia, where she worked for a number of architectural practices specializing in the design of residential, institutional and health care projects. Barbara carried out specialized research into interior and architectural materials for institutional and health care facilities and was responsible for detailed space and equipment planning, the co-ordination of materials, finishes and colours and the selection of furniture and furnishings for a number of health care facilities throughout British Columbia, including Langley

Memorial Hospital, Burnaby General Hospital, Mission Memorial Hospital, and the BC Children's Hospital in Vancouver. Barbara passed away in 2015 after a long battle with ovarian cancer. The awards are made on the recommendations made by the Faculty of Medicine, of the Department of Obstetrics and Gynecology, and in the case of a graduate student, in consultation with the Faculty of Graduate and Postdoctoral Studies.

**Rationale for Proposed Changes**

Canadian Constitutional Law is no longer offered and has become two separate courses: Introduction to Public Law and the Charter, and Aboriginal and Treaty Rights. The description has been revised to reflect this. As discussed with University Counsel, this amendment to the award description is within the stated purpose of the endowment which is to support prizes for law students who have excelled in a first-year Canadian constitutional law course.

**Current Award Description**

A \$1200 prize has been endowed by Gerald Donegan, QC and his friends and colleagues at the Federal Department of Justice in honour of his retirement in 2006. The prize is awarded on the recommendation of the Peter A. Allard School of Law to a student who achieves high standing in Canadian Constitutional Law.

**Proposed Award Description**

Prizes totalling A \$1,200 prize has have been made available through an endowment endowed established by Gerald Donegan, QC (LL.B. 1963) and his friends and colleagues at the Federal Department of Justice in honour of his retirement in 2006., for first-year J.D. students who have excelled in a constitutional law course. The prizes are made awarded on the recommendation of the Peter A. Allard School of Law to a student who achieves high standing in Canadian Constitutional Law.

**1425 – John H. V. Gilbert Interprofessional****Scholarship Rationale for Proposed Changes**

The description has been updated to reflect that scholarship is now adjudicated by the Office of the Vice-President, Health, and to broaden the candidate pool to include both Vancouver and Okanagan students. As discussed with University Counsel, this amendment to the award

description is within the stated purpose of the endowment which is to support scholarships for students who have completed the penultimate year of any health or human services degree program.

**Current Award Description**

A \$500 scholarship has been endowed by friends and colleagues in honour of Dr. John H.V. Gilbert for an outstanding student who, having completed the penultimate year of any health or human services degree program, combines academic excellence and demonstrated student leadership in interprofessional education for collaborative patient centered practice. Activities related to interprofessional education in all undergraduate years are considered. Candidates must apply to the College of Health Disciplines and are required to include two signed letters of recommendation, which may be mailed separately or e-mailed from their originator. Original

### **Proposed Award Description**

A \$500 scholarship has been endowed by friends and colleagues in honour of Dr. John H.V. Gilbert for an outstanding student at the University of British Columbia, Vancouver or the University of British Columbia, Okanagan who, having completed the penultimate year of any health or human services degree program, combines academic excellence and demonstrated student leadership in interprofessional education for collaborative patient centered practice. Activities related to interprofessional education in all undergraduate years are considered. ~~Candidates must apply to the College of Health Disciplines and are required to include two signed letters of recommendation, which may be mailed separately or e-mailed from their originator. Original transcripts must also be submitted.~~ The award scholarship is made on the recommendation of a committee chaired by an individual appointed by the College of Health Disciplines Office of the Vice-President, Health.

### **6743 – L3 MAPPS Award in Naval Architecture and Marine**

#### **Engineering Rationale for Proposed Changes**

The donor, L3 MAPPS, has changed their name to L3Harris MAPPS. The award title and description have been updated to reflect this.

**Current Award Title:** L3 MAPPS Award in Naval Architecture and Marine Engineering

#### **Current Award Description**

Awards totalling \$8,650 have been made available through an endowment established by L3 MAPPS in support of students in UBC's Naval Architecture and Marine Engineering Program. Preference is given to students with an interest in ship systems engineering and/or a background in electrical, electronic or mechatronic engineering. The award is made on the recommendation of the Faculty of Applied Science in consultation with the Faculty of Graduate and Postdoctoral Studies.

**Proposed Award Title:** L3Harris MAPPS Award in Naval Architecture and Marine Engineering

#### **Proposed Award Description**

Awards totalling \$8,650 have been made available through an endowment established by L3Harris MAPPS in support of students in UBC's Naval Architecture and Marine Engineering Program. Preference is given to students with an interest in ship systems engineering and/or a background in electrical, electronic or mechatronic engineering. The award is made on the recommendation of the Faculty of Applied Science in consultation with the Faculty of Graduate and Postdoctoral Studies.

### **5842 – Kenneth Lysyk Memorial**

#### **Scholarship Rationale for Proposed Changes**

The scholarship is currently offered to LL.B. students. The LL.B. was replaced with the J.D. in 2008. The description has been revised to reflect this. As discussed with University Counsel, this amendment to the award description is within the stated purpose of the endowment which is to support scholarships for undergraduate law students, with a preference for students with an interest in constitutional law.

### **Current Award Description**

A \$2,600 scholarship has been endowed by his family in memory of Kenneth Lysyk (1934-2003), who served as Dean of the Peter A. Allard School of Law at UBC and as a Judge of the Supreme Court of British Columbia. The award is made on the recommendation of the Peter A. Allard School of Law to a student entering the second or third year in the LL.B. Program with preference given to a student who has demonstrated an interest in constitutional law.

### **Proposed Award Description**

Scholarships totalling A \$2,600 scholarship have been endowed made available through an endowment established by his family in memory of Kenneth Lysyk (1934-2003), for outstanding students entering second or third year of the J.D. program. Preference will be given to students who have demonstrated an interest in constitutional law. who served as Kenneth Lysyk was the Dean of the Faculty of Law, now known as the Peter A. Allard School of Law at UBC, from 1976 to 1982, and as a Judge of the Supreme Court of British Columbia from 1983 to 2003. The award scholarships is are made on the recommendation of the Peter A. Allard School of Law to a student entering the second or third year in the LL.B. Program with preference given to a student who has demonstrated an interest in constitutional law.

## **1356 – Ann Liisa McCutcheon Memorial**

### **Award Rationale for Proposed Changes**

The description has been revised so that more than one award can be offered each year. As discussed with University Counsel, this amendment to the award description is within the stated purpose of the endowment which is to support awards for students in the Faculty of Arts.

### **Current Award Description**

A \$1,250 award has been endowed by friends and family in memory of Ann Liisa McCutcheon to recognize students in the Faculty of Arts who demonstrate leadership and commitment to the Faculty and UBC. Ann Liisa McCutcheon spent much of her time while at university and as an alumna serving her Alma Mater. The award is made on the recommendation of the Faculty.

### **Proposed Award Description**

Awards totalling \$1,250 award has have been made available through an endowment established endowed by friends and family in memory of Ann Liisa McCutcheon to recognize students in the Faculty of Arts who demonstrate leadership and commitment to the Faculty and UBC. Ann Liisa McCutcheon spent much of her time while at university and as an alumna serving her Alma Mater. The awards is are made on the recommendation of the Faculty.

### **Award Rationale for Proposed Changes**

The description has been revised to remove the \$1,000 award value cap. As discussed with University Counsel, this amendment to the award description is within the stated purpose of the endowment which is to support awards for student athletes on the Thunderbird Rowing team.

### **Current Award Description**

One or more awards, ranging up to a maximum amount of \$1,000 each, have been made available through an endowment established for rowing athletes in memory of Frank Read, a beloved UBC and Olympic rowing coach. The awards celebrate Read's tireless work in proving that excellence in sport was a realistic objective for Canadians. The awards are offered to outstanding members of the Thunderbird Rowing Team who have maintained good academic standing. The recommendation is made by the Rowing coaches.

### **Proposed Award Description**

Awards totalling \$11,200, which may range from a minimum value of \$500 each to the maximum allowable under athletic association regulations One or more awards, ranging up to a maximum amount of \$1,000 each, have been made available through an endowment established for rowing athletes in memory of Frank Read, a beloved UBC and Olympic rowing coach. The awards celebrate Read's tireless work in proving that excellence in sport was a realistic objective for Canadians. The awards are offered to outstanding members of the Thunderbird Rowing Team who have maintained good academic standing. The recommendation is made by the Rowing coaches.

## **2298 – Eric A. Roenitz Memorial Award in Engineering**

### **Physics Rationale for Proposed Changes**

The criteria that students must be entering fifth year has been revised to make the adjudication of the award more flexible. As discussed with University Counsel, this amendment to the award description is within the stated purpose of the endowment which is to support awards for engineering physics students.

### **Current Award Description**

Awards totalling \$1,550 has been endowed in memory of Eric A. Roenitz, a dedicated and exceptional engineer and a leader who engineered practical solutions to a wide range of technical problems. The award will be granted to one or more students entering fifth year who have demonstrated ingenuity and dedication during their fourth year ENPH 459 Engineering Physics student project. The award is made on the recommendation of the Project Laboratory Director, Engineering Physics Program.

### **Proposed Award Description**

Awards totalling \$1,550 has have been made available through an endowment established  
endowed in memory of Eric A. Roenitz (1971-1999), for Bachelor of Applied Science students  
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who have demonstrated ingenuity and dedication during their fourth-year ENPH 459  
Engineering Physics student project. Eric (B.A.Sc. 1994) was a dedicated and exceptional  
engineer and a leader who engineered practical solutions to a wide range of technical problems.  
The award will be granted to one or more students entering fifth year who have demonstrated  
ingenuity and dedication during their fourth year ENPH 459 Engineering Physics student project.  
The awards are is made on the recommendation of the Project Laboratory Director, Engineering  
Physics Program.

## **6363 – Olav Slaymaker Scholarship in Environment**

### **Rationale for Proposed Changes**

The description has been updated to reflect organizational changes at the Liu Institute for Global Issues within the School of Public Policy and Global Affairs, and to include a preference for students studying nuclear environmental issues. As discussed with University Counsel, this amendment to the award description is within the stated purpose of the endowment which is to support scholarships for graduate students pursuing environmental studies.

### **Current Award Description**

Scholarships totalling \$12,000 have been endowed by The Simons Foundation and UBC in recognition of Dr. Olav Slaymaker's contributions to research on environmental issues. They are awarded to graduate student(s) pursuing studies in environment who are affiliated with the Liu Institute for Global Issues. The awards are made on the recommendation of the Faculty of Graduate and Postdoctoral Studies.

### **Proposed Description**

Scholarships totalling \$12,000 have been endowed by The Simons Foundation and UBC in recognition of Dr. Olav Slaymaker's contributions to research on environmental issues. They are awarded to graduate student(s) pursuing environmental studies in environment who are supervised by a faculty member appointed in the School of Public Policy and Global Affairs who are affiliated with the Liu Institute for Global Issues. Preference will be given to students studying nuclear environmental issues. The awards are made on the recommendation of the School of Public Policy and Global Affairs, in consultation with the Faculty of Graduate and Postdoctoral Studies.

## **2843 – John E. Sullivan Memorial Prize**

### **Rationale for Proposed Changes**

Canadian Constitutional Law is no longer offered and has become two separate courses: Introduction to Public Law and the Charter, and Aboriginal and Treaty Rights. The description has been revised to reflect this. As discussed with University Counsel, this amendment to the award description is within the stated purpose of the endowment which is to support prizes for law students.



### **Current Award Description**

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A \$250 prize is offered by friends and colleagues in memory of John E. Sullivan, a young man whose promising legal career was ended by a tragic accident. Mr. Sullivan was keenly interested in Canadian constitutional law and, in particular, matters relating to the Charter of Rights and Freedoms. The prize is awarded to a student who achieves high standing in Canadian Constitutional Law (Law 201). The award is made on the recommendation of the Peter A. Allard School of Law.

### **Proposed Award Description**

A \$250 prize is offered has been made available through an endowment established by friends and colleagues in memory of John E. Sullivan (1957-1988), for a J.D. student who has excelled in a first-year constitutional law course. Mr. Sullivan (LL.B. 1983) was a young man whose promising legal career was ended by a tragic accident. Mr. Sullivan He was keenly interested in Canadian constitutional law and, in particular, matters relating to the Charter of Rights and Freedoms. The prize is awarded to a student who achieves high standing in Canadian Constitutional Law (Law 201). The award prize is made on the recommendation of the Peter A. Allard School of Law.

### **Annual Awards**

#### **2023 – Bimema Family Award in Teacher**

### **Education Rationale for Proposed Changes**

This award will now be funded through an endowment. The award description has been revised to reflect the change in funding source.

### **Current Award Description**

Awards totalling \$2,000 have been made available through gifts from supporters, faculty, and staff members of the Faculty of Education, for Bachelor of Education students who identify as Black and have achieved good academic standing. The awards are made on the recommendation of the Faculty of Education. (First award available for the 2021/2022 winter session).

### **Proposed Award Description**

Awards totalling \$2,000 have been made available through an endowment established by gifts from supporters, faculty, and staff members of the Faculty of Education, for Bachelor of Education students who identify as Black and have achieved good academic standing. The awards are made on the recommendation of the Faculty of Education.

#### **2841 – Blake Cassels Graydon Prize in Canadian Constitutional Law**

### **Rationale for Proposed Changes**

Canadian Constitutional Law is no longer offered and has become two separate courses: Introduction to Public Law and the Charter, and Aboriginal and Treaty Rights. The description has been revised to support students in Aboriginal and Treaty Rights.

**Current Award Description**

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The firm of Blake Cassels & Graydon LLP offers two prizes of \$750 each to students achieving high academic standing in Canadian Constitutional Law. The awards are made on the recommendation of the Peter A. Allard School of Law.

**Proposed Award Title:** Blake Cassels Graydon Prize in Canadian Constitutional Law

**Aboriginal and Treaty Rights**

**Proposed Award Description**

~~The firm of Blake Cassels & Graydon LLP offers two prizes of A \$750~~ prize has been made available annually through a gift from Blake Cassels & Graydon LLP for an outstanding J.D. student who has excelled in a first-year Aboriginal and Treaty Rights course. ~~each to students achieving high academic standing in Canadian Constitutional Law.~~ The awards prize is are made on the recommendation of the Peter A. Allard School of Law.

**6536 – Paul Heller Memorial Fellowship in Forestry**

**Rationale for Proposed Changes**

The description has been revised to allow the Faculty more flexibility when adjudicating the fellowships.

**Current Award Description**

Five fellowships of \$12,500 each are offered by the Paul and Edwina Heller Memorial Fund in memory of Paul Heller to students enrolled in thesis-based Master's or PhD programs in the Faculty of Forestry. Originally from Warsaw, Poland, Paul Heller graduated as an engineer from Fitzwilliam College, University of Cambridge, England. He moved to Vancouver in the early 1940s, where he and his brother Sam Heller acquired and modernized the Pacific Pine Co. lumber mill in New Westminster. The business flourished in the postwar years, employing some 350 people at its peak. In addition to his work in forestry, Mr. Heller and his wife, Edwina Heller, were great supporters of music, contemporary Canadian art, and Vancouver's Jewish community. The fellowship may be given to the same recipient for a maximum of two years and is awarded on the recommendation of the Faculty of Forestry, in consultation with the Faculty of Graduate and Postdoctoral Studies.

**Proposed Award Description**

~~Five fellowships of \$12,500 each~~ Fellowships totalling \$60,000 are offered by the Paul and Edwina Heller Memorial Fund in memory of Paul Heller to students enrolled in thesis-based Master's or PhD programs in the Faculty of Forestry. Each fellowship will ideally be valued at between \$10,000 and \$20,000. Originally from Warsaw, Poland, Paul Heller graduated as an engineer from Fitzwilliam College, University of Cambridge, England. He moved to Vancouver in the early 1940s, where he and his brother Sam Heller acquired and modernized the Pacific Pine Co. lumber mill in New Westminster. The business flourished in the postwar years, employing some 350 people at its peak. In addition to his work in forestry, Mr. Heller and his wife, Edwina Heller, were great supporters of music, contemporary Canadian art, and Vancouver's Jewish community. The fellowship may be given to the same recipient for a

## **7301 – C. Colin Jackson Memorial Bursary in Medicine**

### **Rationale for Proposed Changes**

The description has been revised to clarify the candidate pool and to add biographical information about Dr. C. Colin Jackson.

**Current Award Title:** C. Colin Jackson Memorial Bursary in Medicine

### **Current Award Description**

A bursary of \$2000 is offered by Dr. Gary Jackson in memory of his father, Dr. C. Colin Jackson. It is awarded to a student in the Faculty of Medicine. Preference may be given to mature students.

**Proposed Award Title:** Dr. C. Colin Jackson Memorial Bursary in Medicine

### **Proposed Award Description**

Bursaries totalling A bursary of \$2,000 have been made available annually through a gift from is offered by Dr. Gary Jackson (B.Sc. 1968, M.D. 1979), in memory of his father, Dr. C. Colin Jackson. (1919-1984), for students in the Faculty of Medicine. It is awarded to a student in the Faculty of Medicine. Preference will be given to students who have dependants. Preference may be given to mature students. Dr. Colin Jackson was born in Kamloops, British Columbia, and attended medical school at the University of Winnipeg. He was a Captain in the Canadian Army during World War II, and was sent to Panama after receiving his M.D. to study tropical medicine in anticipation of serving in the Pacific Theatre. After the war ended, he practiced as a general physician in Hanna, Alberta before enrolling at Temple University in Philadelphia, Pennsylvania, with the aim of becoming a proctologist. After receiving his M.Sc., he returned to Vancouver and established a successful proctologic practice. Dr. Jackson was working towards his colonoscopy certification when he was diagnosed with pancreatic cancer in August 1984. The bursaries are adjudicated by Enrolment Services.

## **5829 – Lawson Lundell Prize in Constitutional Law**

### **Rationale for Proposed Changes**

Canadian Constitutional Law is no longer offered and has become two separate courses: Introduction to Public Law and the Charter, and Aboriginal and Treaty Rights. The description has been revised to reflect this.

### **Current Award Description**

Two prizes of \$750 each are offered by the firm of Lawson Lundell to students achieving high academic standing in Constitutional Law. The awards are made on the recommendation of the Peter A. Allard School of Law.

## **Proposed Award Description**

Two prizes of \$750 have been made available annually through a gift from each are offered by the firm of Lawson Lundell for outstanding J.D. students who have excelled in a first-year course on constitutional law to students achieving high academic standing in Constitutional Law. The prizes awards are made on the recommendation of the Peter A. Allard School of Law.

## **5751 – Guru Nanak Award in**

### **Medicine Rationale for Proposed**

#### **Changes**

The donors who support this award wish to remain anonymous. The description has been revised to remove their names.

#### **Current Award Description**

Awards totalling \$2,000 have been made available annually through a gift from Talveen Gill and Jasdeep Chahal through the University of Victoria, in honour of Guru Nanak, for M.D. students in the Island Medical Program whose volunteer work or community service has focused on equity and inclusion. Preference will be given to students who are from communities that have been historically, persistently and systemically discriminated against. Guru Nanak was the founder of Sikhism and originated the idea of Seva, or selfless service. This award was established to recognize students who have served their communities and helped to promote equity and inclusion. The awards are made on the recommendation of the Faculty of Medicine. (First award available for the 2021/2022 winter).

#### **Proposed Award Description**

Awards totalling \$2,000 have been made available annually through a gift from anonymous donors Talveen Gill and Jasdeep Chahal through the University of Victoria, in honour of Guru Nanak, for M.D. students in the Island Medical Program whose volunteer work or community service has focused on equity and inclusion. Preference will be given to students who are from communities that have been historically, persistently and systemically discriminated against. Guru Nanak was the founder of Sikhism and originated the idea of Seva, or selfless service. This award was established to recognize students who have served their communities and helped to promote equity and inclusion. The awards are made on the recommendation of the Faculty of Medicine. (First award available for the 2021/2022 winter).

## **7925 – John Rose Memorial Bursary**

### **Rationale for Proposed Changes**

The description has been revised so that multiple bursaries may be offered each year.

#### **Current Award Description**

A \$1000 bursary has been established by the family of John Rose to assist deserving undergraduate Commerce and Business Administration students and/or graduate Master of Business Administration students.

## **Proposed Award Description**

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Bursaries totalling A \$1,000 bursary have has been established by the family of John Rose to assist deserving undergraduate Commerce and Business Administration students and/or graduate Master of Business Administration students. The bursaries are adjudicated by Enrolment Services.

## **5406 – S-FRAME Software Inc. Prize in Structural Engineering**

### **Rationale for Proposed Changes**

CIVL 228 is no longer offered. The description has been updated to remove reference to a specific course number.

### **Current Award Description**

A \$1,000 prize is offered by S-FRAME Software Inc. to the undergraduate engineering student with the highest academic standing in CIVL 228: Introduction to Structural Engineering. The prize is made on the recommendation of the Department of Civil Engineering.

### **Proposed Award Description**

A \$1,000 prize is offered by S-FRAME Software Inc. to the undergraduate engineering student with the highest academic standing in a 200-level structural engineering course CIVL 228: Introduction to Structural Engineering. The prize is made on the recommendation of the Department of Civil Engineering.

## **5252 – St. Pierre, Romilly, Nathanson Entrance Award in Law for Black Students**

### **Rationale for Proposed Changes**

The description has been revised so that multiple awards may be offered each year.

### **Current Award Description**

A \$15,000 entrance award has been made available annually through gifts from David St. Pierre, Selwyn Romilly (B.A. 1963, LL.B. 1966) and Matthew Nathanson (LL.B. 1997) for a domestic student entering the J.D. program who identifies as Black, demonstrates financial need, and has a history of community service or volunteerism. Preference will be given to students who have demonstrated an interest in criminal law. David St. Pierre practiced criminal law as a partner of Cobb, St. Pierre, Lewis, Barristers and Solicitors before being appointed to the Provincial Court of British Columbia in 2009. Selwyn Romilly was appointed to the Provincial Court of British Columbia in 1974 and elevated to the Supreme Court of British Columbia in 1995, the first Black judge named to any court in British Columbia. Matthew Nathanson is a criminal defence lawyer practicing out of downtown Vancouver. David, Selwyn, and Matthew established this award to support Black students as they begin their legal education. The award is made on the recommendation of the Peter A. Allard School of Law. (First award available for the 2021/2022 winter session).

## Proposed Award Description

Entrance awards of A \$15,000 each entrance award have has been made available annually through gifts from David St. Pierre, Selwyn Romilly (B.A. 1963, LL.B. 1966) and Matthew Nathanson (LL.B. 1997) for a domestic students entering the J.D. program who identifies as Black, demonstrates financial need, and has have a history of community service or volunteerism. Preference will be given to students who have demonstrated an interest in criminal law. David St. Pierre practiced criminal law as a partner of Cobb, St. Pierre, Lewis, Barristers and Solicitors before being appointed to the Provincial Court of British Columbia in 2009. Selwyn Romilly was appointed to the Provincial Court of British Columbia in 1974 and elevated to the Supreme Court of British Columbia in 1995, the first Black judge named to any court in British Columbia. Matthew Nathanson is a criminal defence lawyer practicing out of downtown Vancouver. David, Selwyn, and Matthew established this award to support Black students as they begin their legal education. The award is are made on the recommendation of the Peter A. Allard School of Law. (First award available for the 2021/2022 winter session).

## 0476 – Swanson Award in Plant Pathology and Nematology

### Rationale for Proposed Changes

The description has been revised to clarify that the award was established in memory of Dr. Terry Swanson.

### Current Award Description

A \$1,000 award has been made available by the Plant Pathology Society of Alberta for an outstanding graduate student in plant pathology and/or nematology who best exemplifies Dr. Swanson's high standard of achievement in coursework and in applied research. Dr. Swanson received his B.Sc. (Agr.) from UBC in 1977, and his Ph.D. from the University of California, Riverside in 1984. His promising career with Alberta Agriculture was tragically curtailed by an air crash on Oct. 19, 1984. The award is rotated among the University of British Columbia, the University of California-Riverside, and the University of Alberta. The award is made on the recommendation of the Faculty of Land and Food Systems, in consultation with the Faculty of Graduate and Postdoctoral Studies.

### Proposed Award Description

A \$1,000 award has been made available by the Plant Pathology Society of Alberta, in memory of Dr. Terry Swanson (1955-1984), for an outstanding graduate student in plant pathology and/or nematology who best exemplifies Dr. Swanson's high standard of achievement in coursework and in applied research. Dr. Swanson received his B.Sc. (Agr.) from UBC in 1977, and his Ph.D. from the University of California, Riverside in 1984. His promising career with Alberta Agriculture was tragically curtailed by an air crash on October, 19, 1984. The award is rotated among the University of British Columbia, the University of California-Riverside, and the University of Alberta. The award is made on the recommendation of the Faculty of Land and Food Systems, in consultation with the Faculty of Graduate and Postdoctoral Studies.

**Dentistry Rationale for Proposed Changes**

The award title has been updated to remove “Canada Trust”.

**Current Award Title:** TD Canada Trust Service Award in Dentistry

**Current Award Description**

A \$1,500 service award is offered by TD Canada Trust to a dental student any year of study who demonstrates excellence in community service, student leadership, or volunteerism. Recommendation is made by the Faculty of Dentistry.

**Proposed Award Title:** TD Canada Trust Service Award in Dentistry

**Proposed Award Description**

No changes

**4039 – Thunderbird Women's Ice Hockey Alumni****Award Rationale for Proposed Changes**

Alumni of the Thunderbird Women’s Ice Hockey team wished to convert a generic award they established to a memorial award for a teammate who passed away recently. The description has been updated to reflect this.

**Current Award Title:** Thunderbird Women's Ice Hockey Alumni Award

**Current Award Description**

One or more awards which may range from a minimum value of \$500 each to the maximum allowable under athletic association regulations, are offered to members of the UBC Women's Ice Hockey team in any year of study. Awards are made on the recommendation of the Women's Ice Hockey Head Coach and the Women's Ice Hockey alumni group and administered by the Athletics Awards Committee.

**Proposed Award Title:** Laura Kosakoski Memorial Thunderbird Women's Ice Hockey Alumni Award

**Proposed Award Description**

One or more awards, which may range from a minimum value of \$500 each to the maximum allowable under athletic association regulations, have been made available through gifts from alumni and supporters of the UBC Thunderbirds Women’s Ice Hockey team, in memory of Laura "Kos" Kosakoski (1985-2020), are offered to for outstanding members of the UBC Women's Ice Hockey team in any year of study. Laura (B.Sc. 2007, M.D. 2014) was a member of the UBC Thunderbirds Women’s Ice Hockey team from 2003 to 2007. While in medical school, Laura traveled across British Columbia to provide care to patients in rural communities, as well as to Soweto, South Africa. After completing her residency at the University of Calgary, Laura moved to Canmore, Alberta, where she practiced as a family physician. Laura was highly respected by



her teammates, and worked to leave a legacy as a Thunderbird for the next generation. This award was established in recognition of her resilience and work ethic both on and off the ice. The awards are made on the recommendation of the Women's Ice Hockey Head Coach and the Women's Ice Hockey alumni group and administered by the Athletics Awards Committee.

### **3551 – Vancouver Branch of the BC Retired Teachers' Association Award in**

#### **Nursing Rationale for Proposed Changes**

The award is funded by Friends of the Vancouver BC Retired Teachers' Association. The award title and description have been updated to reflect this.

**Current Award Title:** Vancouver Branch of the BC Retired Teachers' Association Award in Nursing

#### **Current Award Description**

A \$1,000 award is offered annually by the Vancouver Branch of the BC Retired Teachers Association to a student in the School of Nursing who demonstrates an interest in the health and wellbeing of older adults, with a goal of doing research in an area which will affect older adults. Preference is given to students who have graduated from a Vancouver public secondary school. Consideration is also given to students who have been active volunteers with older adults. Students must apply for this award at the School of Nursing. The award is made on the recommendation of the School of Nursing, and, in the case of a graduate student, in consultation with the Faculty of Graduate and Postdoctoral Studies.

**Proposed Award Title:** Friends of the Vancouver Branch of the BC Retired Teachers' Association Award in Nursing

#### **Proposed Award Description**

A \$1,000 award is offered has been made available annually by through a gift from Friends of the Vancouver Branch of the BC Retired Teachers Association to a student in the School of Nursing who demonstrates an interest in the health and wellbeing of older adults, with a goal of doing research in an area which will affect older adults. Preference is given to students who have graduated from a Vancouver public secondary school. Consideration is also given to students who have been active volunteers with older adults. Students must apply for this award at the School of Nursing. The award is made on the recommendation of the School of Nursing, and, in the case of a graduate student, in consultation with the Faculty of Graduate and Postdoctoral Studies.





## 8508 – Vancouver Branch of the BC Retired Teachers' Association Bursary in Education

### Rationale for Proposed Changes

The award is funded by Friends of the Vancouver BC Retired Teachers' Association. The award title and description have been updated to reflect this. The description has also been revised to clarify the candidate pool and that Enrolment Services will adjudicate the bursary.

**Current Award Title:** Vancouver Branch of the BC Retired Teachers' Association Bursary in Education

### Current Award Description

A \$1,000 bursary is offered by the Vancouver Branch of the BC Retired Teachers' Association to a student entering the Faculty of Education, and who is specializing in elementary, middle or secondary school teaching. Preference is given to UBC alumni who have graduated from a Vancouver public secondary school and have financial need. In the case where there are two equally suited candidates, academic merit will be considered.

**Proposed Award Title:** **Friends of the** Vancouver ~~Branch of the~~ BC Retired Teachers' Association Bursary ~~in Education~~

### Proposed Award Description

**Bursaries totalling** A \$1,000 bursary ~~is offered~~ **have been made available annually by** ~~through a~~ **gift from Friends of** the Vancouver ~~Branch of the~~ BC Retired Teachers' Association ~~to a~~ **for** students **who are** entering the Faculty of Education, and ~~who is~~ **are** specializing in elementary, middle or secondary school teaching. **Preference will be given to students who completed their first undergraduate degree at UBC and who have graduated from a Vancouver public secondary school.** ~~Preference is given to UBC alumni who have graduated from a Vancouver public secondary school and have financial need. In the case where there are two equally suited candidates, academic merit will be considered.~~ **The bursaries are adjudicated by Enrolment Services.**





## Appendix B: Curriculum Report

### FACULTY OF APPLIED SCIENCE

#### *New courses*

**DES 320 (3)** History of the Design of the Built Environment; **PLAN 351 (3)** Green Cities

#### *Revised courses*

**DES 321 (3-9)** Topics in Architectural History I (Pre-1900); **DES 322 (3-9)** Topics in Architectural History II (1900-Present)

#### *New program*

Bachelor of Design in Architecture, Landscape Architecture and Urbanism with Minor in Science

### FACULTY OF ARTS

#### *New courses*

**ASIA 403 (3)** Language and Colonialism in East Asia; **ASIA 462 (3)** Japanese Cinema and Genre; **INFO 302 (3)** Sociotechnical Perspectives for Information Systems Design; **LING 415 (3)** Language Across Time, Geography, and Society; **RMST 300 (3)** History of the Romance Languages; **RMST 301 (3)** Prose Fiction and Non-Fiction of the Romance World; **RMST 302 (3)** Theatre and Poetry of the Romance World; **RMST 373 (3)** Masterpieces in Hispanic Literature; **WRDS 250 (3)** Evaluating Knowledge Production and Mobilization; **WRDS 360 (3)** Knowledge Popularization: Research Writing in New Media

### FACULTY OF FORESTRY

#### *New courses*

**CONS 496 (3)** Primate Conservation in the Anthropocene; **FRST 425 (3)** Forest Planning

#### *Revised program parchment*

Bachelor of Urban Forestry

### FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

#### **Applied Science**

#### *New courses*

**ELEC 573 (3)** Game Theory: Mathematical Analysis and Engineering Applications; **MINE 581 (3)** Safety of Tailings Storage Facilities; **MINE 585 (3)** Risk Management of Tailings Storage Facilities; **SPE 504 (3)** Design Laboratory for New Ventures in the Chemical Industry; **SPE 505 (3)** Technology Commercialization for the Manufacturing Industries

#### *New courses*



**CHIL 500 (3)** Research in Children's and Young Adult Literature; **FREN 591 (1.5)** Proseminar I: Research Skills and Scholarly Practices; **FREN 592 (1.5)** Proseminar II: Literary and Cultural Theory; **SPAN 591 (1.5)** Proseminar I: Research Skills and Scholarly Practices; **SPAN 592 (1.5)** Proseminar II: Literary and Cultural Theory

### **Medicine**

#### *New course*

**SPPH 604 (3)** Application of Advanced Epidemiological Methods

### **FACULTY OF LAND AND FOOD SYSTEMS**

#### *Revised Programs*

Dual Degree and Minor Options, Minor in Fermentation; Bachelor of Science in Food, Nutrition and Health, Food and Nutritional Sciences Double Major; Bachelor of Science in Food, Nutrition and Health, Food Science Major

### **FACULTY OF PHARMACEUTICAL SCIENCES**

#### *New courses*

**PHRM 261 (1)** Indigenous Health and Cultural Safety; **PHRM 346 (3)** Diabetesity

#### *Revised course*

**PHRM 221 (2)** Nutrition for Pharmacists

#### *Revised program*

Entry-to-Practice Doctor of Pharmacy



8 October 2021

To: Vancouver Senate

From: Tributes Committee

Subject: Memorial Minutes

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The Tributes Committee has prepared memorial minutes for the following individual:

*Dr. John R. Grace*

***Motion:*** *That Senate approve the Memorial Minute for Dr. John R. Grace, that it be entered into the Minutes of Senate, and that copies be sent to the family of the deceased.*

Respectfully submitted,

Dr. John Gilbert, Chair  
Senate Tributes Committee



### Dr. John R. Grace

Dr. John Grace was born and raised in London, and after attending Ridley College, earned an Engineering degree at the University of Western Ontario, finishing first in his class. He completed his doctoral program in Chemical Engineering at Cambridge University in 1968, and joined McGill University shortly thereafter as a faculty member in the Chemical Engineering Department. In 1979 he joined UBC as Head of the Department of Chemical and Biological Engineering (then known as Chemical Engineering). At UBC, Professor Grace was instrumental in procuring a Pulp and Paper building and initiating the Michael Smith Laboratories.

As Dean of the Faculty of Graduate Studies, he oversaw the planning of two graduate colleges (Green and St. John's Colleges) and new interdisciplinary units, including the Fisheries Centre, Centre for Women's Studies and Gender Relations, Occupational Hygiene Program, Sustainable Development Research Institute and Centre for Applied Ethics, and centres within the Institute of Asian Research. Professor Grace's career in research has resulted in over 700 publications, amassing nearly 40,000 citations to date.

Dr. Grace served as President of the Canadian Society for Chemical Engineering, Chair of the Chemical Institute of Canada, member of the Canadian Engineering Accreditation Board, editor of the journal *Chemical Engineering Science*, Council member of the Natural Sciences and Engineering Research Council of Canada, member of the Advisory Board on Energy Science and Technology for Natural Resources Canada, and Director of the Division of Applied Sciences of the Royal Society of Canada.

Dr. Grace was a world-leading expert in fluidization, capture of CO<sub>2</sub> and reactor design, and contributed substantially to the development of cleaner technologies for industrial processes and energy production. In recognition of his excellence in teaching, mentoring and research, Dr. Grace received numerous awards in his lifetime. For his outstanding mentorship of over 160 graduate students and postdoctoral fellows, he was awarded the UBC Killam Award for Excellence in Mentoring in 2010. Dr. Grace was also invested as an Officer of the Order of Canada in 2014 for his contributions as a chemical engineer, most notably for new ways to produce energy with a smaller environmental footprint.

Dr. Grace was a fierce advocate for and supporter of graduate students and postdoctoral fellows, and his support continues through the John Grace Graduate Scholarship in Chemical and Biological Engineering. The award has been endowed in his honor, for graduate students in Chemical and Biological Engineering who demonstrate academic excellence and potential for service to society by performing research on energy, the environment, and/or multi-phase systems.

His accomplishments are too numerous to name. He was an extraordinary scholar and administrator, and was widely seen by his colleagues and friends as an exceptionally decent man, with enormous integrity. He will be greatly missed.



20 October 2021

To: Vancouver Senate

From: Senate Academic Policy Committee

Re: Classical, Near Eastern and Religious Studies Department Name Change

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The Senate Academic Policy Committee reviewed a proposal submitted by the Faculty of Arts to change the name of the Department of Classical, Near Eastern and Religious Studies to the Department of Ancient Mediterranean and Near Eastern Studies. The change replaces outdated terminology with more accurate, contemporary terms, and reflects more precisely the integrated nature of the department's teaching and research specializations. The department has discussed a possible name change for the past decade, and realizing the importance of an attractive name that clearly identifies the unit's focus among those enrolling in courses, conducted three student-facing surveys in its consultation process. As a result of the name change, the Faculty of Arts plans to submit curriculum proposals to update the names of the department's undergraduate and graduate programs, and to create a new course code.

The following is recommended to Senate:

**Motion:** *"That Senate approves and recommends to the Board of Governors changing the name of the Department of Classical, Near Eastern and Religious Studies to the Department of Ancient Mediterranean and Near Eastern Studies."*

Respectfully submitted,

Dr. Kin Lo, Chair  
Senate Academic Policy Committee



### **Proposal: Department Name Change**

#### **Classical, Near Eastern and Religious Studies**

##### **Summary**

The Department of Classical, Near Eastern and Religious Studies in the Faculty of Arts at UBC, Vancouver, proposes to change its name to “Department of Ancient Mediterranean and Near Eastern Studies.” The name change is intended to replace outdated terminology with more accurate, contemporary terms, and will also improve clarity by removing reference to areas explicitly covered by other programs/units. This change provides the department with a descriptive title that is attractive and conveys its course offerings comprehensibly to students. The new title is also intended to reflect more accurately the integrated nature of the department’s teaching and research specializations, which can no longer be neatly classifiable under the separate and discrete categories of Classical Studies, Near Eastern Studies and Religious Studies. This name change is expected to have a positive impact on enrolments and should not trigger any significant costs to the university.

##### **Discussion and Approval at the Departmental Level**

A proposed name change for the department has been the subject of discussion for roughly the past decade, and the issue of how to accurately encompass the department’s integrated teaching areas is seen in the unwieldy, cobbled-together nature of the department’s current name, “Classical, Near Eastern and Religious Studies.” Around 2008, the department conducted a vigorous and useful debate on the issue. However, the names that were proposed at the time—“Ancient Mediterranean Studies” and “Ancient Civilizations and Religions”—did not gain necessary traction among the majority of faculty members. Indeed, our faculty were hoping the flagship associations in their respective fields—who have also been intently debating subject names and overarching titles for the respective fields of study—would offer a comprehensive outcome and model. Alas, this was not the case. As the debate stalled in the field, so too did it stall in our unit.

Further momentum for a name change came more recently, in the wake of the new *Program in the Study of Religion at UBC*, and the recognition that the department’s use of “Religious Studies” in its name was no longer entirely appropriate. Not only is CNERS no longer the only unit on campus with this subject in their name, the term “Religious Studies” itself did not accurately reflect the specific religious studies carried out in the CNERS department. As such, changing our name once again became a necessity. Several discussions about proposed changes to our name have taken place among faculty members over the past few years. Additionally, the current CNERS Head requested that student surveys be undertaken to assist in formulating a new name that would be attractive and comprehensible to university students. Two surveys, undertaken in the fall of 2018 and the spring of 2019 (see further information under “Consultations” below) helped to further inform the department on possible key words.

At a department retreat, taking place at the end of August 2019, two names were put forward: “Ancient Cultures of the Mediterranean and Middle East” and “Ancient Cultures of the Mediterranean.” A vote on



the two names among members of the CNERS Department Standing Committee took place on Wednesday, September 11<sup>th</sup>, 2019. The title “Ancient Cultures of the Mediterranean and Middle East” was the name favoured by the majority of voters (11 in favour, versus 3 votes for the other title, “Ancient Cultures of the Mediterranean”).

At the suggestion of the Associate Dean, Academic the Department conducted another survey in December 2020 to collect feedback from students and alumni on the selected name. In response to thoughtful criticisms and concerns raised by students and alumni in this survey, the Department decided to reconsider the chosen name with the purpose of determining whether it remained the best option, or whether revision was required. CNERS invited all interested faculty to participate in small working group meetings to discuss the results of the survey and explore alternative names that might better represent the department. The working groups unanimously agreed the name required revision and developed a slate of alternatives. An important focus of this phase of consultation was to identify a concise, accurate name that would be effectively accompanied by a more lengthy and specific mission statement or ‘tagline’ on all department materials (such as the website).

Six names were ultimately proposed, and faculty were invited to vote on their top 3 choices via an emailed survey. “Ancient Mediterranean Studies” (33%) and “Ancient Mediterranean and Near Eastern Studies” (26%) emerged as the clear top two preferences and a discussion and vote was held to choose between these two options at a department meeting on March 10<sup>th</sup>, 2021. At that time, the Department Standing Committee (Reserved) voted to accept “Ancient Mediterranean and Near Eastern Studies” (15 for, 2 for the other).

### **Consultation**

Realizing the importance of an attractive name that would also clearly identify our focus among those enrolling in our courses, we have included the university’s students in our consultation process. Three student-facing surveys have been carried out throughout the process. The first two were intended to guide the Department’s initial deliberations, and the third was to collect student feedback on the first name the Department voted to accept in September 2019.

The first survey was less formal and in-person, conducted at the student residence at Totem Park in October 2018 over the course of two weeks (two Wednesdays on October 10<sup>th</sup> and 17<sup>th</sup>). First-Year students passing by were invited to participate in a poll in return for a brownie. 45 students engaged in this poll. They were asked to provide simple reactions to words that would make them more or less likely to enroll in courses that included these words in their titles, without any prior unpacking of these words. The words they were asked about were: “Cultures”, “Greece”, “Ancient”, “Rome”, “Egypt”, “Mediterranean”, “Art”, “Archaeology”, “Middle East”, “Literature”, “Near East”, “Classical” and “Religions.” Of these words, the students identified “Cultures”, “Greece”, “Ancient”, “Rome”, “Egypt” and “Mediterranean” as being the most likely to encourage their enrolment in courses. Aside from geographical descriptors (i.e. Greece, Rome), “Cultures” and “Ancient” were by far the most favoured words.

The second survey was more formally conducted through the online survey platform Qualtrics in March 2019, and posted by Arts ISIT on the Arts Undergraduate “Enews.” Participation in the survey, which elicited 179 student responses, was incentivized by entering respondents in a draw for a gift card to the UBC bookstore (\$100.00) or a gift card for Starbucks (\$50.00). In this survey, Arts undergraduate

students were again asked about words that would likely encourage or discourage their enrolment in courses according to a ranking scale from “Extremely unlikely” up to “Extremely likely.” The survey used the same words as the former survey (see previous paragraph) in addition to the word “Civilizations.” (See attached Qualtrics Survey for the detailed results). Without expounding on the results, it is significant to remark that the words “Cultures” and “Ancient” drew favourable responses among those who responded.

The third survey, mentioned above, asked students for their feedback on the name “Ancient Cultures of the Mediterranean and Middle East.” This survey, conducted on Qualtrics, was sent to all students enrolled in a CNERS course at any level and to alumni who graduated with a CNERS specialization between 2015 and 2020. This survey offered no incentive for reply and received 409 responses (about 260 respondents completed the entire survey). Results are attached. The survey asked how well the name represented the course subjects taught by the department (broadly speaking, history and archaeology were most clear while religion and language topics were least clear), how clear it made relationships to other units and programs (58% less clear or neutral), how they felt about this name for the specializations (39% negative, 26% neutral), and how they felt about the acronym and course code “ACME” (57% good or great) and the variants “Ancient Cultures of the Mediterranean” and “Ancient Cultures of the Mediterranean and Near East” (the latter performed slightly better but neither was ranked highly). A small majority (59%) of students felt the name overall was “good” or “great,” but major criticisms emerged in the surprisingly well-considered comments left in text-entry fields. Themes that emerged were that the name did not connote a recognizable and marketable discipline: that the term “cultures” was too vague; that “ancient” preceding “culture” implied a problematic lack of contemporary practice of the religions and languages studied; that the use of the term “Middle East” in the ancient context was confusing; and that the place of religion in the department and its courses was unclear. The comments from this survey inspired the department to reconsider the name, to form small working groups to discuss, and ultimately saw the six alternative names.

### **Detailed Rationale**

Here are the main reasons for the name change, based on rationales provided by faculty within the department, research of names used by other university departments and programs (see section on Comparators) and information gleaned from the student surveys:

**“Ancient”:** The term accurately reflects the principal time frame (ca. 10,000 BCE – 6<sup>th</sup> century CE) that is the focus of the majority of the department’s teaching and research. While some courses and research extend into the modern era—for example, studies of Classical reception, Jewish literature, contemporary notions of Christianity—such studies often reflect on cultural systems and religious traditions that have their roots in the ancient world. According to all student surveys, the word “Ancient” was popular and easily understood (more so, for example, than a term like “Classical,” which was often a source of confusion).

**“Mediterranean”:** The term presents a geographic focus that was felt to be more accurate and appropriate than words such as “Greece” and “Rome,” the latter being seen as too geographically limiting compared to the broad focus of the department’s research and teaching—these wider areas taking in, for example, the antiquity of North Africa, Spain, Cyprus and Romania. Words like “Greece” and “Rome” also imply a primacy or superiority of those places and their respective cultures, while

undermining the identity and agency of other ancient peoples and societies that existed in the Mediterranean regions during the same time periods in antiquity.

Although “Mediterranean” still does not fully encompass the breadth of our teaching and research, to some degree the Mediterranean region influenced and held relevance for all the peoples we consider in our courses and research. A potentially more accurate geographical descriptor like “Western Eurasia and North Africa” is unwieldy and would not be effective for student recognition and branding. It is our intention to use a mission statement to further clarify and expand the geographical reach of the Department’s disciplines.

The term “Classical” or “Classics”—the name historically used to describe the study of the ancient Mediterranean—was rejected because it confused many students who did not link the word to the cultures and histories of ancient Greece and Rome. Rather, “classical” was more often linked by students to the word “literature,” as in “classical literature.” Thus “Classical” or “Classics” did not offer the necessary association with the study of the ancient world. As well, there is also an increasing discussion in the field regarding the colonial undertones of the term “Classical.” Given the department’s firm commitment to inclusion and diversity, the term “Classics” was no longer appropriate.

**“Near Eastern”:** The department acknowledges the problematic nature of the term “Near East.” Despite these issues, it is included in our proposed new name because a more acceptable—and still recognizable name for the field—simply does not exist, and to leave reference to this geographical area out entirely would be to exclude the research of a large number of our faculty. To illustrate the current state of the field, the leading North American association for this field (ASOR) struggled to update the even more antiquated term “Oriental” for many years. The association finally settled on changing their name from *American Society for Oriental Research* to the *American Society for Overseas Research*. We do not believe that this type of compromise is a solution for our Department. “Overseas” does not provide clarity, and it maintains a problematic and outdated Western gaze. Our faculty who specialize in this field believe that “Near East” is still the best descriptor available at present, at least until a better alternative is found by the field as a whole.

“Middle Eastern,” in the first name accepted by the department, was rejected in the second round because it is a modern term that does not fit an ancient period, because it was identified by surveyed students as problematic, and because it infringes on another UBC program (Minor in Middle East Studies). “Ancient West Asian Studies” or similar is still not widely recognized in the discipline and infringes on yet another UBC department and its programs (Asian Studies).

Many other institutions across the world continue to use “Near East” in their department and program titles and it is recognizable as a field of study. As part of our commitment to transparency about the problematic uses and abuses of what we study in the Department, we will use our website and other communication channels as a platform for education about and critical engagement with the term “Near East” and will remain open to future changes to our name as the field evolves.

**“Studies”:** As with “Cultures” in the previously-proposed name, “Studies” implies breadth. However, unlike the earlier term, “Studies” retains a scholarly quality that was missing from “Cultures” and other possible nouns we discussed, e.g. “Peoples” and “World(s).” This also responds to criticism in the final student survey about the previously proposed name being unrecognizable and unmarketable as a major

program. “Studies” has an exciting, verbal quality that suggests active academic engagement and implies a wide, diverse range of approaches and specializations that accurately reflects our department.

As mentioned earlier, with the introduction of the new Program in the Study of Religion (RGST) and acknowledgement of other units across campus that study and teach topics in religion, the term “Religious Studies” could not accurately be solely claimed by CNER. It was also felt to be too broad and undefined to signal the religions that are covered by the department (namely Judaism and Early Christianity, as well as other ancient religions). The new name “Ancient Mediterranean and Near Eastern Studies,” on the other hand, *was* thought to embrace nicely the department’s study of religion and researchers’ efforts to situate the discipline meaningfully within the temporal and geographic framework referred to in the name.

### **Comparators**

Many universities and colleges in Canada, the United States and around the world that offer courses in the history, culture and languages of ancient Greece and Rome continue to call their academic units by the names Classics and/or Classical Studies (e.g. McGill, Toronto, Princeton, Harvard, Oxford, Cambridge). Other institutions, however, are choosing to use “Mediterranean” in the titles of their departments and/or in the names of their undergraduate and graduate degree programs in an effort to reflect better the broad purview of the ancient societies and cultures that they offer for study. As well, “Mediterranean” appears to be increasingly employed in cases where expertise is being marshalled from a number of different units such as Classics, Art History, Archaeology and Anthropology to create a research and teaching cluster.

Examples of university units and/or programs with the word “Mediterranean” in their names include:

- Ancient History and Mediterranean Archaeology (Graduate Program): UC Berkeley
- Art and Archaeology of the Mediterranean World (Graduate Program): University of Pennsylvania
- Ancient Mediterranean Studies (Department name): University of Missouri
- Ancient Mediterranean Studies (Bachelor degree program): Emory University
- Centre for the Study of the Ancient Mediterranean and the Near East (Undergraduate and Graduate Programs): Durham University
- Ancient Mediterranean Civilizations (Graduate Program): University of Edinburgh.

As mentioned above, “Near East” is a recognizable name for the field and many departments use it in their department and/or program names:

- Near Eastern Languages and Civilizations (Department name): University of Chicago
- Near Eastern Languages and Civilizations (Department name): Harvard University
- Near Eastern Studies (Department name): Cornell University
- Near Eastern Studies (Department name): Princeton University
- Near and Middle Eastern Civilizations (Department name): University of Toronto

The term “Near East” is certainly preferable to the older and now-wholly inappropriate moniker “Oriental” for departments (although some units still exist, e.g. Faculty of Oriental Studies at Oxford and Cambridge). The Harvard Semitic Museum recently changed to “Harvard Museum of the Ancient Near East.” Here is their news release: <https://news.harvard.edu/gazette/story/2020/04/a-new-name-for->

[the-semitic-museum/](#). In a most recent turn of events, the Oriental Institute of the University of Chicago—a world-renowned institution and museum devoted to the study of the ancient Near East (including Egypt)—has aggressively rebranded itself as the OI, and is working on expunging the term “Oriental” from its letterhead and other public-facing descriptors.

### **Program Changes Accompanying the Name Change**

#### **Undergraduate Programs**

At the undergraduate level, the CNERS department currently has three specializations: Major: Classical, Near Eastern and Religious Studies; Honours: Classical, Near Eastern and Religious Studies, and Minor: Classical, Near Eastern and Religious Studies.

These Majors and Honours programs also have several streams as follows: Classical Studies, Near Eastern Studies and Egyptology, Religious Studies, Classics and Classical and Near Eastern Archaeology.

At present, the department is undergoing a rigorous undergraduate program renewal, moving on roughly the same timeline as the name change, which will move us to a single-stream major. The department name change will affect the names of its undergraduate programs, which would be renamed to:

Major: Ancient Mediterranean and Near Eastern Studies

Honours: Ancient Mediterranean and Near Eastern Studies

Minor: Ancient Mediterranean and Near Eastern Studies

#### **Graduate Programs**

The CNERS department currently has six graduate programs: MA in Classical and Near Eastern Archaeology; MA in Classics, MA in Religious Studies, MA in Ancient Culture, Religion and Ethnicity, PhD in Classics, and PhD in Religious Studies. Under the new departmental name, these program names would remain the same—at least for the next 2-3 years.

#### **Course Coding Changes**

It is intended that all courses with the current codes of CLST, CNRS, NEST and RELG—both at the undergraduate and graduate levels—would move to the single course code (still to be decided). Some renumbering and planning, however, would be required to reflect the subject matter of the courses and to bring greater clarity to the themes of courses. The planning and implementation of such changes to course codes is part of the process of the undergraduate program renewal. We anticipate that changes to the undergraduate program and the name change will take effect at the same time. In case of any delay in the curriculum renewal process, the current course codes (CLST, CNRS, NEST and RELG), could still exist under the new departmental name until the renewal process is completed.

Language courses offered within the department, namely in Classical Arabic (ARBC), Biblical Hebrew (HEBR), Ancient Greek (GREK) and Latin (LATN) will keep their course codes.

### **Considerations**

**Costs and Administrative Issues:** We anticipate costs of up to \$10 000 for changing the name of the department, for which we have funds available in our operating budget. These costs include installation of new signage in and around Buchanan C (estimated \$2000-4000) and the production of new stationery (estimated \$1000-2000) as well as funds to hire a designer to provide updated brand materials and guidelines that can drive our website redesign. We hope to also hire an assistant (possibly a student Work Study) to assist with website content development. Our department's staff Undergraduate Advisor will be able to oversee the paperwork involved in revising our course codes and degree names. The department name change will not require any movement or alteration to existing CNRS personnel, or office, lab and reading room spaces.

**Impact on Enrolments and Perceptions of the Department:** We have worked hard to incorporate attractive and comprehensible words into a new name that will draw students to our programs and courses. Judging from our student surveys, the name "Ancient Mediterranean and Near Eastern Studies" is likely to appeal to a broader range of students than the current "Classical, Near Eastern and Religious Studies." By grouping all of our non-language courses together under a single course code (to be determined), we expect to increase our visibility and to engage in a clearer conversation with students browsing for courses about what our department can offer them. We anticipate a modest increase in enrolments, especially for the relatively few courses currently listed as CNRS and NEST that tend to be undersubscribed. Additionally, we hope that the unified course code will help fulfil one of the goals of our curriculum renewal: to encourage students specializing in the department to explore a broad range of subjects, rather than sticking to one area (which the current CLST/CNRS/NEST/RELG structure encourages).

Finally, our proposed new name reflects, as accurately as possible, the department's continuing evolution towards a well-integrated unit. This future (and indeed our present) is one where the old and traditional words "Classical" and "Religious Studies" no longer reflect the interdisciplinary interests and multi-faceted teaching strengths of our faculty members as well as our increasingly broadly-focussed students. Our efforts to produce a productive, cohesive cohort of scholars should promote our healthy productivity, collegiality and reputation of scholarly excellence within Canada and across the globe.

### **Supporting Attachments**

1. Student Survey conducted at Totem Park
2. Student Survey of Arts eNews Readers (Arts-wide audience)
3. Student Survey on ACME name proposal



20 October 2021

To: Vancouver Senate

From: Senate Academic Policy Committee

Re: Global Reporting Program Consortium Agreement

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The Senate Academic Policy Committee reviewed an agreement submitted by the School of Journalism, Writing, and Media, a unit within the Faculty of Arts. For the past 13 years the School has offered an International Reporting Program in which UBC students travel abroad and report on global journalism. In recent years, the program has expanded to include students from universities all over the world, resulting in a more inclusive, diverse and globally-focused educational experience. The School intends to formalize these partnerships with a memorandum of understanding that clearly establishes requirements of the Global Reporting Program and obligations of both UBC and partner institutions.

The following is recommended to Senate:

**Motion:** *“That Senate approves the Global Reporting Program Consortium Agreement.”*

Respectfully submitted,

Dr. Kin Lo, Chair  
Senate Academic Policy Committee

**GLOBAL REPORTING PROGRAM CONSORTIUM AGREEMENT**  
**(“AGREEMENT”)**

**THIS AGREEMENT** made effective Click or tap to enter a date. (the “**Effective Date**”).

**BETWEEN:**

**The University of British Columbia**, a corporation continued under the *University Act*, RSBC 1996 c. 468 and having an office located at 6476 NW Marine Drive, Vancouver, British Columbia, V6T 1Z3.

(“**UBC**”)

**AND:**

**[Post-Secondary Institution TBD]**, a **[corporation continued/registered under the TBD]** and having **[a Registered/an]** office at **[address]**.

(“**Partner Institution**”)

(each a “**Party**” and collectively, the “**Parties**”)

**WHEREAS** UBC’s Global Reporting Program (“**GRP**”) is a program that forms cross-cultural, cross-linguistic, multi-disciplinary teams consisting of journalism and other specialized graduate students at UBC joined by graduate students from partner universities worldwide.

The GRP offers up to 25 select students from journalism and other academic disciplines at UBC and partner universities the opportunity to study a global issue for one term, do field reporting together, and spend a subsequent term working collaboratively to create impactful works of multilingual journalism. Guided by faculty members at UBC and partner institutions, the teams do fieldwork in each other’s countries to produce collaborative journalism projects on a complex global



issue. This new approach brings broader perspectives and increased depth to the reporting and the resulting works of journalism.

**WHEREAS** the UBC School of Journalism, Writing, and Media launched the International Reporting Program in 2009, which was succeeded by the GRP in 2019.

**WHEREAS** the mission and values of the Partner Institution are aligned with the current issues focus and policy-led approach for research, fieldwork, teaching, and learning of the GRP, and wishes for its students to participate in the GRP.

**WHEREAS** the requirements of the Global Reporting Program are as follows:

- Students at UBC and approved partner universities will have the opportunity to study and practice global reporting;
- Students will enjoy academic freedom as articulated in UBC Senate Policy on Academic Freedom;
- Still will comply with UBC's Statement on Respectful Environment for Students, Faculty and Staff;
- All students will retain moral rights to academic and journalistic outputs;
- Students will abide by UBC's policies on Academic honesty and standards;
- Students will be protected during fieldwork under the policies and procedures of their respective universities.

**NOW THEREFORE** in consideration of the terms, covenants, and conditions hereinafter set out and mutually agreed to by the Parties hereto, the Parties agree as follows:

**1. DEFINITIONS:**

1.1. In this Agreement, the terms below are defined as follows:

1.1.1. **“Academic Credit”** means the recognition of academic progress provided by the Partner Institution to students (the Partner Institution’s equivalent of credit for at least 78 classroom hours or 6 credits in UBC’s system) as a result of the successful completion of the GRP Educational Experience;

1.1.2. **“GRP Educational Experience”** means the in-class, fieldwork, reporting, and investigation experience for participants related to the GRP, which is to be arranged, facilitated and organized by the Parties in accordance with the terms and conditions of this Agreement;

1.1.3. **“Partner Faculty Member”** means a Partner Institution’s faculty member participating in the GRP Educational Experience;

1.1.4. **“Partner Participant”** means a Partner Faculty Member or a Partner Student; and

1.1.5. **“Partner Student”** means a Partner Institution’s student enrolled in the GRP Educational Experience.

## **2. SCOPE OF THE AGREEMENT**

2.1. The Parties agree that this Agreement does not reflect an intention by the Parties to create a partnership, joint venture, or agency relationship, and the use of the term “Partner Institution” is not intended to invoke a specific legal relationship.

2.2. Neither Party will acquire any right, title, or interest in the other Party’s names, marks, associated logos or any other form of intellectual property rights pursuant to this Agreement.

## **3. TERM AND TERMINATION**

3.1. Subject to earlier termination in accordance with this Section 3, the term of this Agreement commences on the Effective Date and continues for a period of one year (the **“Term”**). The Parties may renew this Agreement by written agreement.

3.2. If either Party wishes to terminate this Agreement, either Party may do so by providing 30 days' written notice to the other Party. In such event, the Parties will cooperate with each other to ensure that appropriate arrangements are made for Partner Students, who were enrolled in the GRP on the date the Party provided written notice to the other Party, to complete the GRP Educational Experience as expected upon enrolment.

3.3. UBC may terminate this Agreement at any time by giving the Partner Institution written notice, effective on the date of receipt of such notice, as a result of:

3.3.1. the Partner Institution's breach of a term of this Agreement;

3.3.2. a violation of UBC's policies and procedures;

3.3.3. a Partner Student's failure to maintain the Partner Student expectations as set out in Schedule "A" of this Agreement;

3.3.4. a Partner Participant's failure to abide by all ethical principles and guidelines set out in the GRP Ethics Handbook; or

3.3.5. any other reason deemed appropriate by the lead professor assigned by the GRP.

#### **4. GRP EDUCATIONAL EXPERIENCE**

4.1. The Parties acknowledge that the in-class component of the GRP Educational Experience will be one three-hour long class per week over one academic year, which commences in September and ends in April of the following year (the "**Class**"), subject to holidays and breaks.

4.2. UBC will:

4.2.1. hold all Classes for the GRP Educational Experience;

4.2.2. live stream each Class online for students participating in the GRP Educational Experience;

4.2.3. make each Class available online, as a recording, to students participating in the GRP Educational Experience within a reasonable period of time after the live stream of such Class ends;

4.2.4. grade all assignments; and

4.2.5. at the completion of the GRP Educational Experience, share with the LPC (as defined in Section 6.2), for each Partner Student, a confirmation of whether the Partner Student has completed the GRP Educational Experience, and grades for the assessment(s) that would be used by Partner Institution to determine whether the Partner Student will receive Academic Credit.

4.3. The Parties acknowledge that Partner Faculty Members, UBC faculty members and/or other representatives of each of the Parties may not be present on a day-to-day basis during the GRP Educational Experience.

4.4. The Parties acknowledge that, during the GRP Educational Experience, Partner Students will:

4.4.1. work with other students participating in the GRP Educational Experience to produce a major work of journalism;

4.4.2. when appropriate, be encouraged to produce one or more works of journalism for local or national media; and

4.4.3. conduct fieldwork in for up to two weeks, potentially in a foreign country.

4.5. The Parties agree to identify opportunities in countries for students participating in the GRP Educational Experience to conduct fieldwork for up to two weeks, with a preference towards the first half of December.

## **5. PARTNER STUDENTS**

5.1. The Partner Institution represents and warrants that all Partner Students will follow all the terms set out in Schedule “A” of this Agreement.

5.2. During the GRP Educational Experience, Partner Students remain students of the Partner Institution and will not become students of UBC.

5.3. Either Party may, at any time and from time to time, give a verbal or writing warning to a Partner Student, suspend a Partner Student's participation in the GRP Educational Experience or otherwise intervene in those instances where the Partner Student is performing in a manner which such Party, acting reasonably, considers to be a potential danger to the well-being of the other students participating in the GRP Educational Experience or employees of the Party or contrary to the Party's regulations, rules, policies or procedures. The Party will promptly notify the other Party of such action. If the circumstances are not urgent, the Party will notify the other Party prior to taking such action and will consult with the Party's instructor or staff as to the most appropriate course of action.

5.4. If the Parties are unable to resolve by consultation issues relating to any Partner Student who fails to meet all the terms set out in Schedule "A" of this Agreement, as determined by UBC at its sole discretion, UBC may require such Partner Student to withdraw from the GRP Educational Experience before the scheduled end date of the GRP Educational Experience.

## **6. OBLIGATIONS OF THE PARTNER INSTITUTION**

6.1. The Partner Institution will:

6.1.1. solicit student applications to the GRP;

6.1.2. collaborate with GRP staff to determine student admissions to the GRP;

6.1.3. fulfill all administrative requirements and make any other necessary arrangements for Partner Students to be eligible for Academic Credit;

6.1.4. ensure that only Partner Students who are eligible to receive Academic Credit from the Partner Institution will be permitted to participate in the GRP Educational Experience;

6.1.5. ensure that all Partner Students, prior to their enrolment to the GRP, meet the Minimum Requirements for Academic Eligibility set out in Schedule "A" to this Agreement;

6.1.6. ensure that Partner Students are aware that they must consent to UBC sharing with the Partner Institution the results of their assessment pursuant to Section 4.2.5; and

6.1.7. with respect to the travel Partner Participants must undertake as part of the GRP Educational Experience:

6.1.7.1. advise Partner Participants in writing, prior to a Partner Participant travelling to another country, of any steps the Partner Participant must take to ensure that the Partner Participant is legally permitted to perform the fieldwork, investigations, and research under the laws and regulations of the local jurisdiction;

6.1.7.2. ensure that Partner Participants have obtained the necessary visas, passports, and vaccinations for travel to the fieldwork location(s);

6.1.7.3. ensure that Partner Participants have and maintain an appropriate level of travel and health insurance during the GRP Educational Experience, including any travel to and from the field; and

6.1.7.4. ensure that Partner Participants travelling to other countries register with the relevant embassies.

6.2. The Partner Institution will provide at least one Faculty Member to serve as local project coordinator (the “**LPC**”), who will:

6.2.1. offer Partner Students guidance and support; and

6.2.2. when applicable, grade assignments, for the purposes of Academic Credit, in collaboration with UBC Faculty Members.

6.3. Each Partner Institution Faculty Member must ensure students:

6.3.1. abide by all ethical principles and guidelines set out in the GRP Ethics Handbook;

6.3.2. follow the UBC Statement on Respectful Environment for Students, Faculty and Staff;

6.3.3. follow UBC's policies on Academic integrity, Honesty and Standards;

6.3.4. follow UBC's policies on Academic Freedom; and

6.3.5. if such Partner Institution Faculty Member is travelling for the purposes of the GRP Educational Experience, have and maintain an appropriate level of travel and health insurance for the period of the GRP Educational Experience.

6.4. **Insurance.** The Partner Institution must, at the Partner Institution's own expense, maintain insurance that would be carried by a prudent organization carrying on operations in similar circumstances as the Partner Institution. Without limiting the generality of the foregoing, the Partner Institution should obtain and maintain comprehensive general liability insurance covering claims brought against the Partner Institution, its staff or the Partner Participants for injury to or death of a person or damage to or loss of property caused by any negligent act or omission of the Partner Institution, its faculty, its staff, its agents or its volunteers. Should the Partner Institution maintain such insurance, then the Partner Institution will provide to UBC a certificate of insurance evidencing the Partner Institution's coverage promptly upon request by UBC.

## 7. **OBLIGATIONS OF UBC**

7.1. UBC will:

7.1.1. cover all production costs for all works of journalism produced during the GRP Educational Experience by a Partner Student;

7.1.2. if a Partner Faculty Member joins one or more Partner Students for fieldwork, pay such Partner Faculty Member all travel costs plus a \$60 USD/day per diem while conducting field reporting with such Partner Student(s); and

7.1.3. provide public attribution credit to a Partner Student for all works of journalism produced during the GRP Educational Experience by such Partner Student.

7.2. **Student Funding.** UBC may provide funding from the GRP's alumni bursary to a Partner Student who cannot afford the costs set out in Schedule "A" of this Agreement. UBC will provide information on such bursary at the start of the GRP Educational Experience.

7.3. The GRP administrator will provide to the LPC any documents necessary for Partner Students to travel to Canada or any other North American location.

## 8. EMERGENCIES

8.1. Each Party will be responsible for the provision of emergency support for, and the health and safety of, its own students, faculty members and staff during their participation in the GRP Educational Experience, including in the event of a natural disaster or any such other calamity, whether in the field or otherwise.

## 9. NOTICE

9.1. **Addresses.** All notices and communications shall be sent to the following addresses of the Parties, unless otherwise designated in writing to the other Party:

**UBC:**

**Partner Institution:**

[c/o TBD (if applicable)]

6476 NW Marine Drive

[Address]

Vancouver, BC Canada V6T 1Z3

[Address]

Fax +1 (604) 822-6966

[Address]

9.2. **Delivery and Receipt.** Any notice required or permitted under this Agreement must be in writing and may be given by personal delivery, overnight courier, mail, facsimile transmission, or electronic mail to a Party at such Party's address as set out in Section 9.1. Notices given by personal delivery will be deemed to have been received on the date of the delivery. Notices given by overnight courier or facsimile transmission will be deemed to have been received on the day following the date of delivery. Notices delivered by mail will be deemed to have been received on the seventh day following the date of mailing.



## **10. INDEMNITY**

10.1. The Partner Institution will indemnify and hold harmless UBC from and against all liabilities, causes of action, losses, claims, damages, judgments, fines, penalties, charges, settlement amounts, costs, expenses, and reasonable legal fees arising out of or relating to:

10.1.1. a breach of any representation, covenant or agreement in this Agreement by the Partner Institution; or

10.1.2. any wrongful or negligent act or omission of a Partner Participant while participating in the GRP Educational Experience.

## **11. GENERAL**

11.1. This Agreement is not assignable by the Partner Institution without prior consent of UBC.

11.2. This Agreement is binding on and enures to the benefit of the Parties hereto and to their respective successors and permitted assigns.

11.3. If any term of this Agreement is not valid or cannot be enforced for any reason, such terms shall be severed and all other provisions will remain in full force provided that the original intent of this Agreement is preserved in all material respects.

11.4. This Agreement is governed by, and construed in accordance with, the laws of the Province of British Columbia and the laws of Canada applicable herein. Each of the Parties agree to bring any action arising out of or related to this Agreement in a court of competent jurisdiction as determined in the sole discretion of UBC.

11.5. The Parties agree that all publications, presentations, news releases or any other promotional or public affairs material produced in relation to this Agreement will be approved in advance by UBC.

11.6. This Agreement may be executed in counterparts and each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument. A counterpart signed by a Party hereto and transmitted by facsimile or scanned into Portable Document Format (PDF) and transmitted by e-mail shall have the same effect as a counterpart originally signed by such Party.

**IN WITNESS WHEREOF the Parties have executed this Agreement as of the Effective Date.**

**The University of British Columbia**

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Signature

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Signature

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Name

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Name

Director, UBC School of Journalism,  
Writing & Media

UBC Provost

**[Post-Secondary Institution TBD]**

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**[Name]**

**[Title]**

## **Schedule “A”**

### **Partner Student Expectations**

#### **1. Minimum Requirements for Academic Eligibility**

1.1. Each Partner Student must:

1.1.1. have a cumulative grade point average of a minimum B+ average from previous coursework; and

1.1.2. meet UBC Faculty of Graduate and Postdoctoral Studies’ English Proficiency Requirements (“**English Proficiency Requirements**”). If such Partner Student must take a Test of English as a Foreign Language (TOEFL) or International English Language Testing Service (IELTS) to meet the English Proficiency Requirements, the Partner Student must achieve one of the following test scores:

- a TOEFL score of 615 on the paper-based test;
- a TOEFL score of 260 on the computer-based test;
- a TOEFL score of 104 on the internet-based test; or
- an IELTS score of 7.5 with no subsection score lower than 6.5.

1.2. Student admission will be determined by recommendation of the Global Reporting Program Board, comprised of five to seven UBC faculty members and professional global journalists who serve renewable 3-year terms.

1.3 University partnerships will be determined by the Director of the School of Journalism, Writing & Media and the Provost, in consultation with the Global Reporting Program Board, the program instructor(s), and the Vice Provost-International.

#### **2. Participation**

2.1. Each Partner Student must:

- 2.1.1. participate fully in classroom discussions (either live, remotely, or by sending messages in advance of or after each Class);
- 2.1.2. remain in close contact with their counterparts at UBC and other partner universities throughout the course of the GRP Educational Experience;
- 2.1.3. work collaboratively to produce a major work of journalism;
- 2.1.4. abide by all ethical principles and guidelines set out in the GRP Ethics Handbook; and
- 2.1.5. comply with all UBC policies, including, but not limited to, the UBC Statement on Respectful Environment for Students, Faculty and Staff.

### **3. Costs**

- 3.1. Subject to Section 7.2 of this Agreement, each Partner Student will be responsible for covering the cost of:
  - 3.1.1. any necessary vaccinations for such Partner Student; and
  - 3.1.2. any meals for such Partner Student that are not directly related to the production of a work of journalism.



To: Vancouver Senate  
From: Senate Awards Committee  
Re: Awards for Acceptance by the Senate  
Date: 20 October 2021

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The Senate Awards Committee has reviewed the materials submitted by Development and Alumni Engagement and has enclosed the list of new and revised awards it deems ready for consideration by the Senate for approval:

**Motion:** *That Senate accept the awards as listed, that they be forwarded to the Board of Governors for approval, and that letters of thanks be sent to the donors.*

Respectfully submitted,  
Dr. Sally Thorne, Chair, Senate Awards Committee

October 2021

From: Daniel Galpin, Associate Director, Awards Development

To: Senate Committee on Student Awards, Vancouver

Re: Awards recommended for acceptance by the Senate Committee

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## **NEW AWARDS – ENDOWED**

### **Don Laishley Memorial Scholarship in Forestry**

Scholarships totalling \$4,000 have been made available through an endowment established by family, friends, and colleagues, along with matching funds from the Faculty of Forestry, in memory of Don Laishley (1935-2020), for outstanding undergraduate students in the Faculty of Forestry. Preference will be given to students studying Natural Resources Conservation, Forest Sciences, Forest Resources Management, or Forest Operations. Born and raised in Nelson, British Columbia, Don (B.S.F. 1960) began his career working for forest products companies in the interior of British Columbia before joining Forestal International. Don became President and CEO of Forestal, and worked on international forestry projects that took him to forty-four countries. After leaving Forestal, he joined Weldwood as the Woodlands Manager in Hinton, Alberta, where he led a team that managed one million hectares of forest land. Don later became Weldwood's Director of Forest Strategy in Vancouver, British Columbia, where he focused on environmental and science issues, including wildlife habitat biodiversity and Model Forest practices. In 1996, Don was the recipient of the Canadian Forestry Achievement Award from the Canadian Institute of Forestry. The scholarships are made on the recommendation of the Faculty of Forestry. (First award available for the 2021/2022 winter session).

### **Sherry McKay Graduate Scholarship in Architectural History**

Scholarships totalling \$3,600 have been made available through an endowment established by Dr. Sherry McKay, for outstanding students entering their final year of study in the Master of Architecture program who have demonstrated critical, imaginative engagement with architectural history and its theoretical, social or cultural considerations. Dr. Sherry McKay is an Associate Professor Emerita in the UBC School of Architecture and Landscape Architecture (SALA), where she taught architectural history and theory. Her research interests included French colonial and post-colonial architecture and West Coast modern architecture. The scholarships are made on the recommendation of the School of Architecture and Landscape Architecture, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available for the 2021/2022 winter session).

**William E. Rusk Memorial Bursary in Electrical Engineering**

Bursaries totalling \$2,000 have been available through an endowment established by an estate gift from William E. Rusk (1930-2019), for B.A.Sc., M.A.Sc., M.Eng. and Ph.D. students studying Electrical Engineering. Mr. Rusk was born in Manitoba. He received his Bachelor of Applied Science in Electrical Engineering from UBC in 1958, and had a long career as an engineer with Sandwell Incorporated and its predecessor firms. The bursaries are adjudicated by Enrolment Services. (First award available for the 2021/2022 winter session).

**Kitt Turney Memorial Thunderbird Rowing Award**

Awards totalling \$2,250, which may range from a minimum value of \$500 each to the maximum allowable under athletic association regulations, have been made available through an endowment established by friends and family, in memory of Kitt Turney (1982-2019), for outstanding members of the UBC Thunderbirds Rowing Team. Kitt (B.Sc. 2005, M.D. 2013) was a member of the UBC Thunderbirds Rowing Team from 2001 to 2005, and in 2004 played an integral role in the women's team winning their first Canadian University Rowing Championship. She also competed on British Columbia's provincial rowing team and Canada's national rowing team, and earned a bronze medal at the 2004 World Rowing Cup as a member of the Canadian under-23 boat. This award was established in recognition of Kitt's exceptional athletic achievements, dedication, enthusiasm, kindness and perseverance. The awards are made on the recommendation of Head Coaches of the Men's and Women's Rowing teams, and the Athletics Awards Committee. (First award available for the 2021/2022 winter session).

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**NEW AWARDS – ANNUAL****Bit Quill Technologies Award in Computer Science**

Two awards of \$2,500 each have been made available annually through a gift from Bit Quill Technologies for third or fourth-year students enrolled in an undergraduate degree program in the Department of Computer Science who are in good academic standing. Candidates will have helped foster a welcoming, respectful, kind, and supportive learning environment among their peers and have academically supported and advocated for one or more individual(s) who identify as being part of an underrepresented population, or for those who may be struggling significantly with their coursework for any reason. Bit Quill Technologies is a software consulting company based in Vancouver that is committed to consciously cultivating the principles of Teamwork, Relationships, Excellence, and Ethics in their approach to business and decision-making. The awards are made on the recommendation of the Department of Computer Science. (First award available for the 2021/2022 winter session).

**Dr. James Caswell Memorial Scholarship in Art History**

A \$10,000 scholarship has been made available annually through a gift from the Y. P. Heung Foundation, in memory of Dr. James Caswell (1937-2016), for an outstanding Ph.D. student in Art History who has achieved candidacy. Dr. Caswell was born in Washington, D.C., and was a proud member of the White Earth band of the Minnesota Chippewa. He attended the University of Michigan, where he earned his undergraduate, master's and doctoral degrees. Dr. Caswell joined UBC in 1971, and served as Head of what was then known as the Department of Fine Arts from 1981 to 1997 and from 2001 to 2002. His areas of focus were Chinese art, early Buddhist sculpture, particularly the Buddhist cave art at Dunhuang and Yungang, and early Chinese bronzes and paintings. In 1985 he curated an exhibition at the Vancouver Art Gallery of James Cahill's collection of Chinese paintings. Dr. Caswell retired from UBC as a Professor Emeritus in 2002. The scholarship is made on the recommendation of the Department of Art History, Visual Art & Theory, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available for the 2021/2022 winter session).

### **Barbara Downs Memorial Bursary in Social Work**

Bursaries totalling \$2,000 have been made available annually through an estate gift from Barbara Downs (1940-2020) for Bachelor of Social Work and Master of Social Work students. Preference will be given to students who are permanent residents of Canada or have refugee status. Barbara (B.A., B.S.W. 1963, M.S.W. 1973) was born in Edmonton, Alberta, and attended the University of Alberta, where she earned a Bachelor of Arts. She later moved to Vancouver, where she received an undergraduate and graduate degree in social work from UBC. Barbara used her social work skills throughout her career. She served as the Executive Director of the South Vancouver Neighbourhood House (SVNH) for fifteen years. Barbara was committed to building community in South Vancouver, and advancing social justice. During her tenure at SVNH she worked to raise funds and advocate for SVNH's location to be renovated and reconstructed. The bursaries are adjudicated by Enrolment Service. (First award available for the 2021/2022 winter session).

### **Dr. Mary Morehart Memorial Scholarship in Art History**

A \$10,000 scholarship has been made available annually through a gift from the Y. P. Heung Foundation, in memory of Dr. Mary Morehart (1924-2012), for an outstanding Ph.D. student in Art History who has achieved candidacy. Dr. Morehart was born in Beverly Hills, California and attended the University of California, Berkeley, where she earned her undergraduate degree in visual art, and her master's and doctoral degrees in art history. She joined UBC as a lecturer in 1962, and became an Associate Professor in 1969. Dr. Morehart was the Director of Graduate Studies from 1970 to 1972 in what was then known as the Department of Fine Arts, and served as Acting Head of the Department in several instances during her tenure at UBC. Her research areas included early medieval art, Anglo-Saxon art, Indian and Indonesian art, and Gandhara art. Dr. Morehart retired from UBC as an Associate Professor Emerita in 1989. The scholarship is made on the recommendation of the Department of Art History, Visual Art & Theory, in



consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available for the 2021/2022 winter session).

### **Trans-Pacific Trading Ltd Award in Forestry**

Awards totalling \$5,000 have been made available through a gift from Trans-Pacific Trading Ltd. (TRAPA) for domestic Bachelor of Science in Wood Products Processing students with outstanding academic achievement. Financial need may be considered. TRAPA was established in 1954 and in 2012 became a subsidiary of Hampton Lumber, which is based in Oregon, United States. They are the largest privately-owned exporter of softwood logs and lumber and custom cutter in North America. TRAPA sells and markets softwood lumber products world-wide to more than twenty countries, primarily in North America and Asia. They established this award to support the next generation of forestry professionals and to support forestry education. The awards are made on the recommendation of the Faculty of Forestry (First award available for the 2021/2022 winter session).

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## **NEW AWARDS – INTERNAL**

### **Marshall Prize**

Prizes of \$1,000 each have been made available annually through the Department of Statistics Fund for Excellence, in honour of Professor Albert Marshall, for outstanding M.Sc. and Ph.D. students in the Department of Statistics who have demonstrated excellence in the discipline of statistics, as demonstrated by strength in the development and application of statistical methodology. Professor Marshall joined UBC in 1975 as a Professor of Statistics in the Department of Mathematics. He is an expert in statistical reliability, and worked with Stanford University Professor Ingram Olkin to introduce the Marshall–Olkin exponential distribution. Professor Marshall and Professor Olkin co-authored the textbook *Inequalities: Theory of Majorization and Its Application*, which was originally published in 1979, and remains a much-cited classic. Professor Marshall was instrumental in helping to establish the Department of Statistics at UBC in 1984, and served as the Department's Acting Head from 1984 to 1985. He retired from UBC as a Professor Emeritus in 1987. The prizes are made on the recommendation of the Department of Statistics. (First award available for the 2021/2022 winter session).

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## **PREVIOUSLY APPROVED AWARDS WITH CHANGES IN TERMS OR FUNDING SOURCE**

### **Endowed Awards**

#### **6087 – Charles and Jane Banks Loan**

**Rationale for Proposed Changes**

The award type has been changed from a loan to a bursary at the request of Enrolment Services. As discussed with University Counsel, this amendment to the award description is within the stated purpose of Mr. Banks' estate, which is to support scholarships, loans and bursaries.

**Current Award Title:** Charles and Jane Banks Loan

**Current Award Description**

This loan fund was established from a bequest to the University by the late Honourable Charles A. Banks who, during his term as Lieutenant Governor of the Province, was official Visitor of this University. This contribution, which provides support for worthy and deserving students, is striking evidence of his generosity, and that of his wife, and of their concern for the welfare of others. In accordance with the terms of the bequest one-half of the annual income provides loans for students in any year or faculty, and the other half provides scholarships in the fields of science and engineering. Loans are awarded by Enrolment Services in accordance with university practice. The Charles A. and Jane C.A. Banks Foundation was established by a bequest by the Honourable Charles A. Banks, who during his term as Lieutenant Governor of the Province was the Official Visitor of this University.

**Proposed Award Title:** Charles and Jane Banks ~~Loan~~ Bursary

**Proposed Award Description**

Bursaries totalling \$100,000 have been made available through an endowment established by the Charles A. and Jane C.A. Banks Foundation for undergraduate and graduate students in any year or faculty. ~~This loan fund~~ The Charles A. and Jane C.A. Banks Foundation was established ~~from~~ through a bequest to the University by ~~from~~ the late Honourable Charles A. Banks (1885-1961) to commemorate his and his wife Jane's (1885-1971) memories. Charles and Jane (née de Montalk) were both born in New Zealand, and immigrated to Canada in 1912. Charles served who, during his term as the Lieutenant Governor of the Province, British Columbia from 1946 to 1950, and was an official Visitor of this University to UBC. This ~~contribution~~ bursary, which provides support for worthy and deserving students, is striking evidence of his generosity, and that of his wife, and of their concern for the welfare of others. The bursaries are adjudicated by Enrolment Services. In accordance with the terms of the bequest one-half of the annual income provides loans for students in any year or faculty, and the other half provides scholarships in the fields of science and engineering. Loans are awarded by Enrolment Services in accordance with university practice. The Charles A. and Jane C.A. Banks Foundation was established by a bequest by the Honourable Charles A. Banks, who during his term as Lieutenant Governor of the Province was the Official Visitor of this University.

**Rationale for Proposed Changes**

The description has been updated to reflect that scholarship is now adjudicated by the Office of the Vice-President, Health, and to broaden the candidate pool to include both Vancouver and Okanagan students. As discussed with University Counsel, this amendment to the award description is within the stated purpose of the endowment which is to support scholarships for students in a health-related program.

**Current Award Description**

Scholarships totalling \$6,700 have been made available through an endowment established by ImpactBC for outstanding student(s) enrolled in a UBC Health program who have completed a research or development project focusing on patient/client involvement in health care decision making or in health professional education. ImpactBC was instrumental in advancing health care improvement and patient engagement in B.C. from 2000-2015. The awards are made on the recommendation of the Office of the Vice-Provost Health, and in the case of graduate students, in consultation with the Faculty of Graduate and Postdoctoral Studies.

**Proposed Award Description**

Scholarships totalling \$6,700 have been made available through an endowment established by ImpactBC for outstanding student(s) enrolled in a UBC Health program at the University of British Columbia, Vancouver or the University of British Columbia, Okanagan who have completed a research or development project focusing on patient/client involvement in health care decision making or in health professional education. ImpactBC was instrumental in advancing health care improvement and patient engagement in B.C. from 2000-2015. The awards are made on the recommendation of the Office of the Vice-Provost President Health, and in the case of graduate students, in consultation with the Faculty of Graduate and Postdoctoral Studies (Vancouver) or the College of Graduate Studies (Okanagan).

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**0601 – Professor Jessie Gordon MacCarthy Memorial Scholarship****Rationale for Proposed Changes**

The description has been updated to reflect that scholarship is now adjudicated by the Office of the Vice-President, Health, to broaden the candidate pool to include both Vancouver and Okanagan students, and to clarify which areas of studies the scholarship is intended to support. As discussed with University Counsel, this amendment to the award description is within the stated purpose of the endowment.

**Current Award Description**

A scholarship of \$800 has been endowed by family, friends and colleagues of the late Jessie Gordon MacCarthy, who for ten years contributed through teaching, administration and research

to the development of the Health Sciences at UBC. The award is made to the student who having completed the penultimate year of any pre-licensure Health Science course best combines academic excellence, demonstrated interest and leadership in the field of Community Health. Activities in the years immediately preceding admission to UBC may be considered as well as activities carried out while an undergraduate. The recipient is chosen by a committee, appointed by the Principal of the College of Health Disciplines. Financial need may be considered but shall be subordinate to aptitude and interest.

### **Proposed Award Description**

A scholarship of \$800 has been endowed by family, friends and colleagues of the late Jessie Gordon MacCarthy, who for ten years contributed through teaching, administration and research to the development of the Health Sciences at UBC. The award is made to the student who having completed the penultimate year of any pre-licensure Health Science course program at the University of British Columbia, Vancouver or the University of British Columbia, Okanagan best combines academic excellence, demonstrated interest and leadership in the field of Community and/or population Health. Activities in the years immediately preceding admission to UBC may be considered as well as activities carried out while an undergraduate. The recipient is chosen by a committee, appointed by the Principal of the College of Health Disciplines. The scholarship is made on the recommendation of the Office of the Vice-President, Health. Financial need may be considered but shall be subordinate to aptitude and interest.

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## **6540 – Mitchell-Dwivedi Graduate Award in Pharmaceutical Sciences**

### **Rationale for Proposed Changes**

The description has been updated to reflect Dr. Rewa Prasad Dwivedi's recent passing.

### **Current Award Description**

Two awards of \$9,075 each have been endowed by Sarvajna Dwivedi (MSc'88, PhD'92) and his wife, Seema Dwivedi (PhD), in honour of his graduate supervisor at UBC, Dr. Alan G. Mitchell, professor emeritus of Pharmaceutics and of his father, Dr. Rewa Prasad Dwivedi, professor emeritus of Sanskrit at Banaras Hindu University in India. The awards recognize graduate students in the Faculty of Pharmaceutical Sciences who demonstrate research excellence and impact through peer-reviewed journal publication. Eligible candidates must have published, or have been accepted for publication, in any of the top three journals in their discipline. In absence of a peer-reviewed publication, research presented at a prestigious conference, by podium or as poster, will be considered. Preference will be given to students who take an interdisciplinary approach to their research and/or show exceptional inventiveness or initiative. In the case of a truly exceptional candidate, the awards may be given as one award. These are intended to be truly awards for excellence, and are not to replace or otherwise impact any other forms of

graduate student funding. The awards are made on the recommendation of the Faculty of Pharmaceutical Sciences in consultation with the Faculty of Graduate and Postdoctoral Studies.

### **Proposed Award Description**

Two awards of \$9,075 each have been endowed by Sarvajna Dwivedi (MSc'88, PhD'92) and his wife, Seema Dwivedi (PhD), in honour of his graduate supervisor at UBC, Dr. Alan G. Mitchell, professor emeritus of Pharmaceutics, and **in memory** of his father, Dr. Rewa Prasad Dwivedi (1931-2021), professor emeritus of Sanskrit at Banaras Hindu University in India. The awards recognize graduate students in the Faculty of Pharmaceutical Sciences who demonstrate research excellence and impact through peer-reviewed journal publication. Eligible candidates must have published, or have been accepted for publication, in any of the top three journals in their discipline. In absence of a peer-reviewed publication, research presented at a prestigious conference, by podium or as poster, will be considered. Preference will be given to students who take an interdisciplinary approach to their research and/or show exceptional inventiveness or initiative. In the case of a truly exceptional candidate, the awards may be given as one award. These are intended to be truly awards for excellence, and are not to replace or otherwise impact any other forms of graduate student funding. The awards are made on the recommendation of the Faculty of Pharmaceutical Sciences in consultation with the Faculty of Graduate and Postdoctoral Studies.

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## **4455 – Bill Ramey Award in Microbiology and Immunology**

### **Rationale for Proposed Changes**

The description has been revised so that more than one award can be offered each year. As discussed with University Counsel, this amendment to the award description is within the stated purpose of the endowment which is to support service awards for undergraduate students pursuing studies in microbiology and immunology.

### **Current Award Description**

A \$1,950 award has been made available through an endowment established by students, family, friends, colleagues and the Department of Microbiology and Immunology to honour Dr. Ramey's enduring legacy at the University of British Columbia. It will be awarded to an undergraduate student who has made an outstanding contribution to the Department of Microbiology and Immunology through dedication to student life and the development of the community. The award is made on the recommendation of the Faculty of Science.

### **Proposed Award Description**

**Awards totalling** \$1,950 ~~award has~~ **have** been made available through an endowment established by students, family, friends, colleagues and the Department of Microbiology and Immunology in

to honour of Dr. Bill Ramey's and in recognition of his enduring legacy at the University of British Columbia. It will be awarded to an The awards are available for undergraduate students who has have made an outstanding contributions to the Department of Microbiology and Immunology through dedication to student life and the development of the community. The awards are is made on the recommendation of the Faculty of Science.

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## Annual Awards

### 5748 – Stober Foundation Entrance Award in Medicine

#### Rationale for Proposed Changes

The description has been updated so that the award may be offered to a top ranking student entering the M.D. program, as requested by the Southern Medical Program and approved by the donor.

#### Current Award Description

A \$5,000 renewable entrance award has been made available annually through a gift from the Stober Foundation for an outstanding M.D. student entering the Southern Medical Program. In addition to academic merit, consideration will be given to students who have demonstrated community involvement and volunteerism. Financial need may be considered. Subject to continued academic standing, the award will be renewed for a further three years of study or until the M.D. degree is obtained (whichever is the shorter period). The award is made on the recommendation of the Southern Medical Program. (First award available for the 2020/2021 winter session).

#### Proposed Award Description

A \$5,000 renewable entrance award has been made available annually through a gift from the Stober Foundation for an outstanding high-ranking M.D. student entering the Southern Medical Program. ~~In addition to academic merit, consideration will be given to students who have demonstrated community involvement and volunteerism. Financial need may be considered.~~ Subject to continued academic standing, the award will be renewed for a further three years of study or until the M.D. degree is obtained (whichever is the shorter period). The award is made on the recommendation of the Southern Medical Program. (First award available for the 2020/2021 winter session).

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20 October 2021

To: Vancouver Senate

From: Senate Admissions and Curriculum Committees

Re: October Joint Admissions and Curriculum Proposals (approval)

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The Senate Admissions and Curriculum Committees have reviewed the material forwarded to them by the Faculties and encloses those proposals they deem as ready for approval.

The following is recommended to Senate:

**Motion:** *“That the new Master of Pharmacy Leadership degree program and related new courses brought forward by the Faculty of Graduate and Postdoctoral Studies (Pharmaceutical Sciences) be approved.”*

Respectfully submitted,

Prof. Carol Jaeger, Chair  
Senate Admissions Committee

Dr. Claudia Krebs, Chair  
Senate Curriculum Committee



## **FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES**

### **Pharmaceutical Sciences**

#### *New program*

Master of Pharmacy Leadership

#### *New courses*

**PHRM 520 (1.5)** Leadership & Organizational Behaviour; **PHRM 521 (3)** Leadership in Pharmacy Education; **PHRM 522 (1.5)** Pharmacy Leadership Seminar; **PHRM 523 (3)** Contemporary Leadership Issues in Pharmacy; **PHRM 524 (2)** Interprofessional Perspectives on Healthcare; **PHRM 525 (3)** Evidence Appraisal in Healthcare; **PHRM 526 (3)** Economic Evaluation in Healthcare; **PHRM 549 (12)** Capstone Leadership Project





## Master of Pharmacy Leadership

### Sections

*01 MPL Executive Summary*

*02 New Program Proposal & Appendices*

*03 MPL Program Calendar Statements*

*04 MPL New Course Calendar Statements*

*05 MPL New Course Syllabi*

## **Master of Pharmacy Leadership New Program Proposal**

### **1. Executive Summary**

UBC's Faculty of Pharmaceutical Sciences proposes to offer a new professional Master of Pharmacy Leadership (MPL) program. The MPL is an advanced program at the Master's level that builds upon entry-to-practice degree programs (Bachelor of Science in Pharmacy offered at UBC between 1946 and 2014, and Doctor of Pharmacy offered at UBC since 2015). This program will grant a Master of Pharmacy Leadership (MPL) degree. Unique features include its curricular focus on leadership, its mostly online structure, and its applicability to many pharmacy career paths.

With innovative curriculum collaborations and contributions from the UBC Sauder School of Business and the School of Nursing, the MPL program will graduate a new type of leader. Advancements in the profession and new innovative models of care have heightened the demand for pharmacists with leadership skills. This new program is expected to attract pharmacists with leadership aspirations in their early to mid-career, who are ready to advance their skills in administrative, managerial, corporate, public health, primary care, regulatory, or government roles. The MPL is Canada's only educational path designed specifically for pharmacists to become leaders.

The MPL is designed to be completed in 16 months, although durations greater than this are permitted to meet the needs of working professionals. The curriculum aligns with the Government of British Columbia's and UBC's strategic priorities, and will be delivered online with synchronous and asynchronous components, making it accessible and flexible for working pharmacists who live and practice across urban and rural areas. Only a small portion will be conducted in-person during Program Orientation at the UBC Vancouver campus. With a total of 32 credits, the curriculum includes nine courses, including a final Capstone Leadership Project, providing students a unique opportunity to design and lead an innovative initiative as part of a comprehensive internship experience. Initially, there will be no option for students to specialize in an area of concentration within the program.

The Master of Pharmacy Leadership (MPL) degree will enable students to:

1. Apply principles of organizational behaviour and change management to the critique of existing practice models.
2. Identify barriers to collaborative practice and means of addressing them.
3. Critically appraise policy decisions pertaining to innovations, alternative models of care, and interventions in healthcare using clinical, economic, and systems models.
4. Apply specific models of communication and principles of conflict management to effectively communicate in challenging circumstances.
5. Develop and employ educational materials using best practices and pedagogical principles to teach diverse audiences.
6. Enhance and support leadership development in the self and in others that leverages individual strengths, values, and roles.

The MPL program will equip pharmacists for roles demanding strong leadership, organizational behaviour knowledge, and policy decision-making skills in healthcare, corporate, regulatory, and academic organizations. A wide range of employers are searching for pharmacists with a broad perspective of the healthcare system and a solid understanding of how pharmacy connects with it. Leadership roles that graduates may be hired into include Director of Pharmacy Services, Director of Business Development, Director of Digital Pharmacy, Registrar of the College of Pharmacists of BC, or Manager of Managed Care Initiatives, among others.



## 02 New Program Proposal & Appendices

### New Program Proposal

Appendix 01: Letter of Support - BC Ministry of Health Pharmaceutical Division

Appendix 02: Letter of Support - Northern Health

Appendix 03: Letter of Support - Island Health

Appendix 04: Letter of Support - Interior Health

Appendix 05: Letter of Support - College of Pharmacists of BC

Appendix 06: Letter of Support - BC Centre for Substance Use

Appendix 07: Letter of Support - Canadian Society of Hospital Pharmacists

Appendix 08: Letter of Support - Pure Pharmacy

Appendix 09: Letter of Support - Save-on-Foods

Appendix 10: Stakeholder Consultation and Support

Appendix 11: Final Market Survey Report

Appendix 12: Program Evaluation Resources

## Master of Pharmacy Leadership New Program Proposal

### 2. Proposal

#### 2.1 Objectives of the Master of Pharmacy Leadership (MPL) program

An expansion of pharmacist roles and an advancement in pharmacy practice in the past few years has significantly changed the pharmacy education landscape. These advancements and new opportunities combined with complexities in the healthcare system provide a strong impetus for a Master's-level program focused on graduating pharmacist leaders for this new landscape. The curriculum will deliver an advanced level of professional development for working pharmacists. Graduates of the program will be granted a Master of Pharmacy Leadership (MPL) degree and will be able to:

1. Apply principles of organizational behaviour and change management to the critique of existing practice models.
2. Identify barriers to collaborative practice and means of addressing them.
3. Critically appraise policy decisions pertaining to innovations, alternative models of care, and interventions in healthcare using clinical, economic, and systems models.
4. Apply specific models of communication and principles of conflict management to effectively communicate in challenging circumstances.
5. Develop and employ educational materials using best practices and pedagogical principles to teach diverse audiences.
6. Enhance and support leadership development in the self and in others that leverages individual strengths, values, and roles.

#### 2.2 Anticipated contribution to UBC's and/or the offering unit's mandate and strategic plan

The MPL program directly contributes to the following three themes and core areas highlighted in UBC's Strategic Plan 2018-2028: (1) Transformative Learning; (2) People and Place; and (3) Local and Global Engagement. In addition, the program addresses the following two themes from the Faculty of Pharmaceutical Sciences' Strategic Plan Catalyst for Change 2017-2022: (1) Education; and (2) People and Place. The MPL program's contribution to each theme is described below.

**Collaboration**<sup>1</sup> with the Faculty of Pharmaceutical Sciences, the School of Nursing, the School of Population and Public Health, and the Sauder School of Business in the development of this advanced level pharmacy practice program will challenge students in an environment that models interprofessionalism. This is also at the heart of the BC Government's mandate to establish a more **robust team-based approach**<sup>2</sup> to the delivery of healthcare. Opportunities for **work-integrated learning**<sup>3</sup> via internships will strengthen relationships across the life sciences community.

The program will attract diverse practicing pharmacists passionate about leadership and professional advancement who will benefit from the unique online, flexible program design. Graduates will be

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<sup>1</sup> Catalyst for Change 2017-2022, People and Place, Goal #4 (<https://pharmsci.ubc.ca/about/strategic-plan/core-areas-and-strategies>)

<sup>2</sup> BC Government Primary Health Care Strategy <https://news.gov.bc.ca/releases/2018PREM0034-001010>

<sup>3</sup> UBC Strategic Plan 2018-2028, Strategy 13: Practical Learning (<https://strategicplan.ubc.ca/strategy-13-practical-learning/>)

## Master of Pharmacy Leadership New Program Proposal

equipped to succeed in and shape the **evolving scope of pharmacists**<sup>4</sup> and healthcare innovations, providing them with tools, concepts, and skills to align with **diverse career trajectories**<sup>5</sup>, and to meet the changing needs of employers across the sector. The development of the MPL is timely, and its alignment with strategic priorities of the UBC and Faculty of Pharmaceutical Sciences Strategic Plans will drive both its implementation and success.

The program constitutes exciting **educational renewal**<sup>6</sup> for the Pharmaceutical Sciences Faculty, and contributes to novel education for UBC, addressing the need for practical learning with unique experiential opportunities. The program strengthens **pharmaceutical sciences programming**<sup>7</sup>, leveraging the breadth and depth of **faculty expertise**<sup>8</sup>. **Inclusivity**<sup>9</sup> will be achieved in part, and as an example, through curricular integration of Indigenous voices, scholars, knowledge, perspectives and worldviews.

### *Indigenous Inclusion in the Curriculum*

Recognizing the importance of cultural safety and in response to recommendations from the *In Plain Sight: Addressing Indigenous-specific Racism and Discrimination in B.C. Health Care (2020)* and *Truth and Reconciliation Commission (TRC)* reports our renewed efforts seek to graduate competent pharmacists who are trained to support and provide exemplary healthcare to underserved populations. The design of the MPL curriculum entails a comprehensive decolonization and Indigenization strategy guided by the UBC Indigenous Strategic Plan and the Faculty's emerging Underserved Communities Strategic Plan. For example, seminar and discussion-based courses such as PHRM 521, 522, and 523, will explore Indigenous histories and identify how Indigenous issues intersect with contemporary pharmacy leadership issues (ISP Goal 4, Action 16)<sup>10</sup>.

### 2.3 Linkages between the learning outcomes and curriculum design, and a description of any work placement or similar requirements

PROGRAM LEARNING OUTCOME	CURRICULUM DESIGN
1. Apply principles of organizational behaviour and change management to the critique of existing practice models	<ul style="list-style-type: none"> <li>• Online didactic synchronous instruction</li> <li>• Small and large group discussions</li> <li>• Role playing</li> <li>• Peer teaching</li> <li>• Formative self-assessments</li> </ul>

<sup>4</sup> Catalyst for Change 2017-2022, Practice, Goal #1 (<https://pharmsci.ubc.ca/about/strategic-plan/core-areas-and-strategies>)

<sup>5</sup> Catalyst for Change 2017-2022, Education, Goal #1 (<https://pharmsci.ubc.ca/about/strategic-plan/core-areas-and-strategies>)

<sup>6</sup> Catalyst for Change 2017-2022, Education, Goal #1 (<https://pharmsci.ubc.ca/about/strategic-plan/core-areas-and-strategies>); UBC Strategic Plan 2018-2028, Transformative Learning, Strategy 11: Educational Renewal (<https://strategicplan.ubc.ca/strategy-11-education-renewal/>)

<sup>7</sup> Catalyst for Change 2017-2022, Education, Goal #4 (<https://pharmsci.ubc.ca/about/strategic-plan/core-areas-and-strategies>)

<sup>8</sup> Catalyst for Change 2017-2022, People and Place, Goal #2 (<https://pharmsci.ubc.ca/about/strategic-plan/core-areas-and-strategies>); UBC Strategic Plan 2018-2028, People and Place Strategy #1: Great People (<https://strategicplan.ubc.ca/strategy-1-great-people/>)

<sup>9</sup> Catalyst for Change 2017-2022, People and Place, Goal #3 (<https://pharmsci.ubc.ca/about/strategic-plan/core-areas-and-strategies>)

<sup>10</sup> UBC Indigenous Strategic Plan, Goal #4 Action #16 (<https://indigenous.ubc.ca/indigenous-engagement/indigenous-strategic-plan/>)

## Master of Pharmacy Leadership New Program Proposal

	<ul style="list-style-type: none"> <li>• Internship project</li> </ul>
2. Identify barriers to collaborative practice and means of addressing them	<ul style="list-style-type: none"> <li>• Online didactic synchronous instruction</li> <li>• Small group discussions</li> <li>• Case analysis</li> <li>• Practice model critiques</li> <li>• Student presentations</li> </ul>
3. Critically appraise policy decisions around innovations, alternative models of care, and interventions in healthcare using clinical, economic, and systems models	<ul style="list-style-type: none"> <li>• Internship project</li> <li>• Small group discussions and presentations</li> <li>• Policy critiques</li> <li>• Case analysis</li> <li>• Practice model critiques</li> </ul>
4. Apply specific models of communication and principles of conflict management to effectively communicate in challenging circumstances	<ul style="list-style-type: none"> <li>• Online didactic synchronous instruction</li> <li>• Reflections</li> <li>• Role playing</li> <li>• Peer teaching</li> <li>• Think-pair-share</li> <li>• Internship project</li> </ul>
5. Develop and employ educational materials using best practices and pedagogical principles to teach diverse audiences	<ul style="list-style-type: none"> <li>• Internship project</li> <li>• Online didactic asynchronous instruction</li> <li>• Presentations/lesson delivery</li> <li>• Facilitation of group discussions</li> <li>• Reflections</li> </ul>
6. Enhance and support leadership development in others	<ul style="list-style-type: none"> <li>• Facilitation of group discussions</li> <li>• Presentations/lesson delivery</li> <li>• Reflections</li> <li>• Peer teaching</li> <li>• Material development</li> </ul>

### *2.3.1 Internship / Capstone Project*

As students enter the program, they will be paired with a Faculty Advisor and a Capstone Project Mentor who will assist the student in identifying and developing an area or topic of interest relevant to the profession for the focus of their capstone project. This project-based experiential component of the MPL involves in-depth independent scholarly study of an issue, opportunity, need, challenge, or problem that is then applied to and implemented within an authentic pharmacy setting. Although the curriculum does not include elective courses, students have the opportunity through their capstone project to dive deep into an area of particular interest.

The capstone project will culminate in implementation during a 4- or 8-week internship that will give the student the opportunity to put their project into action in a workplace environment. Working pharmacists will choose either the full-time 4-week internship or the part-time 8-week internship that suits the project, the student, their employer, and the internship site.

The internship is an immersive opportunity for students to implement and evaluate their Capstone Project in a setting consistent with the nature of the project, while also contributing to the goals and outcomes of the host organization. In addition to the organizations who have expressed interest in serving as Internship sites, we foresee our Faculty functioning in that role as well. Students would have a

## Master of Pharmacy Leadership New Program Proposal

range of opportunities arising from across the Faculty's Academic, Practice Innovation, and Research Portfolio.

### 2.4 Overview of support or recognition from other post-secondary institutions and/or relevant professional or regulatory bodies

In his letter of support for the MPL, Mr. Mitch Moneo, Assistant Deputy Minister, Pharmaceutical Services Division, BC Ministry of Health, applauds the MPL's proposed collaborations and partnerships with government ministries and organizations via its student internships. Specifically, he notes:

*"The learning outcomes of the new program will graduate students with skills to lead in advanced roles in a wide range of pharmacy settings across British Columbia. We are pleased that the curriculum will involve contributions from other healthcare professions to widen the students' perspectives on the challenges, opportunities, and directions of the healthcare system. The proposed interdisciplinary courses will give students the skills needed to meet the demands of an evolving healthcare system. The inclusion of creative teaching and learning methods, the emphasis on critical thinking skills and evidence-based decision-making, the use of technology as a vehicle for learning, and the immersive opportunities to implement and evaluate projects in authentic settings will bridge academic studies with professional practice."*

To read the full Letter of Support from the Pharmaceutical Services Division, BC Ministry of Health, please refer to Appendix 01. Additional letters of support from potential employers, professional and regulatory bodies are included in Appendices 02-09.

Further to this, the MPL is responsive to the BC Ministry of Advanced Education, Skills and Training's (AEST) Mandate Letter to UBC [February 2020]<sup>11</sup>. The Letter calls for **work-integrated learning opportunities**, which will be afforded to students through the program's capstone internship. Additionally, the Letter calls for **improved access to post-secondary education**, which the MPL will achieve through enhanced digital learning activities, and flexible learning pathways. The mostly online curriculum should better meet the needs of under-represented students, providing flexibility and online accessibility for students, whether from diverse geographic regions of the province or by accommodating professional and personal demands.

Also consistent with AEST's Mandate Letter to UBC, our innovative program design is the result of an extensive **local and provincial labour market consultation** process that involved a Task Force comprised of stakeholders from a cross-section of pharmacy domains and regions in BC.

### 2.5 List of new and/or existing courses that will constitute the new program

COURSES & CREDITS	COURSE TITLE	OFFERING FACULTY/UNIT	NEW/ EXISTING
PHRM 520 (1.5)	Leadership & Organizational Behaviour	Sauder School of Business, Pharmaceutical Sciences	New
PHRM 521 (3)	Leadership in Pharmacy Education	Pharmaceutical Sciences	New

<sup>11</sup> <https://bog3.sites.olt.ubc.ca/files/2019/03/2019-2020-Mandate-Letter.pdf>

## Master of Pharmacy Leadership New Program Proposal

<b>COURSES &amp; CREDITS</b>	<b>COURSE TITLE</b>	<b>OFFERING FACULTY/UNIT</b>	<b>NEW/ EXISTING</b>
PHRM 522 (1.5)	Pharmacy Leadership Seminar	Pharmaceutical Sciences	New
PHRM 523 (3)	Contemporary Leadership Issues in Pharmacy	Pharmaceutical Sciences	New
PHRM 524 (2)	Interprofessional Perspectives on Healthcare	Pharmaceutical Sciences, School of Nursing	New
PHRM 525 (3)	Evidence Appraisal in Healthcare	Pharmaceutical Sciences	New
PHRM 526 (3)	Economic Evaluation in Healthcare	Pharmaceutical Sciences	New
NURS 560 (3)	The Politics of Health Policy	School of Nursing	Existing
PHRM 549 (12)	Capstone Leadership Project	Pharmaceutical Sciences	New

### 2.6 Anticipated student demand and enrolments

The expanding scope of pharmacy practice calls for pharmacists who are progressive, visionary, and equipped with a skill set that allows them to confidently lead within an evolving healthcare system. The dynamic and demanding labour market, the need to continue to enhance and evolve the healthcare system, and the need to further the profession, all require market-ready leaders who cannot wait years to gain experience to be effective in leadership roles. The MPL will provide graduates with the skills to meet this ever-present need for professional leaders.

The MPL will be highly competitive, attracting practicing pharmacists who are keen to propel the profession and their careers forward in leadership roles. The program will admit 10 to 15 students in each admission cycle.

The MPL is the result of a two-year, robust market research and stakeholder engagement process exploring interest in and demand for the program by both prospective student, and stakeholders representing the wide range of domains in the profession. Many of the organizations consulted have extensive experience collaborating with our Faculty in training students and in offering advanced-level programs for pharmacists.

The design and development of the MPL program involved a four-stage consultation process with stakeholders and prospective students by the program Development Task Force. Details of the Task Force, the consultation process, and outcomes are included in Appendices 10 & 11.

Findings from these extensive consultations compelled the Task Force to recommend a radically re-thought program structure, with changes to its design and delivery, as follows:

- Shorter in duration, more accessible, with flexible options for working professionals.
- Predominantly online delivery.
- Enhanced original curriculum with additional content in the areas of healthcare policy, economics, and negotiation skills.
- Addition of a Capstone Project Internship.



## **Master of Pharmacy Leadership New Program Proposal**

- Inclusion of additional interdisciplinary curricular components to create opportunities for students to learn alongside healthcare professionals from non-Pharmacy disciplines.

A robust evaluation plan has been developed to evaluate the MPL. This evaluation plan will capture the following data: student impressions of the curriculum and the learning journey; metrics pertaining to their learning; the impact of the learning on their knowledge, skills and attitudes; and impact of their learning on their applied professional activities. Details of this plan are available in Appendix 12.

### **2.7 Similar programs at UBC or other institutions**

Within UBC and across Canada, the entry-level credential for the profession of pharmacy has shifted from a Bachelor of Science in Pharmacy (B.Sc. Pharm) to a new Doctor of Pharmacy (PharmD) degree. The first UBC PharmD graduates in 2019 were equipped with enhanced clinical skills to meet patients' health-related needs. This change coincided with the closure of the UBC Graduate PharmD program in 2018, a clinically focused program that provided some aspects of leadership training to pharmacists.

In the past, pharmacists in leadership roles who sought additional credentials beyond their entry-to-practice degree have chosen to pursue non-pharmacy-specific Master of Business Administration (MBA) or Master of Health Administration (MHA) degrees. There is no pharmacy-specific educational path in Canada for pharmacists to become professional leaders. Respondents to our market survey identified a demand for pharmacy leaders with a clear understanding of how pharmacy connects with the rest of the healthcare system. Stakeholders preferred the focus of the proposed MPL curriculum over that of MBA or MHA curricula, particularly with the MPL's focus on leadership, healthcare policy decision-making, and the interprofessional nature of the delivery of several courses.

The MPL is a flexible pharmacy leadership program with a curriculum that emphasizes competencies necessary for decision-making roles in the healthcare sector, including curriculum content on economics, equity, and political considerations in policymaking. It is designed to be completed in 16 months, although durations greater than this are permitted to meet the needs of working professionals. The majority of coursework will be completed online, and only a brief in-person component at the outset of the program. Three of the online courses will be delivered in collaboration with other UBC programs to support authentic interprofessional learning. Students will complete a three- to six-month internship in collaboration with health authorities, retail pharmacies, the College of Pharmacists of BC, the Ministry of Health-Pharmaceutical Services Division, or other partner organizations.

Through our early phases of research, we identified two Master-level programs in Canada that are similar in nature but quite distinct from the MPL, with differences in purpose, content, structure, and flexibility. The two programs are:

1. The University of Toronto's Master of Science in Pharmacy (MScPhm). This two-year, full-time, in-person program is aimed at pharmacists with high potential for becoming clinical pharmacy academics and leaders. Its curriculum is built around coursework, research, and eight-month clinical practicum. It has only one Advanced Pharmacy Practice Leadership course.
2. The Master of Pharmacy (MPharm) in Advanced Pharmacy Practice offered by the University of Waterloo's School of Pharmacy. This program aims to develop advanced practitioners to serve as medication experts in the provision of healthcare, as educators in the classroom and clinical setting, and researchers. It is offered as a full- or part-time curriculum comprised of eight courses delivered in-person.

## **Master of Pharmacy Leadership New Program Proposal**

Internationally, programs that are most similar to the MPL differ in their target audience, mode of delivery, and/or curriculum, and are clinically focused. We found no other program that offers the leadership component that the MPL is designed to provide.

### **2.8 The governance structure of programs spanning faculties or units, including roles and responsibilities relating to future curriculum changes**

The School of Nursing will contribute their Politics of Health Policy course to the MPL (NURS 560), and the Sauder School of Business will collaborate with the Faculty of Pharmaceutical Sciences to deliver the Leadership & Organizational Behaviour course (PHRM 520). Additionally, the Interprofessional Perspectives on Healthcare course (PHRM 524) will be collaboratively delivered by the Faculty of Pharmaceutical Sciences and the School of Nursing, with contributions from other health disciplines. Each of these schools have an exemplary track record of collaboration on projects, courses, grants, and other cross-faculty initiatives. Future curriculum changes will occur with the same principles of collaboration that were used in the program design stage. For the purposes of curriculum approval, the offering unit will take primary responsibility for the curriculum approval process and include the other stakeholder units in the curriculum consultation process.

### **2.9 Resources required by the new program**

#### **2.9.1 Budget (including proposed tuition fee)**

Program tuition is proposed at \$30,500 for domestic students, and \$53,000 for international students. Tuition will be paid in four equal installments over the first four terms (16 months) of enrollment, with UBC's standard graduate continuing fee being applied for any terms after the first four. Tuition is comparable to other UBC professional master's programs that do not receive government funding, including the Master of Health Administration, the Master of Health Leadership and Policy, the Master of Engineering Leadership, and the Master of Management.

The program will not require any incremental faculty or staff hires to support the program, making use of strong existing faculty and staff resources (further highlighted below). Costs of existing faculty and staff resources allocated to the program have been included in the budget model using anticipated workload estimates. Revenue-sharing agreements with collaborating faculties and schools are in place to support their contributions. Budget allocations have been made to support program marketing, minor supplies, guest lecturers, and teaching assistants. The Faculty is committed to allocating 5% of total program tuition towards student financial support.

Based on a ten-year planning budget, the program is financially sustainable on an ongoing basis, breaking even by year 4 of delivery, and recovering initial startup costs by year 7.

#### **2.9.2 Space resources and online learning environment**

The MPL program will be predominantly online. For the limited in-person components, the Pharmaceutical Sciences Building on UBC's Point Grey Campus has appropriate classroom space and resources to support delivery.

The Faculty's Office of Educational Technology and Learning Designs (OETLD) is staffed with experts in the design of online learning experiences, and will support specific learning activities associated with the MPL program. The Office of Educational Assessments (OEA) has expertise developing and implementing

## **Master of Pharmacy Leadership New Program Proposal**

comprehensive assessment programs for the Faculty's programs and will contribute their skills and experience to the MPL professional degree.

The Pharmaceutical Sciences Faculty has a robust administrative structure in the Office of Student Services (OSS), which supports students from admission to graduation, and the Office of Experiential Education (OEE) to support the experiential component existing degree programs. As such, these Offices will provide support to the MPL students, and the OEE will oversee the placement of students in the Internship component of the MPL.

The Pharmacists Clinic is a licensed, pharmacist-led patient care clinic located within our Faculty. This Clinic may serve as a setting for Capstone Projects where the project impact patients, clinicians and healthcare administrators with a focus on outcomes, education, technology and communication.

The Faculty of Pharmaceutical Sciences employs many advanced-trained pharmacists and researchers who will act as key resources for the MPL and its students in roles such as Course Coordinator, Project Advisor, Capstone Project Mentors, and Program Director. In addition, the expansion in administrative resources that our Faculty experienced as a result of the launch of three new academic programs since 2015 (Entry-to-Practice Doctor of Pharmacy, Flexible Doctor of Pharmacy, and Bachelor of Pharmaceutical Sciences programs) provides potential for economies of scale and existing infrastructure to help support the MPL. Several faculty members involved in research in patient outcomes, healthcare policy, infectious and cardiovascular diseases, healthcare delivery, and pharmacy practice, have expressed interest in offering internship opportunities to MPL students. Capstone Project work under the supervision of these researchers may directly or indirectly impact patient care, the healthcare system and/or the profession. Opportunities may also exist to define Capstone Projects as aspects of these faculty members' ongoing research projects.

### *2.9.3 Library resources*

The UBC Library was consulted on the courses and the overall program, and has confirmed that although the proposal has an impact on the Library, it can be supported.

**Master of Pharmacy Leadership  
New Program Proposal**

[Appendices](#)

Appendix 01: Letter of support – BC Ministry of Health-Pharmaceutical Division

Appendix 02: Letter of support – Northern Health

Appendix 03: Letter of Support – Island Health

Appendix 04: Letter of Support – Interior Health

Appendix 05: Letter of Support – College of Pharmacists of BC

Appendix 06: Letter of Support – BC Centre for Substance Use

Appendix 07: Letter of Support – Canadian Society of Hospital Pharmacists

Appendix 08: Letter of Support – Pure Pharmacy

Appendix 09: Letter of Support – Save-on-Foods

Appendix 10: Stakeholder Consultations and Support

Appendix 11: Final Market Survey Report

Appendix 12: Program Evaluation Resources



1161536

April 21, 2020

Dr. Michael Coughtrie  
Dean Faculty of Pharmaceutical Sciences  
The University of British Columbia  
2405 Wesbrook Mall  
Vancouver BC V6T 1Z3  
[michael.coughtrie@ubc.ca](mailto:michael.coughtrie@ubc.ca)

Dear Dr. Coughtrie:

Over the past two years, the Ministry of Health's Pharmaceutical Services Division has had numerous opportunities to contribute to the discussions that have given shape to the University of British Columbia's Faculty of Pharmaceutical Sciences' proposed new Master of Pharmacy Leadership program.

We appreciate the wide consultative and collaborative approach the Faculty has taken in developing the program. We feel that the interests of the profession are well aligned with the proposed plan and wish to express our full support for it.

The learning outcomes of the new program will graduate students with skills to lead in advanced roles in a wide range of pharmacy settings across British Columbia. We are pleased that the curriculum will involve contributions from other healthcare professions to widen the students' perspectives on the challenges, opportunities, and directions of the healthcare system. The proposed interdisciplinary courses will give students the skills needed to meet the demands of an evolving healthcare system. The inclusion of creative teaching and learning methods, the emphasis on critical thinking skills and evidence-based decision-making, the use of technology as a vehicle for learning, and the immersive opportunities to implement and evaluate projects in authentic settings will bridge academic studies with professional practice.

We acknowledge your efforts to give students flexibility to complete the program while remaining employed. In particular, we support the opportunity students will have to think beyond clinical practice and consider how pharmacy is integrated with the healthcare system.

...2

- 2 -

Thank you again for the opportunity to provide input throughout the development of this new program. We look forward to continuing to collaborate with you on the program's implementation and delivery.

Sincerely,

A handwritten signature in blue ink, appearing to read 'nm', followed by a horizontal line.

Mitch Moneo  
Assistant Deputy Minister  
Pharmaceutical Services Division

cc: Patricia Gerber





Pharmacy Administration  
#404-299 Victoria St  
Prince George, BC V2L 5B8  
Ph: 250.614.9530 Fax: 250.645.6336

July 24, 2020

Dr Michael Coughtrie  
Dean, UBC Faculty of Pharmaceutical Sciences

Dear Dr Coughtrie,

As the Regional Director of Pharmacy Services for Northern Health, I am happy to provide this letter of support for the Master of Pharmacy Leadership program.

My understanding is that the program will have a focus around the practice of pharmacy, with its key aspects the healthcare systems and providing leadership therein as well as health policy, organizational behavior and pharmacy education. I can attest to the importance of these merits, and the need for graduates who are strong in these skills in Northern Health. In particular, we need individuals who can:

- Lead by applying principles of change management to existing practice models, promoting effective team functioning, overcoming barriers to collaborative practice, and promoting evidence-based, ethical decision-making.
- Critically evaluate and contribute to resolving key issues within the healthcare system and the promotion of health.
- Communicate effectively in team environments, and in diverse and challenging circumstances.

I would also like to confirm our interest in participating as a potential internship site, with the prospect for potential Capstone Projects, as we see the need and value of having the leaders of tomorrow come to authentic practice settings and assist in moving key projects forward.

Sincerely,

Dana Cole, BSc. Pharm, ACPR, PharmD  
Regional Director, Pharmacy Services  
Northern Health Authority

Excellent health and care for everyone,  
everywhere, every time.



May 8, 2020

Dr. Michael Coughtrie  
Dean, Faculty of Pharmaceutical Sciences  
University of British Columbia

Dear Dean Coughtrie,

We are writing to communicate our strong support for the “Master of Pharmacy Leadership” program proposed by the UBC Faculty of Pharmaceutical Sciences. We have watched with keen interest as the advanced pharmacy education pathways have changed over the last few years, recognizing that many of our pharmacy leaders and clinicians have received training through advanced programs offered by UBC or affiliated institutions.

Like other health authorities in the province, succession planning is a priority as we anticipate a number of existing leadership positions will be available over the next few years. Further, as health care delivery becomes increasingly complex, we envision leadership roles changing and requiring new and/or more advanced skillsets. We are excited to see the proposed Master’s program curriculum focusing on *leadership in pharmacy practice*, as this is an area that pharmacists have historically developed skills in through experience alone or through programs unrelated to pharmacy practice. We believe that we and other health authorities will benefit by recruiting graduates who have received specific training in aspects of the healthcare system, health policy, organizational behavior, and pharmacy education.

Island Health Pharmacy has a longstanding history of providing experiential education and project-oriented summer employment to UBC Pharmacy Students. We believe that learners benefit tremendously through real-world experience and are happy to see a Capstone Project included in the proposed curriculum. We look forward to collaborating with the Faculty to offer suitable Capstone Projects as we know first-hand the mutual benefits of having students participating in our project work. The Capstone Project promises to provide an excellent opportunity for leadership development in an authentic setting and to introduce the “leaders of tomorrow” to organizations outside the lower mainland.

Thank you for considering our message of support. We look forward to hearing more about the next stages of development of the program and offer any further assistance you require.

Sincerely,

Richard Jones, Director of Pharmacy  
On Behalf of the Island Health Pharmacy Management Team





June 1, 2020

Dr. Michael Coughtrie, Professor and Dean  
Dr. Patricia Gerber, Director, Degree Programs for Pharmacists  
UBC Faculty of Pharmaceutical Sciences

Dear Dr. Coughtrie and Dr. Gerber,

I am writing to express my support for the UBC Faculty of Pharmaceutical Sciences Masters in Pharmacy Leadership as outlined in the documents and presentations to our representative on the Master in Pharmacy Leadership Task Force. This program has merit given the program goal to provide pharmacists with the knowledge and skills to lead pharmacy practice in health care systems including additional focus on management, health policy, organizational behaviour, and pharmacy education.

The learning outcomes proposed for graduates of this program would be of benefit in Interior Health:

- Leading by applying principles of change management to existing practice models, promoting effective team functioning, overcoming barriers to collaborative practice, and promoting evidence-based ethical decision-making;
- Critically evaluating and contributing to resolving key issues within the healthcare system and the promotion of health;
- Communicating effectively in team environments and in diverse and challenging circumstances;
- Educating using best practices and pedagogical principles.

IH Pharmacy Services has a strong, collaborative relationship with the UBC Faculty of Pharmaceutical Sciences in providing didactic and experiential learning activities, and is interested in supporting the program as a potential internship site with prospects for potential Capstone Projects. We see the need to have pharmacy leaders of tomorrow come to authentic practice settings and assist in moving key and mutually beneficial projects forward to be implemented within IH internships.

We value our mutually beneficial partnership with the Faculty of Pharmaceutical Sciences and its UBC partners on this proposal, and look forward to ongoing dialogue, collaboration, and progress of this proposed program.

Sincerely,

A handwritten signature in black ink, appearing to read "Dawn Robb", is positioned above the printed name.

**Dawn Robb, BSc (Pharm), ACPR, MALH, RPh**  
Program Director, Pharmacy Services  
Clinical Support Services  
3<sup>rd</sup> Floor, 505 Doyle Avenue, Kelowna, BC V1Y 0C5  
Office (250) 469-7070 ext. 12255 Cell: 778-214-0624



College of Pharmacists  
of British Columbia

Dean Michael Coughtrie  
Faculty of Pharmaceutical Sciences  
University of British Columbia

April 28, 2020

Dear Dean Michael Coughtrie,

I'm writing in support of the Master of Pharmacy Leadership program that is being proposed by Dr Patricia Gerber.

I have been involved in various pharmacy leadership roles over the last 40 years, and strongly believe that the time has come for a formal program to be developed that would provide the foundation for pharmacy leadership in the future.

Pharmacy practice has become more complex than ever; a program that focuses on the evolving practice and governance of Pharmacy and how it fits in the healthcare system in British Columbia is essential. A specific focus on leadership in government, regulatory and advocacy environments, as well as private and public settings would prepare pharmacy leaders to meet the challenges of today and the future. This program would be built on collaboration across the health disciplines at UBC, as well as the Sauder School of Business and perhaps the Faculty of Law. The establishment of this program would position British Columbia well to continue to lead the country in innovative and progressive pharmaceutical policy. The program would ensure that pharmacy leaders understand how to work as part of a collaborative health sector leadership team to improve and advance the health of British Columbians. Program graduates would have a view to systems improvement, problem solving, critical thinking and collaborative partnerships across the health sector.

The College of Pharmacists of BC is interested and supportive of contributing to this program through mentorship and group learning opportunities. There are many opportunities at the College for projects to be undertaken by students that would provide important unique learnings and experiences. There may be interest from some of our staff pharmacists to enroll in this program to assist in their professional development on a full or part time basis. We would encourage and support them to pursue this opportunity.

I strongly and without reservation, support and endorse the proposal to develop a Master of Pharmacy Leadership in the Faculty of Pharmaceutical Sciences at UBC.

Best regards,

A handwritten signature in black ink, which appears to read 'Bob Nakagawa'.

Bob Nakagawa, B.Sc.(Pharm.), ACPR, FCSHP, R.Ph.  
Registrar and CEO, College of Pharmacists of BC





Faculty of Pharmaceutical Sciences  
University of British Columbia  
2405 Wesbrook Mall  
Vancouver, BC, V6T 1Z3  
michael.coughtrie@ubc.ca

May 2020

Dear Dean Coughtrie:

**RE: Letter of Support for the New Degree Program: Master of Pharmacy Leadership**

I am extremely excited to learn about this new degree program and happy to write a letter of support for it.

This is a timely degree program as our pharmacy profession is rejuvenating with expanded roles and responsibilities, an increased acknowledgment of our medication clinical and scientific knowledge, increased engagement as members of the healthcare team whether within academia, governmental agencies, insurance agencies, primary care hubs, as extenders of these hubs within community practice, in hospitals, in specialists' clinics, in regulatory colleges, or in policy related organizations.

The BC Centre on Substance Use (BCCSU) is a provincially networked organization with a mandate to develop, help implement, and evaluate evidence-based approaches to substance use and addiction. The BCCSU's mission is to provide provincial leadership in substance use and addiction research, education and clinical care guidance and to seamlessly integrate these pillars to help shape a comprehensive, connected system of treatment and care that reaches all British Columbians.

BCCSU seeks to improve the integration of best practices and care across the continuum of substance use through the collaborative development of evidence-based policies, guidelines, and standards. This new leadership program builds naturally into the educational continuum and pathways for those interested in substance use, whether through potential partnership rotations or research within our organization or even interest in our Interdisciplinary Addictions Fellowship Program for which the Pharmacy Stream is currently in development.



This is indeed the right time for your program. We are in rejuvenation mode as a pharmacy profession and we do need to have colleagues who will have a broader perspective, willing to lead in advanced roles and can connect clinical and scientific knowledge to current healthcare structures and systems to build a better future system for patients. In our case, we are looking to build more collaborations to support substance use care for public health.

Happy to continue the conversations on your exciting new development,

Sincerely,

A handwritten signature in black ink that reads "Mona Kwong".

Mona Kwong, BSc(Pharm), PharmD, MSc  
Pharmacy Advisor and Director Addictions Pharmacy Fellowship Program  
BC Centre on Substance Use  
[mona.kwong@bccsu.ubc.ca](mailto:mona.kwong@bccsu.ubc.ca)

cc:

P. Gerber, BSc(Pharm), ACPR, PharmD, FCSHP, Senior Instructor and Director, Degree Programs for Pharmacists, Faculty of Pharmaceutical Sciences, UBC  
S. Robinson, MPH, RN, Interim Clinical Director, BCCSU  
C. Johnson, MPH, RN, CCRP, Co-Interim Executive Director, BCCSU

BC Centre on Substance Use  
400-1045 Howe St  
Vancouver BC V6Z 2A9  
[www.bccsu.ca](http://www.bccsu.ca)



Canadian Society of  
Hospital Pharmacists



Société canadienne des  
pharmaciens d'hôpitaux

November 24, 2020

Dean Michael Coughtrie  
Faculty of Pharmaceutical Sciences  
University of British Columbia  
2405 Wesbrook Mall  
Vancouver, BC Canada V6T 1Z3

Dear Dean Coughtrie,

I'm writing to you in my role as the Chief Executive Officer of the Canadian Society of Hospital Pharmacists (CSHP). As you may know, CSHP represents pharmacy professionals working in hospitals and other collaborative health care settings who seek excellence in patient care through the advancement of safe and effective medication use. We offer our 3,000+ members education, information sharing, promotion of best practices, conferences, national advocacy, facilitation of research, and recognition of excellence. We also publish the Canadian Journal of Hospital Pharmacy, conduct the Hospital Pharmacy in Canada Survey and accredit pharmacy residency programs across Canada.

I am writing to express CSHP's support for the new Master of Pharmacy Leadership program being developed by Dr. Patricia Gerber and her team at the University of British Columbia. The members of her Program Development Task Force are recognized across the country as exemplary pharmacy leaders. They have developed a leadership program that does not currently exist in Canada and that will certainly meet the future needs of the profession. The coursework component of this program covers important topics like leadership in pharmacy education, and equity in healthcare policy decisions. We are particularly impressed with the internship portion of the program and appreciate the opportunity to participate as a Partner Organization.

This program will certainly benefit our members and I expect it will be warmly welcomed. CSHP's Foundation currently offers an annual scholarship for a member to attend the Pharmacy Leadership Academy offered by the American Society of Health-System Pharmacists Foundation. We look forward to seeing Canadian expertise developed and your Master of Pharmacy Leadership program receiving its official approvals would be an important first step. We are fully supportive of the development of your program and are happy to explore ways we can help make this happen.

Yours sincerely,

Jody Ciufo, MBA  
Chief Executive Officer

cc: Dr. Patricia Gerber, UBC



30 impasse Concourse Gate, Unit/unité #3, Ottawa, ON, K2E 7V7  
Tel./Tél.: 613.736.9733 Fax/Télec.: 613.736.5660

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June 13, 2020

Dear Dr. Coughtrie,

I write on behalf of Pure Integrative Pharmacies in support of the Master of Pharmacy Leadership program at the faculty of Pharmaceutical Sciences in UBC. I would like to attest to the following important points:

- The merits of the Master of Pharmacy Leadership; its focus being the practice of Pharmacy is the key aspects of our healthcare systems and it provides leadership therein and in the area of health policy, organizational behaviour, and pharmacy education
- There is a need for graduates *across all regions of BC* with the skills that this program can provide to them. Some of these skills are:
  - Lead by applying principles of change management to existing practice models, promoting effective team functioning, overcoming barriers to collaborative practice, and promoting evidence-based, ethical decision-making.
  - Critically evaluate and contribute to resolving key issues within the healthcare system and the promotion of health.
  - Communicate effectively in team environments, diverse and challenging circumstances.
  - Educate using best practices and pedagogical principles.

Pure Integrative Pharmacy is interested in coming on board as a potential Internship site with potential Capstone Projects of interest to Pure, (i.e., for a Master's student to collaborate with us at Pure to design, develop, implement and evaluate over a 3- 6 month internship). Pure sees a need to have these leaders of tomorrow come to authentic practice settings and assist in moving key projects forward.

In summary, Pure is fully supportive, in principle, of pharmacists who may express interest in taking the online Master of Pharmacy Leadership program full- or part-time. I strongly believe that this program can improve the health of our patients by focusing on reducing health disparities among our

370-2184 West Broadway Vancouver, BC V6K 2E1  
[www.purepharmacy.com](http://www.purepharmacy.com)

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communities by increasing delivery of evidence-based interventions. As an organization we are committed to forming a genuine partnership to reduce health disparities in our community. One of our representatives would be designated to work on this effort. We look forward to working with you in promoting this program. Please do not hesitate to reach out to me if I can be of any help.

Sincerely,

**Bob Mehr, B.Sc.(Pharm)**

President, CEO



April 2020

Dr. Michael Coughtrie  
Dean, Faculty of Pharmaceutical Sciences  
The University of British Columbia  
2405 Wesbrook Mall  
Vancouver, BC

Dear Dean Coughtrie:

Thank you for including us in the development process for the proposed new Master of Pharmacy Leadership program. It has been great to see the Faculty taking such a collaborative approach to the design of this new program.

We are pleased to see that resulting from that process is a curriculum aimed at addressing current gaps and opportunities for pharmacists across British Columbia. In particular, we applaud the wide perspectives you will be including in the coursework with the involvement of other health professions. We wish to express our full support for the skills that graduates of this program will have, as we feel these will meet the current and future demands of the profession and the healthcare system as a whole.

The proposed program is an excellent example of contemporary best-practices curriculum design that will give students an outstanding learning experience. Pharmacists as potential applicants of this program will appreciate the flexibility you have built into the program design. We would support any pharmacist employed with Save-On-Foods who wished to enrol in this program, and we would be open to partnering with the program to provide internships that will benefit the students while helping us advance a range of projects of interest to us.

Thank you again for the opportunity to collaborate in the design and development of this important new program.

A handwritten signature in black ink, appearing to read 'Gary Jung'.

Gary Jung, BSc.(Pharm), RPh, MBA  
Manager, Professional Services/Managed Care



19855-92A Avenue  
Langley, BC, V1M 3B6  
E. gary\_jung@saveonfoods.com  
P. 604-881-3848 | F. 604-882-7896



## Appendix 10. Stakeholder Consultation and Support for the Master of Pharmacy Leadership Program

The MPL is the result of a two-year, robust market engagement and research process. Prospective student were engaged to explore interest in and demand for the program, while stakeholders representing the wide range of domains in the profession shared their perspectives on gaps in the industry and the need for the program. Many of the organizations consulted have extensive experience collaborating with our Faculty in training students and in offering advanced-level programs for pharmacists.

The design and development of the MPL Program involved the following four stages of consultations:

### Stage 1 (March – June 2018)

The first stage of stakeholder engagement involved a series of Town Hall and in-person meetings with several groups representing pharmacy's diverse domains and interests, as listed below:

- Community/ambulatory care/primary care pharmacist
- Pharmacy Directors of Health Authorities and hospital pharmacists
- UBC Faculty of Pharmaceutical Sciences pharmacists
- BC Pharmacy Association
- College of Pharmacist of BC
- BC Ministry of Health Pharmaceutical Services Division pharmacists

### Stage 2 (June 2018 – May 2020)

The MPL Development Task Force, struck in 2018 and comprised of faculty leaders, students, and representatives from every sector of pharmacy practice, met regularly between 2018 and 2020 to define program goals, learning objectives, and curricular structure. The Task Force included the following members:

- Dr. Dana Cole - Regional Director, Pharmacy Services, Northern Health
- Dorothy Cram - Pharmacist, Pure Integrative Pharmacy
- Dr. Curtis Harder - Clinical Coordinator, VGH, VIHA
- Gary Jung - Manager, Professional Services/Managed Care, Save on Foods
- Dr. Mike Legal - Clinical Manager, Tertiary Care Sites, Providence Health, Vancouver Acute, RCH, LMPS
- Walton Pang - Director, Therapeutic Review & Optimal Use, Drug Intelligence & Optimization Branch, BC Ministry of Health
- Dr. Richard Slavik - Manager, Professional Practice - Pharmacy Services, Clinical Support Services, IH
- Greg Wheeler – Pharmacist, Oliver Pharmacy, Westbank Pharmacy

### Stage 3 (May 2019 – February 2020)

Upon capturing initial impressions of market needs and gaps, we embarked on a series of further consultations with pharmacy managers, practicing pharmacists, senior pharmacy students, and a sampling of local and national potential future employers of graduates of this program.

We initially proposed a full-time, 2-year Master's program with the following content areas:

- People skills (e.g., people/conflict management, negotiating skills)
- Communication & Teaching skills (e.g., teaching and assessment strategies, design and delivery of curriculum)

- Workplace, Context, Culture skills (e.g., leadership, project management)
- Practice skills (e.g., chronic disease management, shared-decision making)
- Research skills (e.g., statistics, study design, ethics)

With assistance from the BC College of Pharmacists and the BC Pharmacy Association, a survey soliciting feedback on the Program was deployed to BC pharmacists in August 2018.

- This initial survey asked for input into:
  - Importance of proposed content areas
  - Motivation for enrolling in the Program
  - Impressions of interest in enrolling in the Program
  - Barriers that may discourage them from enrolling in the Program
- 154 pharmacists completed this initial survey
  - 61% had been in practice for 13 or fewer years
  - At the time of the survey:
    - 34% were completing a Pharmacy Residency Program
    - 55% were employed in management/supervisory/teaching/consulting capacities
    - 42% in patient care roles (note: there was crossover between these categories)
      - 73% in urban regions
      - 15% in rural regions
      - 12% in both
      - 39% worked in regions outside Greater Vancouver
- 17% would “definitely/probably” consider enrolling sometime in the future
- All proposed content areas were recognized as important, although research was less favoured
- Key factors deterring from enrolling:
  - Having to take time away from work (37%)
  - Financial implications (34%)
    - 8% shared that their current employer had a tuition reimbursement plan/policy that could help offset program tuition
    - 64% stated they had no such access
    - 29% were unsure of opportunities to offset tuition
- Marketability and/or opportunities the program could bring to respondents:
  - Professional growth (28%)
  - Career advancement (23%)
  - Personal fulfillment (22%)
  - Higher salary (14%)
  - Marketability (10%)
  - Other (2%)

A similar initial online survey was deployed to Year 4 students in the UBC entry-to-practice PharmD program. Refer to Appendix 11 for a full report of findings.

- This survey asked for input into:
  - Importance of proposed content areas
  - Motivation for enrolling in the program
  - Impressions of interest in enrolling in the program
  - Barriers that may discourage them from enrolling in the program

- 23 responses were received:
  - 91% were 20-30 years old
  - 26% planned to complete a Pharmacy Residency Program
  - 23% planned to complete a Master's degree program
  - 36% planned to work in regions of the province outside Greater Vancouver
- Salient findings included:
  - 26% would "definitely/probably" consider enrolling sometime in the future
  - Key factors deterring from enrolling:
    - Having to take time away from work (35%)
    - Financial implications (39%)
  - Marketability and/or opportunities the program could bring to respondents:
    - Professional growth (24%)
    - Career advancement (24%)
    - Personal fulfillment (23%)
    - Higher salary (14%)
    - Marketability (12%)
    - Other (3%)
      - Respondents' specific recommendations:  
Introduce a practical component  
Offer a more flexible/shorter program (part-time, predominately online)

The following groups were solicited to obtain their views on the marketability of graduates of the program:

- London Drugs, Shoppers Drug Mart, Pharmasave, Save on Foods, Pure Integrative Pharmacies
- Centric Health, Specialty Pharmacy Division (Long Term Care)
- McKesson Canada - Pharmacy Services, Retail Banner Group
- BC Health Authority pharmacy leadership positions
- College of Pharmacists of BC
- Canadian Agency for Drugs & Technologies in Health (CADTH)
- Ministry of Health – Pharmaceutical Services Division
- Novartis Canada, Merck Canada
- ICON
- Pacific Blue Cross

Representatives from the groups listed above were asked for input on:

- The potential need of their organization for graduates of the MPL and how their credentials, knowledge, and skills would compare to those who currently apply for positions in their organizations.
- Their degree of support they would offer an individual within the organization who wished to enroll in the MPL.
- This early phase of consultations revealed strong support for the development of the proposed program:
  - "There is a need to formalize the training of leaders within the profession."
  - "The proposed program would serve an unmet demand for advance management, governance and leadership in the profession."
  - "Delighted to see a program like this on the table. Serving an unmet need for advance management, governance, and leadership in the profession."
  - "Provides a clear path for advancement in the profession."
  - "Students (in this program) would be very excited to have the opportunity to

- advance their skills and use that to step into leadership positions.”
- “With complementary practice experience, these candidates would be superior in credentials compared to applicants who are currently successful for leadership positions.”
  - “This graduate is needed and would be of benefit to [organization]. We would definitely look at hiring someone like this.”
  - “I don’t see a problem with losing the employee for a year and then having them come to do the internship (with us).”
  - “Delighted to see a program like this on the table. Serving an unmet need for advance management, governance, and leadership in the profession.”
  - “Graduates with this degree would be highly valuable.”
  - “Your proposal is well aligned with the needs within healthcare and the profession.”
  - “It would be a definite asset to have graduates who have a Master’s like yours that’s relevant to pharmacy.”
  - “Applicants with a pharmacy-specific Master’s that targets the learning outcomes you propose would be favourable to our organization over an MBA/MHA. There is currently no program that offers this content and your Master’s would be unique in the marketplace.”
  - “This program is very fitting because people who are successful at the Ministry of Health Pharmaceutical Services Division are integrating their clinical background with these skills you are proposing.”

Most employers consulted were supportive of the prospective of their employees enrolling in the MPL, however, several commented on the need for enhanced flexibility or part-time options.

To enhance the original proposed curriculum, respondents further recommended:

- The addition of content pertaining to: the healthcare system, its legislation and governance; negotiation skills; health economics; and health technology assessments.
- A partnership with the Sauder School of Business to enhance name recognition and invite other health professions programs to contribute to the curriculum to broaden the scope and view of pharmacy and the healthcare system.

#### Stage 4 (February 2020 – June 2020)

Based on the breadth and depth of consultations, feedback, guidance, and input, the Task Force honed the program design to better meet the needs of employers and its potential students. In Stage 4, the focus shifted to applying recommendations received through stages 1-3 to the program framework.

In summary, key themes relating to program duration and delivery, as well as a desire for a practical component came through in both pharmacist and student surveys (Stage 1, 2) as well as in-person consultations (Stage 3). Feedback clearly highlighted drawbacks of the originally proposed in-person delivery, 2-year program duration. Multiple respondents remarked on the challenges imposed on students having to take time away work to complete the program. Survey respondents and industry stakeholders advocated for a more flexible program structure (e.g., part-time options, online delivery). The Task Force also reflected on the input received and subsequently undertook extensive consultations with health authorities and health care leaders to ensure the value and relevance of proposed content.

In light of these survey findings, the feedback from stakeholders, potential future employers, working pharmacists, and senior PharmD students, the Task Force radically re-thought the program structure and made notable changes to its design and delivery, as follows:

- Redesigned structure to increase accessibility for working professionals.
- Shorter in duration – designed to be completed in 16 months, although durations greater than this are permitted to meet the needs of working professionals.
- Predominantly online delivery to expand availability for students in diverse geographic regions.
- Enhanced curriculum including content in healthcare policy, economics, and negotiation skills.
- Enhanced interdisciplinary curricular components through partnerships and collaborations with the School of Nursing, and the Sauder School of Business, to allow for opportunity for students to learn alongside healthcare professionals from non-Pharmacy disciplines.
- Increased applied programming through the introduction of a Capstone Project Internship.

#### Support for the Proposed MPL

Through our robust, consultative process, a great degree of enthusiasm and buy-in has resulted from stakeholders representing all geographical regions of the province and the full range of domains in the profession. We have received **letters of support** for the launch of the MPL and **expression of interest to partner with the Faculty in offering internship sites** from the following organizations (Appendix 01-09):

- Save on Foods
- BC Centre for Substance Use
- Interior Health Authority
- College of Pharmacists of BC
- Northern Health Authority
- Ministry of Health – Pharmaceutical Services Division
- Island Health Authority
- Pure Pharmacy
- Canadian Society of Hospital Pharmacists

Based on layers of engagement, consultation, and input, we are confident that there is significant demand both from students looking to develop skills and capacity, and employers looking to engage people with specialized and enhanced skills. The MPL program will graduate professionals with aptitude in the following key competencies:

- Leadership skills and capacity to apply principles of organizational behaviour and change management, while overcoming barriers to collaborative practice.
- Critical appraisal and evaluative skills to apply to healthcare policy decisions.
- Effective verbal and written communication and negotiation skills.
- Resources and proficiency to mentor and educate others using best practices and pedagogical principles.

## Appendix 11. Master of Pharmacy Leadership Market Survey Results

To best understand the fit of the newly proposed Master of Pharmacy Leadership by future students and its need and relevance with the expanding role of practicing pharmacists, we engaged a range of stakeholders in an intensive consultation process.

At the time of deploying the market surveys, the program was described to participants as follows:

*UBC is developing a full-time, 20-24 month pharmacy professional Master's degree program focused on leadership, patient and professional education, practice in the primary care setting, and advanced topics in healthcare delivery and therapeutics. The program will likely be mostly in-person, with some online components. It will be comprised of foundational and longitudinal courses, a research project, and unique practicums in focused areas supported by stakeholder partnerships.*

Different surveys were developed to capture the unique perspectives of each group. With the assistance of the BC College of Pharmacists, Survey 1 was sent to practicing pharmacists; Survey 2 was sent to Year 4 students in the UBC entry-to-practice PharmD Program. The following section details the results of the two surveys, conducted in August/September 2018.

### SURVEY 1 RESULTS: BC PHARMACISTS

#### Demographic Overview

154 respondents completed the survey, either in full or part.

- 146 respondents shared the year they obtained their entry-to-practice degree:
  - 42% graduated between 2010 and 2018
  - 30% graduated between 2000 and 2009
  - 17% graduated between 1990 and 1999
  - 11% graduated prior to 1990
- At the time of the survey, 34% of respondents indicated that they were completing a Pharmacy Residency Program.
- Respondents were asked about their work responsibilities. They could select more than one answer, for a total of n=284 responses:
  - 120 worked in patient care roles
  - 60 worked in management/supervisory capacities
  - 47 held academic/teaching responsibilities
  - 26 had consulting responsibilities
  - 26 conducted research
- 144 respondents specified their practice region, with a minority (39%) working in regions outside Greater Vancouver:
  - 49% practiced in Metro Vancouver
  - 22% practiced in the Vancouver Island/Coastal region
  - 12% practiced in the Fraser Valley
  - 10.5% practiced in the Kootenay/Okanagan
  - 4% selected "other", including "Alberta", "Interior Health", "Toronto" and "Primary care telehealth covers all of BC & Yukon; Hospital telepharmacy for Ontario site."

- 2% practiced in Northern BC
- 134 of the 154 respondents indicated their area of specialization, with some selecting more than one speciality area:
  - Health Authority-Based Care (50 responses)
  - General In-Patient Care (31 responses)
  - Independent Pharmacy (30 responses)
  - Chain Pharmacy (22 responses)
  - Ambulatory Care/Clinic (14 responses)
  - Long Term Care (11 responses)
  - Banner Pharmacy (7 responses)
  - Primary Care (6 responses)
  - Consulting (5 responses)
  - Academia (5 responses)
  - Other: 5 responses, including “completing residency program”, “telehealth [primary care; hospital telepharmacy]”; “Home IV Program”, and “CPBC”
  - Residential Care (4 responses)
  - Home Care (3 responses)
  - Government (3 responses)
  - Research and Development (2 responses)
  - Retired (1 response)
  - Not currently practicing (1 response)

### Interest in Enrolling in the Proposed Master’s Program

Survey participants were asked the following question:

*“Knowing that UBC is developing this full-time, 2-year pharmacy Master’s degree program, would you consider enrolling sometime in the future?”*

One hundred and fifty-four respondents answered this question.

- 17.5% indicated that they would “definitely” or “probably” consider enrolling some time in the future, where 7 respondents (4.5%) selected “definitely yes”, and 20 respondents (13%) selected “probably yes.”
- 45 respondents (29%) were undecided, indicating that they “might or might not” enrol.
- 50 respondents (32.5%) selected “probably not.”
- 32 respondents (21%) selected “definitely not.”

Interest in enrolling in the Master based on speciality area breaks down as follows:

Consider Enrolling Profession	'Probably yes' & 'Definitely yes'	'Might or Might not'	'Probably not' & 'Definitely not'	Total
Chain Pharmacy	6	8	8	22
Consulting	0	0	5	5
General Inpatient Care	2	11	14	27
Government	1	0	2	3
Health Authority Based Care	6	14	24	44
Home Care	0	1	2	3
Independent Pharmacy	7	2	20	29
Long-Term Care	2	4	5	11

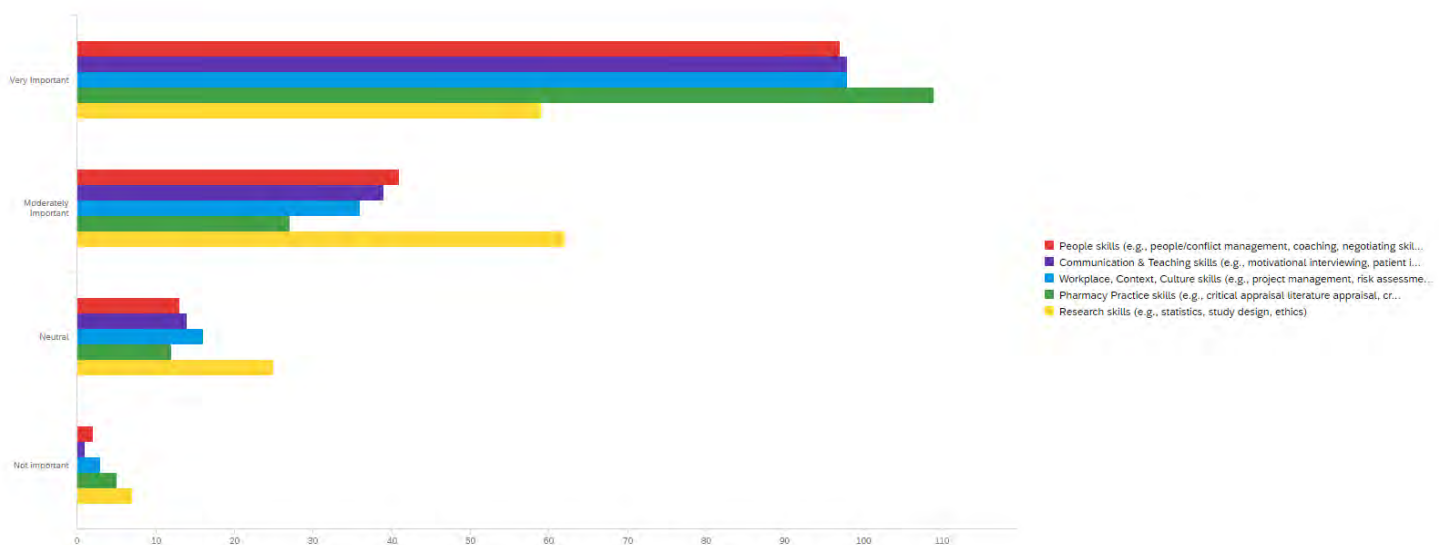
Not currently practicing	0	0	1	1
Other, please specify	1	1	3	5
Primary Care	2	3	1	6
Research and Development	0	0	1	1
Residential Care	1	1	2	4
Retired	0	0	1	1

### Feedback on Program Content

Participants were asked to select the content areas they felt should be included in the program. Most survey respondents recognized all listed content areas as “very important” important, placing particular emphasis on “People Skills (e.g., people/conflict management, coaching, negotiating skills, public relations)”.” Research Skills (e.g., statistics, study design, ethics)” were less favoured, which aligns with the skill areas expected within a professional, leadership-focused Master’s program, as opposed to an academic degree. See the chart below for specifics.

Q3 - Please indicate the importance of the following content areas for possible inclusion in this new pharmacy professional master's degree program.

Page Options



### Key Factors Discouraging Enrolment

When asked to consider factors that would discourage people from enrolling in the program, respondents noted “Time away from work” as the biggest barrier, followed by “Financial implications.” A significant number of respondents (n=59) selected “Other”, noting the following common responses:

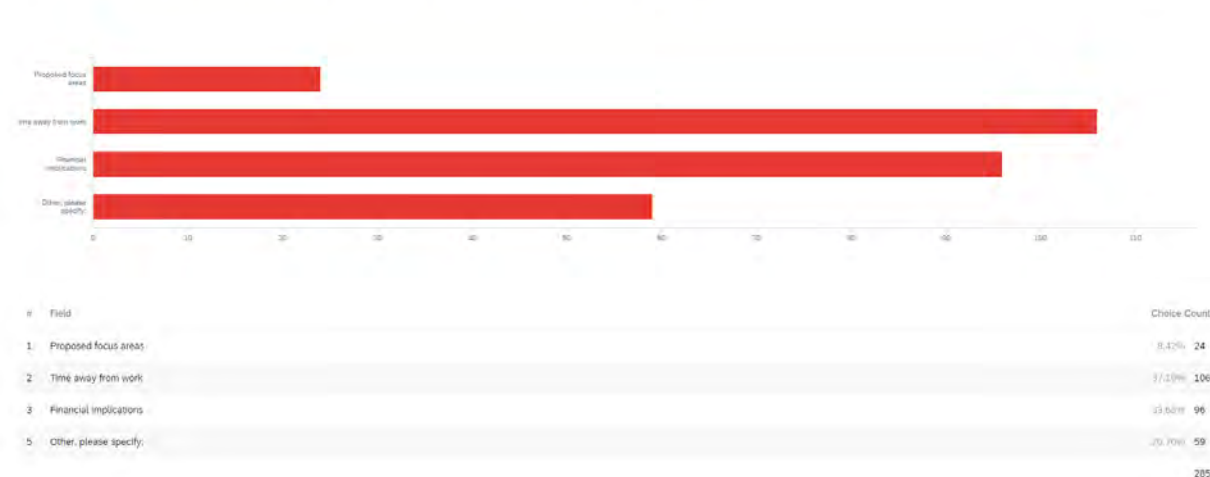
1. In the process of completing, or already have an advanced degree
2. Challenges with full-time, in-person delivery, especially for those who would need to relocate
3. Lack of clarity around the program’s value proposition/ how it will benefit learners’ careers (some respondents expressed concern that the program would be a “cash grab”).

Details of responses are outlined in the chart below.



Q6 - Which of the following barriers would discourage you from enrolling in this program? Select all that apply.

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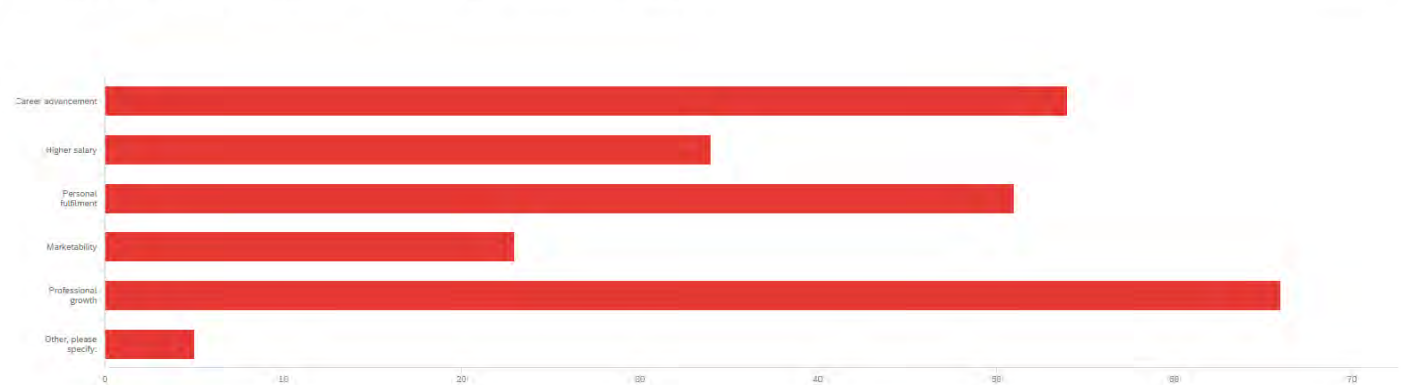


## Motivations for Enrolling in the Master's Program

For those respondents who indicated a potential interest in enrolling in the program, they selected "Professional growth" as a motivator for enrolment. Other highly ranked motivators included "Career advancement" and "Personal fulfilment."

Q5 - This program could present new opportunities for you with regard to...(select all that apply)

Page Options



## Employer Support

Respondents were asked whether they were aware if their employer "has a tuition reimbursement plan/policy that could help cover the cost of enrolling in an advanced degree." Of the 147 responses, they indicated the following:

- 7.5% indicated their employer did have tuition reimbursement
- 64% indicated their employer did not have tuition reimbursement
- 28.5% were unsure whether their employer has tuition reimbursement

Likewise, respondents were asked whether they agreed with the statement, "my employer would support changes in my work schedule for me to enroll in a full-time, 20-24 month pharmacy professional master's degree program." Of the 147 respondents:

- 6% agreed with the statement
- 54.5% disagreed
- 39.5% were unsure

## Themes from Qualitative Responses

Respondents were provided an opportunity to provide freeform, qualitative feedback about the program. The feedback provided falls into four major themes: 1) concerns about the proposed program; 2) the value of interdisciplinary content; 3) a lack of clarity around the program and how it differs from existing programs; and 4) general support for the program. A sample of responses, by theme, are listed below.

### Concerns about proposed in-person delivery/2-year duration

Multiple respondents remarked on the challenges imposed by having to take time off work to complete the program – many advocated for a **flexible/shorter program**, e.g. part-time, or predominately online.

*“Time away from family (distance ed options?)”*

*“Length of program. Is it possible to do one year?”*

*“That it's a two-yr in person full-time program. Can't this be combined with a residency as with other programs out east? Is there a fast-track for those holding a residency already? The two-year seems too long.”*

*“...should have the option to do it mostly online, but part-time, so that the person can still continue to work full-time while studying for this masters. It would be difficult for a working individual who already has other financial obligations (raising family and paying for mortgage) to quit the job and study full time for 2 years.”*

*“Please consider a flexible program where some portions could be completed elsewhere in the province using technology to support the learning.”*

*“Consider a model similar to Royal Roads MBA/MPA programs which allow you to work and study at the same time (i.e., apply learning in your work place where applicable).”*

*“What would be the real benefit of a MSc program when there is a part-time PharmD program available? I would personally think of giving the option to enroll the Flex PharmD as a full time 20-24 months program would be more beneficial. Right now, Univ of Alberta has a 12-14 months fulltime PharmD for practicing pharmacists that beautifully fills the educational gap for BSc pharmacists. If UBC is proposing a 2-year program full time, MSc is not a proper degree. Especially if it's going to be mish-mash of several subjects.”*

*“Would it be possible to create a part-time program. This would allow pharmacist who have full time employment to continue working and earning an income while completing this program.”*

*“Consider role of distance education/leveraging technology in course delivery as mature practitioners may be unable to move to Vancouver or commit to full-time coursework for 2 consecutive years. Could classes/credits be done on an incremental basis (i.e., 1-2 credits at a time) if a part-time model to be an option?”*

*“Most community pharmacies would be hard pressed to have weekends & Friday afternoons away from work for the duration of a 2-year program.”*

### The value of integrating interdisciplinary content/perspectives into the Masters program

Several respondents attested to the value of integrating other disciplinary perspectives, notably business/leadership, with some recommending partnering with other professional programs.

*“Have a good understanding of our health care system beyond the scope of just pharmacy. We are an integrated entity. If this program was to truly be geared towards cultivating operational leaders in the health care system there is merit in integrating and idea sharing with other disciplines as well as having business skills to make economically wise practice decisions. Critical appraisal and study design are tools that are useful that can be cultivated through PGY1/PGY2 residencies.”*

*“While the professional program may fulfill some of the gaps described, the advanced pharmacy practice training program (i.e., the post-grad PharmD) is still lacking in the current education system. Advanced pharmacy practitioners are still needed within the tertiary care centres, and likely complex primary care settings. In terms of leadership, marketability, project management, and negotiation skills etc., these skills can be learned and obtained through other professional programs (i.e., MBA, MHA). UBC Faculty of Pharmacy can consider partnership with other professional programs to develop a curriculum for combination degree. I strongly suggest that UBC Faculty of Pharmacy duly consider a master's degree that would focus on advanced pharmacy clinical practice and research skills.”*

*“It would be useful if the program incorporated a business component to it's curriculum.”*

*“Some of these skills may be better obtained from other Faculties that may not be just limited to pharmacy in scope and to healthcare in general. It may be better for the Pharmacy faculty to focus on skills/knowledge that are just unique to Pharmacy and then explore linkages with other Faculties to come up with combined degree options (e.g. MSc Clinical Pharmacy and MBA, MSc. Clinical Pharmacy Practice and Masters of Public Health, MSc Clinical Pharmacy and Master of Education).”*

#### **Lack of clarity around return on investment and career impact, and how it differs from existing Masters and residency programs**

Several respondents expressed concerns over whether the career outcomes would be worth the cost and time. There were also mixed views over whether there is a need for more leadership training for practicing pharmacists – some said there is a great need, whereas others said that these skills are learned on the job, or through other professional programs, e.g. a MBA, MHA, or MPH. Several recommended consulting with the Health Authorities to ensure the relevance of the proposed content/focus areas.

*“What kind of job will the program help me get? Will someone continue working in community with the same wage? Would they teach? If tangible opportunities that aren't in research are available post-grad, I would definitely be interested.”*

*“Career or professional gains provided by the program are not likely to match the commitment and cost.”*

*“It is not clear to me what specific benefit would be provided by the Pharmacy Masters' Degree--Let us suppose that I am willing to give up two years of income and go into debt to pay for tuition and living expenses for this degree. Upon graduating with the degree, how much of an increase in salary can I expect to see? How many years will I have to work to break even? Are there really commercial or governmental entities eager to have the skill set conferred by this degree? And if there are any, can you identify a number of full-scholarships for it? I suggest that, if you decide to offer this Master's Degree, you provide specific examples of work areas in which this degree is demanded.”*

*"As these sorts of degrees tend to be quite costly, it will be important to ensure that the programming aligns with the needs of higher-level positions, particularly within the health authorities. If they don't accept that this program is able to be used as a qualification for positions, then people will be putting out a fair bit of money for something that will not help them to advance their career."*

*"I am unclear as to what gap this program would fill versus doing a Masters in Leadership, or an MBA or various other programs already in existence at UBC and Royal Roads."*

*"I don't think this program would be beneficial to anyone who has completed a PharmD and a residency program. The educational, leadership, management and research components of this program are well-addressed in the BC Pharmacy Residency Programs and required for completion of pharmacy residency programs across the country. Some PharmD programs across the country also incorporate leadership and management rotations (e.g., University of Toronto) into their fourth-year placements. I strongly disagree with the implementation of this new program, as it would post challenges for PharmD students to advance in the hierarchy of their institutions."*

*"Is this a clinical degree or a leadership degree? There are already excellent MBA, MPH, and MEd courses with focus in healthcare leadership, research, and medical education available. What gap would this Master's degree fill, and how will it serve the public in a way that an established and recognized degree like an MPH does not. I was under the impression the PGY2 residency was intended to fill the clinical gap left following termination of post-graduate PharmD training."*

*"Please liaise with the health authorities. There is already a mix of advanced degree programs in existence and there is an immediate need to consolidate pharmacists training. The current landscape is already confusing with a variety of "PharmD" programs which should not be considered equivalent. There is already an established advanced training regime within ASHP... why is there a need to "recreate" the wheel here?"*

#### **General support for the program**

A number of respondents provided general support for the program, as they saw it filling a need not yet addressed through any other existing program.

*"This is long overdue. The previous paradigm that assumed post-bachelor PharmD education included adequate leadership and management training was not ideal. Pharmacists, especially in health-systems, should be presented with two paths for career advancement: clinical and leadership."*

*"I am excited to see where this goes as I would be interested in enrolling."*

*"There is a great need for this. We have many people in pharmacy leadership who have no leadership skills."*

*"I am excited to see this idea move forward! I am incorporating "lifestyle (diet, sleep, hydration, exercise, other self-care) as medicine" into my personal practice, and I would love to explore that thesis in a masters program if possible."*

*"This is a great idea! Can't wait to see what this new program looks like!"*

## SURVEY 2 RESULTS: YEAR 4 PHARMD STUDENTS

### Demographic Overview

Twenty-three respondents completed the survey (either in full or part). This is a small sample size, and conclusions cannot be confidently drawn from these results. However, we are able to glean some insight into the perspectives of current pharmacy students about their thoughts on their future educational and career paths from the results.

- 91% of respondents (n=22) were between 20 and 30 years' old when the survey was conducted:
  - 13 respondents were 20-25 years old
  - 7 respondents were 26-30 years old
  - 2 respondents were 31-39 years old
- 36% of respondents planned to work in regions of the province outside Greater Vancouver. Note that some respondents selected more than one region.
  - 52% planned to work in Metro Vancouver
  - 26% planned to work in Fraser Valley
  - 22% planned to work in Vancouver Island/Coastal
  - 9% planned to work in Kootenay/Okanagan
  - 9% planned to work in Northern BC
  - 4% planned to work in Other
  - 17% planned to work in Not sure yet

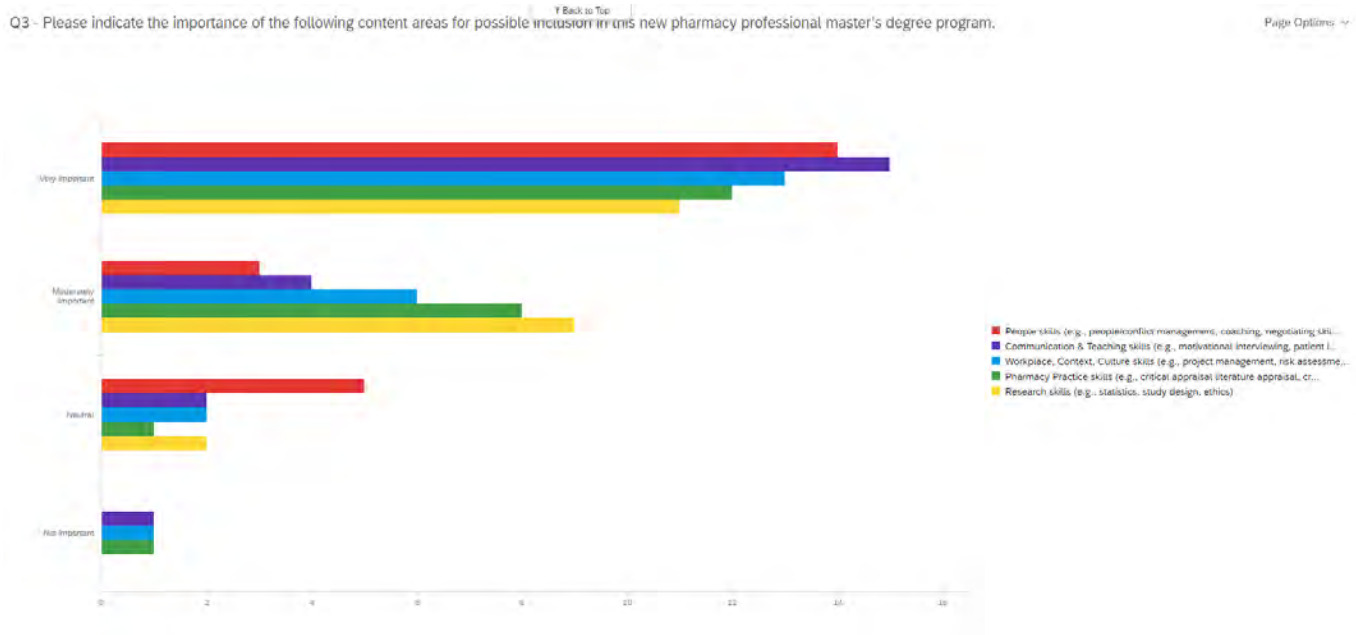
### Interest in Enrolling in the Proposed Masters Program

Bearing in mind the limitations of the small sample size, the student group generally seem more optimistic/interested by the proposed degree than the practicing pharmacy group. In answer to the question, "Knowing that the faculty is developing this full-time, 2-year pharmacy master's degree program, would you consider enrolling sometime in the future?", 26% indicated that they would "definitely" or "probably" consider enrolling in the program.

- 4 out of 23 respondents (17%) selected "definitely yes"
- 2 respondents (9%) selected "probably yes"
- 10 respondents (43.5%) were undecided, indicating that they "might or might not" consider enrolling
- 2 respondents (9%) selected "probably not"
- 5 respondents (22%) selected "definitely not"

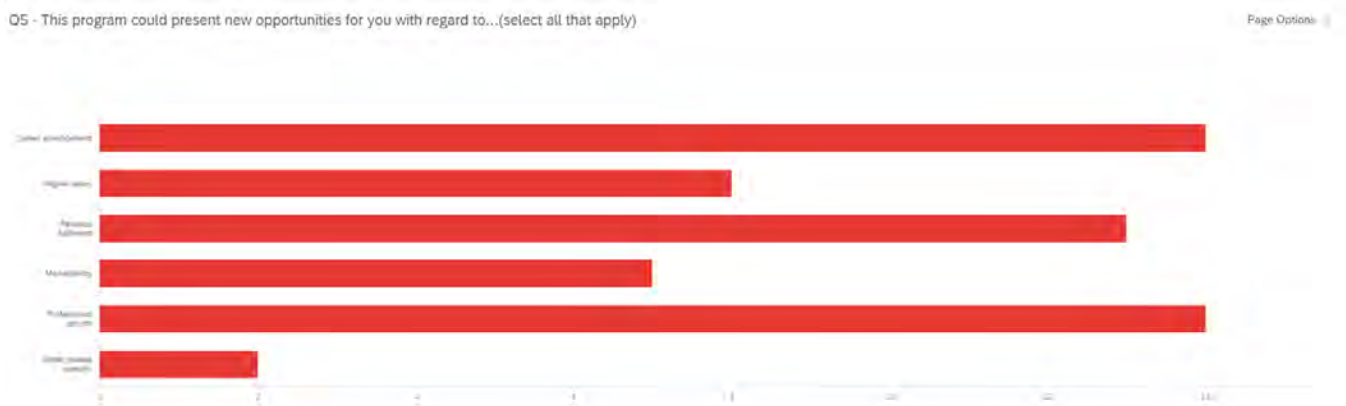
## Feedback on Content Areas

Most respondents recognized all the listed content areas as important. Notably, compared to the practicing BC pharmacists who responded, 4<sup>th</sup> year students placed more emphasis on “Research skills (e.g., statistics, study design, ethics).”



## Motivations for Enrolling in the Masters Program

Motivations for enrolling in the program were similar to answers provided by BC pharmacists. Of those respondents who selected they would consider enrolling, “professional growth” and “career advancement” were the top two motivators/areas of opportunity, closely followed by “personal fulfilment.”



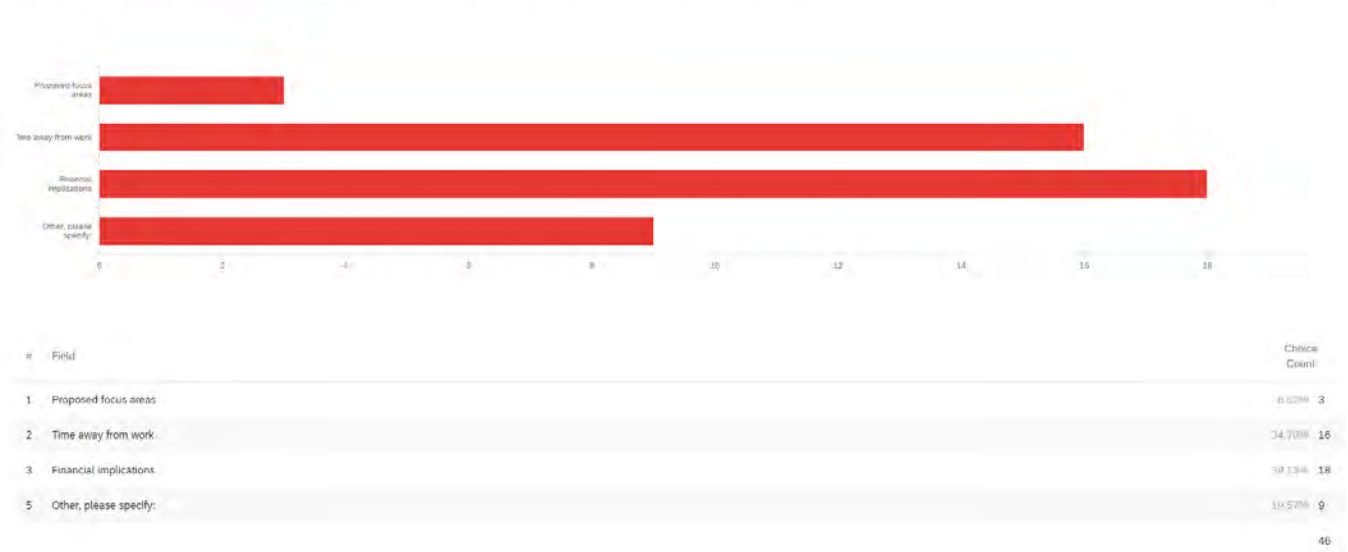
## Key Factors Deterring People from Enrolling in the Program

Financial implications were the biggest barrier discouraging people from enrolling in the program, followed by time away from work. Respondents were students who were nearly finished their PharmD degree and are anticipating entering the workforce. As such, the results are not surprising since they

have yet to have the opportunity to earn a salary as a practicing pharmacist. Respondents could select more than one option in their response.

Q5 - Which of the following barriers would discourage you from enrolling in this program in the future? Select all that apply.

Page Options



## Educational Aspirations

In addition to the PharmD, respondents indicated that they intend to complete the following additional training/credentials:

- Community Practice Residency: 5 respondents
- Pharmacy Practice (Hospital Pharmacy) Residency: 16 respondents
- Certified Diabetes Educator: 9 respondents
- Doctor of Pharmacy degree (Pharm.D.), non-traditional/flexible: 0 respondents
- Doctor of Pharmacy degree (Pharm.D.), post-graduate/post-baccalaureate: 0 respondent
- Executive Master of Business Administration in Healthcare Management: 1 respondent
- Master of Business Administration: 5 respondents
- Master of Health Administration: 4 respondents
- Master of Public Health: 4 respondents
- International Pharmacy graduate: 0 respondents
- Post-degree Diploma in Mental Health and Addictions: 5 respondents
- MSc in Benchtop Research or Clinical Pharmacy: 0 respondents
- Doctor of Philosophy (PhD): 0 respondents
- Royal Roads Health Systems Leadership Grad Certificate: 0 respondents
- Board Certified Pharmacotherapy Specialist: 6 respondents
- Other, please specify: 1 respondent

## Intended Practice Areas upon Graduation

Respondents were asked about their intended practice area upon graduation. They were allowed to select more than one response.

- Chain Pharmacy: 7 respondents
- Banner Pharmacy: 5 respondents
- Independent Pharmacy: 6 respondents
- Primary Care: 16 respondents
- Residential Care: 5 respondents

- Long-Term Care : 7 respondents
- Home Care: 0 respondents
- Ambulatory Care/Clinic: 9 respondents
- Health Authority-Based Care: 16 respondents
- General Inpatient Care: 11 respondents
- Government: 10 respondents
- Academia: 9 respondents
- Research and Development: 2 respondents
- Consulting: 3 respondents
- Other, please specify: 2 respondents
- Not sure yet: 6 respondents

### Themes from Qualitative Responses

Respondents were provided an opportunity to provide freeform, qualitative feedback about the program. The feedback falls into four major themes: 1) more accessible and flexibility in the program design; 2) lack of clarity about the relationship between the proposed program and residency training; 3) concerns around program costs; and 4) interdisciplinary study. A sample of responses by theme, are listed below.

#### Desire for More Accessible and Flexible

*"I would be more inclined to consider this program if it were shorter in duration."*

*"Possibility to make it a flexible program so that it can be pursued online by working pharmacists?"*

#### Program's Relationship to Residency Training

*"Thank you for creating something that we students can use to further our education (especially for those of us who don't think that hospital residency would be a right fit for us). What would the experiential requirements be for this program? Would students need to have hospital residency training? Would priority be given to those students?"*

*"Would you consider a residency + Master's track, similar to what they have in other institutions? The residency program seems to provide what the description details. Perhaps have different stream or Master's specialty: patient-focused, teaching focused, management focused, research-focused etc."*

#### Concerns around Program Cost

*"I believe I would speak for many of my peers in saying that finances and career prospects are of great concern. Although I love the idea of additional training, I would not pursue it unless I am reasonably sure of a payoff. I would not do this program just to say that I did; as this program cannot be an end in itself. Obviously, it has to be a means to an end. I have some concerns about being able to distinguish myself from others at this point in time. How much further ahead of my peers would I be if I were to invest my time and money in this training, and what relevance would such a program have in the face of our changing healthcare system? I would love to know more."*

*"The PharmD program already has me broke, and I don't see myself being able to afford being even more broke."*

#### Interest in Applied and Practical Learning Opportunities

*"I like the idea of having a master's program for pharmacy at UBC. One thing I hope the program teaches is health technology/informatics similar to the programs at McMaster or Toronto. I would also love it if the program had a practical component to it like a 4-month co-op."*



## Appendix 12: Program Evaluation Resources

Consistent with the Kirkpatrick Model of evaluation of program effectiveness, a robust evaluation plan has been developed to understand the impacts of the Master of Pharmacy Leadership program. The evaluation plan is designed to understand the following:

- a. How students respond to the training they receive
- b. How students engage with the materials and course content
- c. How student learning impacts their abilities
- d. Whether student learning has a positive impact on their applied work

Framed within the strategic priorities of People, Processes, and Products, a mixed methods approach will collect metrics for the purposes of program evaluation and continuous quality improvement. Each priority and their related metrics are described below in turn.

### **Strategic priority #1: People**

Students will be followed from program admission to employment upon graduation. Measures include participation, enrolment statistics, completion rates, and performance in the program.

### **Strategic priority #2: Processes**

Supported within the ecosystem of the Faculty of Pharmaceutical Sciences, this component of the evaluation will explore student experience as they navigate through the program. Measures include student satisfaction, student perceptions and evaluation of each course, student experience of instruction surveys, and student outcomes and employment after graduation.

### **Strategic priority #3: Products**

Offered predominantly online, an accessible and customizable learning management tool will be used for the MPL, as it is in other online programs within the Faculty. This tool, Canvas, will house all teaching resources and tools. Course syllabi are consistent with the University's [Policy V-130](#). Evaluation of the products will investigate curriculum and course design, the quality of curriculum, and student attainment of learning objectives.

Quantitative and qualitative approaches will be used to collect the data. As noted above, quantitative metrics will collect enrolment statistics, completion rates and so on. To provide a richer and more nuanced understanding of the student experience and the design of the program, students will be invited to provide qualitative data through a variety of means such as through end-of-course and end-of-Internship evaluations. These data will gather feedback on areas such as the instructional design, and student learning experience, effectiveness of teaching, and overall student satisfaction with the program.



## 03 MPL Program Calendar Entries




## UBC Curriculum Proposal Form Change to Course or Program

### Category: (1)

<b>Faculty:</b> Pharmaceutical Sciences <b>Department:</b> n/a <b>Faculty Approval Date:</b> 17 June 2021 <b>Effective Session (W or S):</b> W <b>Effective Academic Year:</b> 2022	<b>Date:</b> 3 Dec 2020 <b>Contact Person:</b> Patricia Gerber <b>Phone:</b> 604-813-5390 <b>Email:</b> patricia.gerber@ubc.ca
<b>Proposed Calendar Entry:</b>  Homepage > Faculties, Colleges, and Schools > The Faculty of Pharmaceutical Sciences > Graduate Programs  Graduate Programs Contents  Master of Science and Doctor of Philosophy <b>Master of Pharmacy Leadership</b> Graduate Doctor of Pharmacy	<b>URL:</b> <a href="http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,213,840,0">http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,213,840,0</a>  <b>Present Calendar Entry:</b>  Homepage > Faculties, Colleges, and Schools > The Faculty of Pharmaceutical Sciences > Graduate Programs  Graduate Programs Contents  Master of Science and Doctor of Philosophy  Graduate Doctor of Pharmacy  <b>Type of Action:</b> Create a Calendar page for the Master of Pharmacy Leadership program  <b>Rationale for Proposed Change:</b> The UBC Faculty of Pharmaceutical Sciences is proposing a Master of Pharmacy Leadership (MPL) program designed to meet the profession's need for pharmacists equipped for roles demanding strong leadership, organizational behaviour knowledge, and policy decision-making skills in healthcare, corporate, regulatory, and academic organizations. Over recent years, regulators and government have increased the scope of what pharmacists can do to meet patients' health-related needs. Advancements in the profession, new innovations, and models of care have heightened the demand for pharmacists with leadership skills specific to the profession.



 <p><b>Proposed Calendar Entry:</b></p> <p>Homepage &gt; Faculties, Colleges, and Schools &gt; The Faculty of Pharmaceutical Sciences &gt; Graduate Programs &gt; Master of Pharmacy Leadership</p> <p><u>Program Overview</u></p> <p>The Master of Pharmacy Leadership (MPL) is designed to meet the profession's need for pharmacists equipped for roles demanding strong leadership, organizational behaviour knowledge, and policy decision-making skills in healthcare, corporate, regulatory, and academic organizations.</p> <p>See &lt;Faculty of Graduate and Postdoctoral Studies, Master of Pharmacy Leadership&gt;{<i>link to new page 2 in GPS section</i>} for the complete Calendar entry.</p> <p>See the &lt;Faculty of Pharmaceutical Sciences website&gt;{<i>link to https://pharmsci.ubc.ca/programs/master-pharmacy-leadership-degree</i>} for a description of the program.</p>	<p>See the proposal documents for more information.</p> <p><b>URL:</b> <i>New page 1</i></p> <p><b>Present Calendar Entry:</b> N/A</p> <p><b>Type of Action:</b> Create program entry for Master of Pharmacy Leadership.</p> <p><b>Rationale for Proposed Change:</b> Faculty of Pharmaceutical Sciences page providing a brief description of the MPL and redirecting the reader to the Faculty of Graduate and Postdoctoral Studies MPL Calendar page or the Faculty of Pharmaceutical Sciences website.</p>
<p><b>Proposed Calendar Entry:</b> Homepage &gt; Fees &gt; Tuition Fees &gt; Graduate &gt; Master's</p> <p>Master's</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Tuition fees are reviewed annually by the Board of Governors. In recent years tuition increases have been 2% for continuing domestic students and between 2% and 5% for continuing international students.</p> </div> <ul style="list-style-type: none"> <li>Specialized Master's Degree Programs</li> </ul>	<p><b>URL:</b> <a href="http://www.calendar.ubc.ca/vancouver/index.cfm?tree=14,266,773,1450">http://www.calendar.ubc.ca/vancouver/index.cfm?tree=14,266,773,1450</a></p> <p><b>Present Calendar Entry:</b> Homepage &gt; Fees &gt; Tuition Fees &gt; Graduate &gt; Master's</p> <p>Master's</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Tuition fees are reviewed annually by the Board of Governors. In recent years tuition increases have been 2% for continuing domestic students and between 2% and 5% for continuing international students.</p> </div> <ul style="list-style-type: none"> <li>Specialized Master's Degree Programs</li> </ul>



- Standard Master's Degree Programs

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## Specialized Master's Degree Programs

The fees below apply to individual master's programs. The specialized master's program fees are different from the standard master's program fees listed in Schedules A and B.

**Master of Pharmacy Leadership**Instalments per year: 3Minimum # of instalments for program: 4

Domestic fee per instalment	Domestic continuing fee per instalment	International fee per instalment	International continuing fee per instalment
\$7,625.00	\$791.53	\$13,250.00	\$3,043.77

Note: Continuing fee is assessed after instalment 4.

- Standard Master's Degree Programs

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## Specialized Master's Degree Programs

The fees below apply to individual master's programs. The specialized master's program fees are different from the standard master's program fees listed in Schedules A and B.

**Type of Action:**

Include fees for MPL in Specialized Master's Degree Programs tables.

**Rationale for Proposed Change:**

Program tuition is proposed at \$30,500 for domestic students, and \$53,000 for international students. Tuition will be paid in four equal installments over the first four terms (16 months) of enrollment, with UBC's standard graduate continuing fee being applied for any terms after the first four. Tuition is comparable to other UBC professional master's programs that do not receive government funding, including the Master of Health Administration, the Master of Health Leadership and Policy, the Master of Engineering Leadership, and the Master of Management.

Budget allocations have been made to support program marketing, minor supplies, guest lecturers, and teaching assistants. The Faculty is committed to allocating 5% of total program tuition towards student financial support.

Based on a ten-year planning budget, the program is financially sustainable on an ongoing basis, breaking even by year 4 of delivery, and recovering initial startup costs by year 7.



<p><b>Proposed Calendar Entry:</b>  Homepage &gt; Faculties, Colleges, and Schools  &gt; Courses of Study and Degrees &gt;  Pharmaceutical Sciences</p> <p>Pharmaceutical Sciences</p> <table border="0"> <tr> <td>Entry-to-Practice Doctor of Pharmacy</td> <td>Pharm.D.</td> </tr> <tr> <td>Bachelor of Pharmaceutical Sciences</td> <td>B.P.Sc.</td> </tr> <tr> <td>Bachelor of Science in Pharmacy</td> <td>B.Sc. (Pharm.)</td> </tr> <tr> <td><b>Master of Pharmacy Leadership</b></td> <td><b>M.P.L.</b></td> </tr> <tr> <td>Master of Science</td> <td>M.Sc.</td> </tr> <tr> <td>Flexible Doctor of Pharmacy</td> <td>Pharm.D.</td> </tr> <tr> <td>Graduate Doctor of Pharmacy</td> <td>Pharm.D.</td> </tr> <tr> <td>Doctor of Philosophy</td> <td>Ph.D.</td> </tr> </table>	Entry-to-Practice Doctor of Pharmacy	Pharm.D.	Bachelor of Pharmaceutical Sciences	B.P.Sc.	Bachelor of Science in Pharmacy	B.Sc. (Pharm.)	<b>Master of Pharmacy Leadership</b>	<b>M.P.L.</b>	Master of Science	M.Sc.	Flexible Doctor of Pharmacy	Pharm.D.	Graduate Doctor of Pharmacy	Pharm.D.	Doctor of Philosophy	Ph.D.	<p><b>URL:</b>  <a href="http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,4,25,0">http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,4,25,0</a></p> <p><b>Present Calendar Entry:</b>  Homepage &gt; Faculties, Colleges, and Schools &gt;  Courses of Study and Degrees &gt;  Pharmaceutical Sciences</p> <p>Pharmaceutical Sciences</p> <table border="0"> <tr> <td>Entry-to-Practice Doctor of Pharmacy</td> <td>Pharm.D.</td> </tr> <tr> <td>Bachelor of Pharmaceutical Sciences</td> <td>B.P.Sc.</td> </tr> <tr> <td>Bachelor of Science in Pharmacy</td> <td>B.Sc. (Pharm.)</td> </tr> <tr> <td>Master of Science</td> <td>M.Sc.</td> </tr> <tr> <td>Flexible Doctor of Pharmacy</td> <td>Pharm.D.</td> </tr> <tr> <td>Graduate Doctor of Pharmacy</td> <td>Pharm.D.</td> </tr> <tr> <td>Doctor of Philosophy</td> <td>Ph.D.</td> </tr> </table> <p><b>Type of Action:</b>  Include the MPL in the Faculty of Pharmaceutical Sciences listing of Courses of Study and Degrees</p> <p><b>Rationale for Proposed Change:</b>  Completeness</p>	Entry-to-Practice Doctor of Pharmacy	Pharm.D.	Bachelor of Pharmaceutical Sciences	B.P.Sc.	Bachelor of Science in Pharmacy	B.Sc. (Pharm.)	Master of Science	M.Sc.	Flexible Doctor of Pharmacy	Pharm.D.	Graduate Doctor of Pharmacy	Pharm.D.	Doctor of Philosophy	Ph.D.
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<p><b>Proposed Calendar Entry:</b>  Homepage &gt; Faculties, Colleges, and Schools  &gt; The Faculty of Graduate and Postdoctoral Studies &gt; Degree Programs</p> <p>Degree Programs  Contents</p> <p>Introduction  Adult Learning and Education  Adult Learning and Global Change  .  .  .</p>	<p><b>URL:</b>  <a href="http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,828,0">http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,828,0</a></p> <p><b>Present Calendar Entry:</b>  Homepage &gt; Faculties, Colleges, and Schools &gt;  The Faculty of Graduate and Postdoctoral Studies &gt; Degree Programs</p> <p>Degree Programs  Contents</p> <p>Introduction  Adult Learning and Education  Adult Learning and Global Change  .  .  .</p>																														



<p>Pathology and Laboratory Medicine Pharmaceutical Sciences Pharmacology <b>Pharmacy Leadership</b> Philosophy Physical Therapy . . . Women+ and Children's Health Sciences Zoology</p>	<p>Pathology and Laboratory Medicine Pharmaceutical Sciences Pharmacology  Philosophy Physical Therapy . . . Women+ and Children's Health Sciences Zoology</p> <p><b>Type of Action:</b> Create a link to a new page for the MPL in the Faculty of Graduate and Postdoctoral Studies Degree Programs section.</p> <p><b>Rationale for Proposed Change:</b> Completeness</p>
<p><b>Proposed Calendar Entry:</b></p> <p>Homepage &gt; Faculties, Colleges, and Schools &gt; The Faculty of Graduate and Postdoctoral Studies &gt; Degree Programs &gt; Pharmacy Leadership</p> <p>Degree offered: M.P.L.</p> <p><u>Program Overview</u></p> <p>The Master of Pharmacy Leadership (MPL) is designed to meet the profession's need for pharmacists equipped for roles demanding strong leadership, organizational behaviour knowledge, and policy decision-making skills in healthcare, corporate, regulatory, and academic organizations.</p> <p><u>Admission Requirements</u></p> <p>The Faculty will select for admission those students who not only demonstrate academic potential, but who also most aptly display a motivation to become leaders in the profession.</p> <p>Applicants to the MPL program are expected to meet the <u>standards for admission to Master's degrees administered by the Faculty of</u></p>	<p><b>URL:</b> <i>New page 2</i></p> <p><b>Present Calendar Entry:</b> N/A</p> <p><b>Type of Action:</b> Create program entry for Master of Pharmacy Leadership.</p> <p><b>Rationale for Proposed Change:</b> Calendar description of the program, admission requirements, academic regulations, and degree requirements.</p>



Graduate and Postdoctoral Studies <link to: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,340,182>>.

In addition to the requirements of the Faculty of Graduate and Postdoctoral Studies, to be considered for admission to the MPL, applicants must:

- Be a graduate of an accredited pharmacy program
- Be licensed or eligible for licensure as a pharmacist in their jurisdiction

Admission to the program takes into consideration a variety of criteria: previous academic performance, English proficiency, professional experience, maturity, and fit. Admission is expected to be highly competitive and may require an academic standing higher than the published minimum. Satisfying the minimum entrance requirements will not guarantee admission, but rather ensures eligibility for selection. Selection will be at the discretion of the Faculty of Pharmaceutical Sciences' MPL Admissions Committee. Additional materials considered in the selection process will include a supplemental application form, a personal statement and a curriculum vitae.

The Committee's selection of applicants invited to participate in an online interview is driven by rubrics and standards that include reasons for pursuing the MPL, demonstrated potential for becoming leaders in the profession, and professional and scholarly achievements. Completion of a Pharmacy Residency Program will be considered an asset, not a requirement.

Please see website for more information.

#### Academic Regulations

Students registered in the MPL program will be held to the Academic Regulations <link to <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,342,0>> of non-thesis Master's degrees administered by the Faculty of Graduate and Postdoctoral Studies.

#### Degree Requirements

Course	Credits
PHRM 520	1.5





PHRM 521	3
PHRM 522	1.5
PHRM 523	3
PHRM 524	2
PHRM 525	3
PHRM 526	3
NURS 560	3
PHRM 549	12
<b>Total Credits</b>	<b>32</b>

#### Contact Information

Faculty of Pharmaceutical Sciences  
 2405 Wesbrook Mall  
 Vancouver, BC, Canada V6T 1Z3  
 Tel.: 604.822.2791  
 Email: [rae.thompson@ubc.ca](mailto:rae.thompson@ubc.ca)  
 Web: <https://pharmsci.ubc.ca/programs/master-pharmacy-leadership-degree>



## 04 MPL New Course Calendar Entries

PHRM 520 (1.5)	Leadership & Organizational Behaviour
PHRM 521 (3)	Leadership in Pharmacy Education
PHRM 522 (1.5)	Pharmacy Leadership Seminar
PHRM 523 (3)	Contemporary Leadership Issues in Pharmacy
PHRM 524 (2)	Interprofessional Perspectives on Healthcare
PHRM 525 (3)	Evidence Appraisal in Healthcare
PHRM 526 (3)	Economic Evaluation in Healthcare
PHRM 549 (12)	Capstone Leadership Project



## UBC Curriculum Proposal Form

### Change to Course or Program

**Category: (1)**

<b>Faculty:</b> Pharmaceutical Sciences <b>Department:</b> n/a <b>Faculty Approval Date:</b> 17 June 2021 <b>Effective Session (W or S):</b> W <b>Effective Academic Year:</b> 2022	<b>Date:</b> 3 Dec 2020 <b>Contact Person:</b> Patricia Gerber <b>Phone:</b> 604-813-5390 <b>Email:</b> patricia.gerber@ubc.ca
<b>Proposed Calendar Entry:</b> <b>PHRM 520 (1.5) Leadership and Organizational Behaviour</b>	<b>URL:</b> PHRM  <b>Present Calendar Entry:</b> N/A  <b>Type of Action:</b> Create a new course  <b>Rationale for Proposed Change:</b>  <p>Taught by experts in the UBC Sauder School of Business, the course focuses on developing skills for leading oneself and others in team-based organizational environments by leveraging fundamental OB principles and best-practices. Via structured and applied learning strategies and activities, learners will be immersed in an exploration of their abilities to lead themselves and others, enhance their understanding of human behaviour in organizational settings, and become more positive and effective change agents in their work environment.</p> <p>The program's few mandatory in-person activities includes the program orientation and the 4-day intensive PHRM 520 course.</p> <p>Following completion of the remaining coursework, learners will re-engage with the course leads (learners will be given the choice of engaging in-person or via videoconference) in a 4-hour follow-up session, to delve deeper and re-examine the concepts introduced during the 4-day immersive course. This session will challenge learners to explore how their knowledge and skills in leadership and organizational behaviour manifested during their program, and how best to capitalize on</p>



their development as they embark on the internship portion of the capstone course.

This course is generally only open to students in the MPL program.

**XX Not available for Cr/D/F grading**

☐ **Pass/Fail or** ☐ **Honours/Pass/Fail**  
**grading**



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<b>Proposed Calendar Entry:</b> <b>PHRM 521 (3) Leadership in Pharmacy Education</b>	<b>URL:</b> PHRM  <b>Present Calendar Entry:</b> N/A  <b>Type of Action:</b> Create a new course  <b>Rationale for Proposed Change:</b>  The course prepares students for educational roles where they develop educational materials using best practices and pedagogical principles, teach, and support learning for diverse audiences including healthcare professionals, the public, regulators, and students. It also prepares them for roles in educational leadership where they contribute to academic programming.  <b>XX Not available for Cr/D/F grading</b>  <input type="checkbox"/> <b>Pass/Fail or</b> <input type="checkbox"/> <b>Honours/Pass/Fail</b> <b>grading</b>



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<b>Faculty:</b> Pharmaceutical Sciences <b>Department:</b> n/a <b>Faculty Approval Date:</b> 17 June 2021 <b>Effective Session (W or S):</b> W <b>Effective Academic Year:</b> 2022	<b>Date:</b> 3 Dec 2020 <b>Contact Person:</b> Patricia Gerber <b>Phone:</b> 604-813-5390 <b>Email:</b> patricia.gerber@ubc.ca
<b>Proposed Calendar Entry:</b> <b>PHRM 522 (1.5) Pharmacy Leadership Seminar</b>	<b>URL:</b> PHRM  <b>Present Calendar Entry:</b> N/A  <b>Type of Action:</b> Create a new course.  <b>Rationale for Proposed Change:</b> Research, analysis, synthesis and presentation of leadership profiles concerning contemporary or historical pharmacy leaders.  The course focuses on learning about leadership by examining other leaders, as well as providing opportunities for students to improve and grow their communication skills. The design, creation, and delivery of each seminar will challenge students to develop their leadership skills around engaging with an audience to stimulate thought in a creative and effective manner. The question period that follows each seminar will further challenge students to develop their ability to think on their feet and defend their points or recommendations.  To be successful leaders in any healthcare setting, pharmacists need to drive people to a common goal. This not only requires a thorough understanding of the self but also of leadership practices and behaviours in others. Careful analysis of and reflection about others' leadership styles, practices, successes and failures can enhance a leader's ability to prepare for, react to, and thrive in challenging, dynamic environments. In this 1.5-credit online course, students will research and critically appraise the leadership styles, behaviours, frameworks, principles, and practices of contemporary or historical leaders in pharmacy,



and to present a 30-minute seminar on the findings.

The selection of the pharmacy leader will be up to the student, in consultation with their Faculty Advisor and the Course Coordinator. The seminar presentation will consist of a critical analysis of the selected pharmacy leader's behaviours, actions, styles, including evidence of successes and setbacks, followed by "take-home" tips and recommendations for effective leadership resulting from the learning about that leader. Examples of steps students may take to research, analyse, and synthesize the information to be presented may include delving into the literature, conducting interviews with pharmacy leaders, observing leaders' behaviours, engaging with leaders' work environments, analyzing evidence of work done, etc.

Upon delivering each seminar, students will have one week to complete an online reflection blog, where they will be expected to examine areas of strength and where they can improve on, as learned through the evaluations they will have received from the audience. They will also be expected to write about their self-understanding of their own views on what constitutes effective leadership, as well as their ongoing leadership development.

**XX Not available for Cr/D/F grading**

☐ **Pass/Fail or**    ☐ **Honours/Pass/Fail grading**



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### Change to Course or Program

**Category: (1)**

<b>Faculty:</b> Pharmaceutical Sciences <b>Department:</b> n/a <b>Faculty Approval Date:</b> 17 June 2021 <b>Effective Session (W or S):</b> W <b>Effective Academic Year:</b> 2022	<b>Date:</b> 3 Dec 2020 <b>Contact Person:</b> Patricia Gerber <b>Phone:</b> 604-813-5390 <b>Email:</b> patricia.gerber@ubc.ca
<b>Proposed Calendar Entry:</b>  <b>Course Description:</b> <b>PHRM 523 (3) Contemporary Leadership Issues in Pharmacy</b>	<b>URL:</b> PHRM  <b>Present Calendar Entry:</b> N/A  <b>Type of Action:</b> Create a new course  <b>Rationale for Proposed Change:</b>  <p>Pharmacy leaders are expected to demonstrate the ability to work within healthcare teams to accomplish common goals, manage conflicts, and resolve challenges collaboratively. This course focuses on contemporary pharmacy contexts, issues, and challenges that professional leaders face, explored and resolved by students in teams. It integrates theoretical and practical learning through online discussions led by content experts. Class discussions focus on leadership best practices, current challenges, latest thinking, and leadership opportunities confronting pharmacy.</p> <p>The issues discussed in this course will help students with the development of their Capstone Project.</p> <p><b>XX Not available for Cr/D/F grading</b></p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading</p>





## UBC Curriculum Proposal Form

### Change to Course or Program

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<b>Faculty:</b> Pharmaceutical Sciences <b>Department:</b> n/a <b>Faculty Approval Date:</b> 17 June 2021 <b>Effective Session (W or S):</b> W <b>Effective Academic Year:</b> 2022	<b>Date:</b> 3 Dec 2020 <b>Contact Person:</b> Patricia Gerber <b>Phone:</b> 604-813-5390 <b>Email:</b> patricia.gerber@ubc.ca
<b>Proposed Calendar Entry:</b>  <b>Course Description:</b> <b>PHRM 524 (2) Interprofessional Perspectives on Healthcare</b>	<b>URL:</b> PHRM  <b>Present Calendar Entry:</b> N/A  <b>Type of Action:</b> Create a new course  <b>Rationale for Proposed Change:</b> The course will provide students with tools, concepts, and skills, and cultivate in them the mindset needed to become impactful leaders in the workplace.  PHRM 524 is an introduction to the Canadian healthcare system with a focus on interprofessional perspectives on healthcare delivery. The course will generally explore the impact of policy decisions, new health interventions, and emerging alternative models of care. Specific emphasis will be on factors impacting decision making in healthcare; interprofessional decision making at clinical and system levels; implementation of changes in practice models as well as challenges and opportunities related to interprofessional healthcare innovations.  <b>XX Not available for Cr/D/F grading</b>  <input type="checkbox"/> <b>Pass/Fail or</b> <input type="checkbox"/> <b>Honours/Pass/Fail</b> <b>grading</b>



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<b>Proposed Calendar Entry:</b>  <b>Course Description:</b> <b>PHRM 525 (3) Evidence Appraisal in Healthcare</b>  <i>Pre-requisite: PHRM 524</i>	<b>URL:</b> PHRM  <b>Present Calendar Entry:</b> N/A  <b>Type of Action:</b> Create a new course  <b>Rationale for Proposed Change:</b> This course explores various elements of evidence appraisal that apply to making health care decisions at the system level, including study designs, sources of data for evidence generation, association and causation, threats to study validity, outcome measures, sources and strengths of evidence, applications of evidence appraisal in health care decision making.  Strong evidence appraisal skills are necessary for effective decision-making at all levels of healthcare. Through the course activities, students will be able to draw conclusions about the potential efficacy, safety, and efficiency of the intervention from a Canadian healthcare system perspective; to discuss the potential facilitators, barriers, to implementation of the intervention/policy/model of care within that healthcare system; and to strategize means to leverage and mitigate them, respectively.  <b>XX Not available for Cr/D/F grading</b>  <input type="checkbox"/> <b>Pass/Fail or</b> <input type="checkbox"/> <b>Honours/Pass/Fail grading</b>



## UBC Curriculum Proposal Form

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<b>Proposed Calendar Entry:</b>  <b>Course Description:</b> <b>PHRM 526 (3) Economic Evaluation in Healthcare</b> For students registered in the Master of Pharmacy Leadership only.  <i>Pre-requisite: PHRM 524</i>	<b>URL:</b> PHRM  <b>Present Calendar Entry:</b> N/A  <b>Type of Action:</b> Create a new course  <b>Rationale for Proposed Change:</b> In their individual roles as managers in healthcare institutions, administrators in the Ministry of Health or Health Regions, clinicians in primary or tertiary care settings, or as health service researchers, healthcare leaders are increasingly faced with the task of having to justify their decisions with respect to the choice of treatment drug, diagnostic test, and hospitalization strategy according to the cost-effectiveness of the intervention. Health policymakers are equally burdened with the necessity to rationalize funding decisions, i.e. do they represent good choices from a value for money perspective. Economic evaluation of health interventions provides an approach/algorithm for responding to such resource allocation problems and is based on the concept of maximizing the health benefits accruing from finite healthcare budgets. Economic evaluation is one specialty area within the larger domain of health economics and the course focus will be on evaluation of interventions.  This course will introduce and familiarize students with the basic concepts and tools of economic evaluation in health services research. It will provide students with basic knowledge and tools to undertake critical evaluation of published economic evaluations of new drugs, technologies, and other health



interventions; a methodological framework with which to undertake the design of economic evaluation protocols; and an appreciation of the role of economic evaluations in the process of health care resource allocation and health policy making.

**XX Not available for Cr/D/F grading**

☐ **Pass/Fail or**      ☐ **Honours/Pass/Fail**  
**grading**



## UBC Curriculum Proposal Form

### Change to Course or Program

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<b>Proposed Calendar Entry:</b>  <b>PHRM 549 (12) Capstone Leadership Project</b> Design and development of a capstone project with an implementation internship.	<b>URL:</b> PHRM  <b>Present Calendar Entry:</b> N/A  <b>Type of Action:</b> Create a new course.  <b>Rationale for Proposed Change:</b>  Students will gain practical experience and further their transferable skills such as project management, program development, strategic planning, policy development problem solving, creative and critical thinking, and communication. The course will provide students with opportunities to integrate within an organization relevant to the practice of pharmacy, thereby establishing workplace-based connections and collaborations.  The capstone course spans the entire duration of the Master of Pharmacy Leadership (MPL) program and provides the student with an opportunity to gain hands-on experience in designing, conducting, analyzing, and documenting their learning. This project-based experiential component of the MPL gives allows students to learn about project design and management, and apply their knowledge and skills in a real-world setting. The capstone project is an individual project.  The course involves the in-depth independent scholarly study of an issue, opportunity, need, challenge, or problem focused on an area of Pharmacy that is of interest to the student and applied to and implemented within an authentic setting (the <i>internship</i> ). The capstone course is structured to allow pursuit of a personalized, well-formulated and synthesized study plan



designed by the student to expand their knowledge and skill in an area of special interest. The student develops a detailed scholarly project proposal indicating rationale, scope, educational objectives, literature review, hypothesis, methods, risk analysis, and evaluation plan.

The internship provides a bridge between the student's academic studies and professional practice, thereby increasing their personal growth and development through opportunities within public, private, and not-for-profit, authentic professional contexts.

**XX Not available for Cr/D/F grading**

☐ **Pass/Fail or**      ☐ **Honours/Pass/Fail**  
**grading**



20 October 2021

To: Vancouver Senate

From: Senate Admissions and Curriculum Committees

Re: October Joint Admissions and Curriculum Proposals (approval)

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The Senate Admissions and Curriculum Committees have reviewed the material forwarded to them by the Faculties and encloses those proposals they deem as ready for approval.

The following is recommended to Senate:

**Motion:** *“That the new Doctor of Philosophy in Genetic and Genomic Counselling degree program and related new course brought forward by the Faculty of Graduate and Postdoctoral Studies (Medicine) be approved.”*

Respectfully submitted,

Prof. Carol Jaeger, Chair  
Senate Admissions Committee

Dr. Claudia Krebs, Chair  
Senate Curriculum Committee



## **FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES**

### **Medicine**

#### *New program*

Doctor of Philosophy in Genetic and Genomic Counselling

#### *New course*

**MEDG 596 (6)** Advanced Research Topics in Genetic and Genomic Counselling



## **Genetic and Genomic Counselling Doctor of Philosophy Program**

**Degree offered: Ph.D.**

### **Proposal**

Department of Medical Genetics  
Faculty of Medicine  
University of British Columbia  
September 18, 2020

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## 1.0 Executive Summary

### Overview

Beginning in September 2022, the Department of Medical Genetics plans to offer a *PhD in Genetic and Genomic Counselling*. First of its kind in the world, it will develop researchers who generate knowledge through empirical research that will advance and inform evidence-based practice in the genetic counselling profession, resulting in improved health outcomes.

This 18-credit program will accept applications from competitive MSc/MS graduates from accredited genetic counselling training programs who are board certified/board eligible with the Canadian Association of Genetic Counselling and/or American Board of Genetic Counseling. Reasonably comparable training and certification/experience from international students will be considered.

The program will typically require at least 48 months of full-time study. Courses will be delivered in various forms including didactic lecture, online learning, group discussions, student presentations and independent study and research, and primarily take place at *UBC's Children's and Women's Hospital* Campus in Vancouver using research facilities within the *BC Children's Hospital Research Institute and the Women's Health Research Institute*. Similar to other PhD programs in health, the program will develop graduates who are thought leaders utilizing their training to advance the field of genetic counselling in academic research and education, industry, ethics and health policy.

### Overall Program Goals

- Enhance the strength and rigour of genetic counselling as an academic discipline in Canada
- Improve the evidence base for genetic counselling practice in the era of genomic medicine
- Consolidate the international stature of BC and UBC as world-leaders for genetic and genomic counselling, genomics and translational medicine

### Program Learning Outcomes

At the completion of the program, students will be able to:

- Apply a comprehensive understanding of the academic and theoretical foundations of genetic counselling research topics such as qualitative and quantitative methods, health services research, applied ethics, counselling techniques, outcome measures, clinical genomics and clinical utility, in order to advance professional practice
- Identify knowledge gaps in the literature regarding genetic and genomic counselling as they relate to theoretical foundations of clinical practice
- Conduct and lead academic empirical research in genetic and genomic counselling, from the identification of the research question through the design of research protocols and appropriate methodologies to data analysis and interpretation, that will inform and form a strong basis for evidence-based clinical practice
- Critically evaluate the implications of clinical implementation of research findings in the rapidly expanding field of genetic and genomic counselling
- Contribute to the academic community by writing and publishing detailed original research manuscripts in the scientific literature and competently delivering highly professional oral presentations to scientific and lay audiences

**Institutional Contact:** Dr. Alison M. Elliott, Genetic Counsellor and Associate Professor, Dept of Medical Genetics, UBC, [aelliott@bcchr.ca](mailto:aelliott@bcchr.ca)

## 2.0 Program Rationale

### 2.1 Defining the Need for the Program

#### The Expanding Field and Trajectory Toward Evidence-based Practice

Genetic counselling is a relatively new field, with the first Master's program founded in the United States in 1969. Genetic counsellors are allied healthcare professionals who represent the front line of genetic and genomic medicine. The field and profession of genetic and genomic counselling is rapidly expanding. The US Bureau of Labor Statistics forecasted a 29% growth rate for genetic counselling jobs between 2014 and 2024, compared to an average rate of 7% across all occupations.

Precision health (e.g. genome sequencing, sequencing of a person's entire genetic code) is transforming clinical care. Genome sequencing is a powerful technology that can diagnose patients with suspected genetic disorders and can customize treatment. Precision health is advancing in many disciplines of medicine at a rapid pace. The expansion of clinical genome sequencing requires additional and innovative methods to cope with the increased demand for genomic counselling to enable access and optimize patient-centered care. Canadian, European and American guidelines state genetic counselling is essential with genome sequencing implementation. Agencies (e.g. National Comprehensive Cancer Network, American College of Obstetricians and Gynecologists) deem genetic counselling mandatory with genetic testing. Genome sequencing generates complex and novel genomic counselling issues: results that are difficult to interpret and incidental findings (positive test results unrelated to why an individual was tested [e.g. increased risk for breast and ovarian cancer when the test was ordered because of intellectual disability]) that can have family-wide and health service implications. Essentially, there is a growing and urgent need for genetic counsellor-led research to address the important societal issues that intersect with the broader scale implementation of precision health.

Genome Canada recognized the need for advanced research in this area by funding the largest research genetic counselling grant ever awarded (\$4.27M) "GenCOUNSEL – optimization of genetic counselling with clinical implementation of genome-wide sequencing" through the Large Scale Applied Research Project funding opportunity to UBC faculty (A. Elliott – Lead, J. Austin – Co-Lead and L. Lynd Co-Lead).

Dr. Larry Lynd, Professor and Director, Collaboration for Outcomes Research and Evaluation (CORE), Associate Dean Research, Faculty of Pharmaceutical Sciences, UBC and Co-Lead GenCOUNSEL, states in his letter of support:

*This testing is becoming increasingly available including to health care professionals external to genetics. Our transdisciplinary approach studying these issues establishes important strategies for health services implementation in order to optimize care for patients considering genome-wide sequencing and for the health care providers who follow these families....We are currently working on projections around future need.*

A key component of this program will be research related to the integration of genetic counsellors in primary care and specialty clinics where they do not yet currently practice resulting in novel transdisciplinary healthcare collaborations. Other research areas include increasing access to genetic counselling services through the development of innovative mechanisms of service provision including online decision aids and educational tools with the goal of improving patient health outcomes. The research opportunities of the PhD program are in alignment with the three overarching goals of the

Provincial Health System Strategy Implementation: *A Collaborative and Focused Approach* that includes: improving the health of populations, improving the patient experience of care (including delivery and support health services) and reducing cost by focusing on quality and efficiency of healthcare delivery. In addition, this PhD program will help to train and retain health care specialists in the province in the field of genetic counselling.

As Dr. Anne Martin-Matthews, Associate Vice-President, Health/UBC Health states in her letter of support:

*UBC Health works with programs across the university to develop models of collaborative and team-based care, to help prepare the health care workforce of tomorrow. In one of our nascent initiatives, we have been pleased to engage with colleagues from Medical Genetics in developing a vision for evidence-informed team-based models of care. The proposed PhD in Genetic and Genomic Counselling presents a unique opportunity for UBC to further these objectives through the pursuit of doctoral studies within the discipline of genetic counselling.*

In essence, the profession needs to move as Nursing has done from being “a community of exclusively clinical practitioners, to becoming a thriving and diverse community comprising clinical practitioners and academic researchers whose work forms the basis for clinical practice.” According to Dr. Elizabeth Saewyc, Director and Professor, School of Nursing states in her letter expressing this view and endorsing the program “Your proposal will catalyze this change for the genetic counselling profession.”

There needs to be a place where genetic and genomic counsellors can train to become academic researchers capable of advancing the profession through the development of evidence-based practice including attention to the complex and evolving issues, both clinical and ethical, with the expansion of genomic sequencing.

### **Research Needed**

There is a body of knowledge related to genetic counselling that is **distinct** from (as in, not included in, but rather, in addition to) medical genetics. This has to do with professional practice, health services research, applied ethics, counselling techniques, patient empowerment, etc. This program will provide training and research opportunities in the areas that are unique to genetic counselling knowledge and research and legitimizes evidenced-based research in genetic counselling.

The research embedded in this PhD program will provide the evidence, theory and knowledge essential for informing and optimizing contemporary and future clinical practice and will include the following areas of inquiry: innovative mechanisms for delivery of genetic counselling (online decision aids, utilization of videoconferencing, telehealth); investigation and development of best practices for delivery of genetic counselling; improving access to genetic counselling (in particular for underserved patient populations); health implementation science; health economics; clinical genomics; education; precision health; diversity; rare disease; ethics and policy.

### **Need for Doctoral Training in Genetic Counselling**

In the 2019 Professional Status Survey of the National Society of Genetic Counsellors, out of 2,439 respondents, only 2% held doctoral degrees, due to the lack of doctoral programs in genetic and genomic counselling. Those with these degrees have earned them in programs with weak linkages (public health, biochemistry and medical genetics, neuroscience) to genetic and genomic counselling specifically.

Recently, the National Society of Genetic Counselors (the major professional organization for genetic counsellors in the United States) convened a task force to articulate the high priority research questions facing genetic counsellors and strategies for research progress. As Dr. Gillian Hooker, PhD Genetic Counsellor and current President of the National Society of Genetic Counselors indicates in her letter of endorsement of the UBC proposal:

*Indeed, promoting research to enhance the evidence base to support genetic counseling practice and demonstrate the value of our services is a key pillar of our current strategic plan. ...Expansion of training opportunities is critical to the advancement of this strategy, and this UBC-led initiative aligns with the NSGCs activities and goals of this PhD Program.*

### **Demand for Doctoral Training in Genetic Counselling: A Market Survey**

We conducted a market survey among practicing genetic counsellors and current graduate students in genetic counselling consisting of four questions over a period of just one week to determine interest in a PhD program in Genetic and Genomic Counselling. The response rate was impressive (298 respondents – there are ~500 genetic counsellors in Canada) with overwhelming support for this initiative.

High level data are shown below with respect to demographics of responders, responses to specific questions, and representative comments.

#### Demographics of Respondents

299 respondents

- MSc/MS genetic counselling graduates = 235
- Average years in practice = 8.77 (SD 7.5)
- Years of practice, range = 0 - 30
- Current MSc/MS genetic counselling students = 35
- Neither, but provided feedback = 9

#### Responses to Survey Questions

##### **1. DOES THE PROGRAM FILL A NEED?**

Yes = 90% (40% 'definitely' + 50% 'likely')

No = 8% (8% 'likely' + 0% 'definitely')

No opinion = 2%

The majority of comments in this section relate to advancement of the field of genetic counselling, the need for evidenced-based research, improving practice, harnessing independence as a researcher and legitimizing research generated within the academic environment. Here are some representative examples:

*I am a genetics nurse, committed to the genetic counselling profession. In nursing, I have seen the positive impact of research degrees in furthering nursing theory, practice, and education, and believe a research PhD in genetic and genomic counselling is absolutely key to further development of genetic counselling profession.*

*Several genetic counsellors are interested in research and want to pursue advanced degrees but are perhaps deterred by the need to turn to other fields or not be able to complete a PhD in a program that meets all of their needs/interests. Individuals trained in genetic counselling are already contributing to genetic research but are perhaps limited in the type of positions they can hold by the lack of recognition of genetic and genomic counselling as a discipline in and of itself. We are an unbelievably qualified, talented and motivated group of individuals. Having more GCs obtaining advanced degrees would increase awareness and prestige of the field and would benefit the profession as a whole, not just those directly involved in research.*

*There is so much opportunity for genetic counsellors to do research. Having a PhD would open doors for easier access to funding, opportunities and possibly more dedicated time to research. It would also advance the field of genetic counselling and further the academic contributions we can make.*

*I need more research training than I got in 2 years. The state of our body of literature also reflects that this training will be critical to moving the field forward.*

*This is how new professions birth, from a niche where they can fit to expanding that space to creating a new specialty. So, I do see benefit to this option.*

*On behalf of our entire profession, I want to sincerely thank you for embarking on this hugely important endeavour which will transform our field for the next 50 years.*

## **2. LIKELIHOOD THE DEGREE COULD ADVANCE A CAREER**

Likely = 80% (>32% 'very' + >47% 'somewhat')

Unlikely = 18% (13% 'somewhat' + 5% 'very')

No opinion = 2%

The major themes emerging from this question further developed themes identified in responses to questions 1 related to "need" and primarily addressed independence as a researcher and opportunities in leadership and industry. Here are some representative comments provided by the respondents:

*For certain individuals it would be very likely to advance a career path -- I work in the biotech industry and I think here this would be very advantageous to the R&D side of investigational therapies or drug candidates for genetic diseases or for individuals who are working in academic institutions doing clinical research it may afford opportunities to be the PI on a study that could be blocked currently due to degrees.*

*Easier path to tenure track positions, open more senior-level positions in industry and biotech where doctorates are often expected*

*For graduates interested in remaining in research focussed practice, this broadens the opportunity for funding while lending further legitimacy to the research and the field. PhD genetic counsellors may also be important for leading master's programs in genetic counselling and affording faculty positions with adequate power to have a true seat at the table*

*I think it would open paths to academic research, health policy, ethics, speaking engagements and representing the profession, consulting and more.*

*To be able to do research independently of a physician would be a great boon to the profession.*

*Although I'm not yet done my PhD, it has already advanced my career. I got a job as senior director of research at a genetic counseling organization and I am sure my PhD work contributed to me getting that job. I have opportunities for collaborating on research that I suspect I would not have if I wasn't pursuing a PhD. I also am sure that my research skill set is growing and deepening.*

*For genetic counselors to engage in careers as independent investigators, this kind of training is necessary. And it is necessary for the genetic counseling profession to mature to have genetic counselors in careers as independent investigators - as evidenced by the history of nursing*

*a PhD would open doors in research avenues, public policy/government career opportunities and academic careers that involve teaching and research*

*Serving as Principal Investigators on research studies where institutions don't allow non-doctorate PIs. Having more authority in executive director positions. Conducting independent research.*

### **3. LIKELIHOOD RESPONDENT WOULD UNDERTAKE DOCTORAL STUDIES**

Likely = 45% (15% 'very' + 30% 'somewhat')

Unlikely = 55% (27.5% 'somewhat' \_ 27.5% 'very')

Reasons given for pursuing doctoral studies related to advancement of the profession, independence as a researcher and increased career opportunities. Reasons for not pursuing doctoral studies included an unwillingness to travel, stage in career, time commitment and financial burden. Offering the program remotely and support from employers were raised by some respondents. Some representative comments are given below:

*How can employers support this initiative?*

*If there would be a way to allow this program to be done remotely that would be fantastic*

*I love the idea of this program but please make sure it is a paid program like engineering and fellowships to attract a diverse group of people.*

*I strongly encourage you to make it possible to complete remotely- not just because of the pandemic. This would make it much easier for GCs balancing family commitments and personal ties to pursue this program without necessitating uprooting their lives and navigating a move as well as the challenge of an advanced degree.*

*It's a great idea but to get more people to do it the logistics and financial components need to work out for working mothers.*

*One other thought I have is simply related to financial burden - after completing a very expensive MSc program (and trying to pay off significant amounts of debt), the financial cost of completing another program (and/or reducing my salary) is prohibitive for me personally*

*My workplace has a career ladder and I don't want to go back to school.*

### **4. LIKELIHOOD OF CHOOSING THIS PHD OVER ANOTHER**

Likely = 76% (36% 'very' + 40% 'somewhat')

Unlikely = 24% (16% 'somewhat' + 8% 'very')



Comments on this question reflect a deep commitment of most respondents to their chosen profession of genetic counselling, coloured by a wide range of individual circumstances. Representative examples include the following:

*Many of my fellow students have talked about their desire to see more academic research and publications in our field, conducted by those in our profession. They have also mentioned their own desire to go on to further academic education but don't have an avenue to go to within the field.*

*I think genetic counseling research still lacks an identity. I think a PhD program like this should work to develop GC as a scientific field. GC is inherently interdisciplinary so developing doctorally trained GCs that can lead and head research efforts would be invaluable.*

*Currently, much of the research being done in genetic counselling is being done by individuals who have degrees/PhDs in other disciplines e.g. law, public health policy, bioethics, nursing etc. It would be "nice" to have this research being done by PhD level genetic counselors.*

*I'm excited by the prospect of this program! I submitted my application to a Public Health Genetics PhD program yesterday, as it felt like the best fit for my interests, though the proposed UBC program would actually have been a better fit. While GCs already have diverse roles in research, ethics, policy, and more, this program would only elevate those roles and make it easier for GCs to drive their own research.*

*I feel like pursuing a PhD as a genetic counsellor would often mean either finding a program and trying to make the program meet your own needs/interests or just accepting the fact that you will have to do a PhD that may not be exactly what you are interested in. This proposed program seems like it would allow for a student to have a lot more agency in what they are studying.*

*The idea of a dedicated program appeals to me to make it the most applicable to what I would actually want to learn rather than trying to fit my goals into an already established program. Also having the title of a degree as "genetic counseling" would be more genuine and recognizable in the field than genetics or interdisciplinary studies.*

*Based on the description, it sounds as though it would support the diversity of paths genetic counselors are interested in taking.*

#### **EMERGING THEME: OPTION FOR INTERNATIONAL STUDENTS**

Although our survey did not specifically ask about international students, several respondents highlighted the involvement of such students as a benefit of the proposed PhD program in genetic counselling. Our financial model for the program anticipates that one-third to one-half of enrolled students would come from outside of Canada. Here are some comments that survey respondents made about this issue:

*I am looking forward to this being a truly international program, learning from the varied approaches and cultural differences of genetic counsellors, world wide.*

*Ideally to be inclusive and more internationally focused, the program would not rely strictly on an American accreditation board's designation of accredited graduate schools of prospective students but rather select students based on their individual certification credentials (e.g. UK or Canadian or other national certification boards)*

### 2.3 Graduate Careers

The genetic counselling field as a whole is growing rapidly. Opportunities for graduates of the proposed PhD program are numerous and diverse. They include positions in academia (research and education), industry (e.g., biotechnology, genetics testing laboratories), and government (e.g., ministries of health and health authorities). Graduates will have expertise in research related to genetic counselling, genomics, policy, ethics, and health implementation science needed to lead BC's precision medicine initiatives and similar initiatives across Canada and internationally.

### 2.4 Alignment with Provincial and Institutional Mandates and Strategic Plans

The opportunity exists for BC to be a key global player in the future of genetic counselling, meeting the societal demand for more research and innovative practice models.

Educational programs are a priority for the Department of Medical Genetics strategic plan, and for the Faculty of Medicine. This PhD program will contribute to innovation in education to enhance, integrate and extend existing programs. The current UBC MSc Genetic Counselling Program has already established itself as a leader in the training of genetic counsellors and is emerging as an international leader in genetic counsellor-driven research. The PhD in genetic and genomic counselling will allow UBC to consolidate its leadership at the forefront of genetic counselling research.

As Melanie Care, MSc, CCGC, Current President of the Canadian Association of Genetic Counsellors wrote in her letter of support:

*We believe UBC is well-poised to host this program. It is one of Canada's largest and most long-standing MSc training programs in genetic counselling, has recently launched an online certification course in variant interpretation and genomic counselling for practicing genetic counsellors and has been awarded the largest ever international genetic counselling research grant.*

The Faculty of Medicine has recently recruited an academic faculty member (Dr. Alison M. Elliott, PhD, MS, board certified genetic counsellor) with a mandate to broaden the scope of scholarly research in genetic counselling and develop the PhD program in Genetic and Genomic Counselling. Dr. Elliott spearheaded the development of Canada's newest MSc training program at the University of Manitoba and is an active teacher and research mentor in the UBC MSc Genetic Counsellor Training Program. She is a researcher and lead of genomic research initiatives on the Children's & Women's Hospital Campus, including the largest genetic counselling research grant ever awarded ("GenCOUNSEL" at \$4.27M). UBC Faculty of Medicine is already home to Jehannine Austin, PhD, an academic researcher and genetic counsellor who holds the Canada Research Chair in Translational Psychiatric Genomics and is the Executive Director of the BC Mental Health and Substance Use Services Research Institute and past president of the National Society of Genetic Counselors. She is internationally known for pioneering scholarly research and clinical practice in Psychiatric Genetic Counselling. UBC is the only Canadian university with tenured professors who are genetic counsellors (Drs. Elliott and Austin). In addition, four other PhD scientists serving on the Clinical Faculty at UBC are also fully qualified genetic counsellors (Dr. Alice Virani, Director of Ethics, Provincial Health Services Authority (PHSA); Drs. Pardeep Kaurah and Tammy Peterson of the BC Cancer Agency and Dr. Catriona Hippman, whose specialties include psychiatric genetic counselling and reproductive mental health).

As Dr. Gillian Hooker, PhD Genetic Counsellor and President of the National Society of Genetic Counselors (the major professional organization for genetic counsellors in the United States) indicates in her letter of endorsement of this PhD Program:

*UBC is uniquely positioned to launch this doctoral program, having been a center of thought leadership in genetic counselling for many years now. UBC is one of the few (perhaps only) institutions to have recruited and retained genetic counselors in tenured research professorships. It would follow that UBC is rightly on the front lines and in an ideal position to launch the first program of this kind and, through it, will continue to lead and draw accolades from the international genetic counseling community.*

Genetic counselling research has the capacity to impact all areas of medicine and therefore spans all five research priorities of the UBC Faculty of Medicine. This position will support the Genomics and 'Omics platform. The proposed Precision Health Priorities in Research and Education within the Faculty of Medicine at UBC and at BC Children's Research Institute (BCCHR) provide further alignment for this program of precision health medicine/genomic counselling. The Rare Disease Hub at BCCHR is an important research and education resource for this program.

Genetic counsellors are allied health professionals and related research is often translational in nature. Under the Partnership Pillar of the Faculty, this research has the ultimate goal of enhancing patient care and contributing to a sustainable health care system. Ensuring effective and equitable access to services, especially for underserved communities including Indigenous populations, will be a focus of the program with respect to health implementation research.

A key to the program's success will be the constant and vital interface with provincial partners including The Ministry of Health (Genetic Services Branch), Provincial Health Services Authority and other stakeholders including BC Women's Research Health Institute (WHRI), BCCHR, BC Cancer Agency, Michael Smith Foundation for Health Research and Genome BC (see Letters of collaboration and support Appendix 1).

As Dr. Bev Holmes, President and CEO of the Michael Smith Foundation for Health Research indicates in her letter of support:

*Our two core strategic directions are supporting health research talent, and strengthening research capacity across the province. As such, we are supportive of Phd Programs such as yours that will attract outstanding students and support them to develop a deep and strong academic/theoretical foundation in core aspects of their practice.*

A component of this program will be research related to the integration of genetic counsellors in primary care and specialty clinics where they do not yet currently practice. In addition, increased access to genetic counselling services through partnerships with Virtual Health (PHSA) and the development of innovative mechanisms of the provision of services, including online decision aids and education tools, will be emphasized. These aims are in alignment with the three overarching goals of the Provincial Health System Strategy Implementation: *A Collaborative and Focused Approach* that includes: improving the health of populations, improving the patient experience of care (including delivery and support health services) and reducing cost by focusing on quality and efficiency of health care delivery.

Precision health is advancing in many disciplines of medicine at a rapid pace in British Columbia. Consequently, the province needs to support research into innovative methods to cope with the increased demand for genomic counselling to enable access and optimize patient-centered care for families considering this technology in addition to harnessing the most effective ways in which healthcare providers can be supported.

Through the establishment of the PhD program we anticipate inspiring students who undertake MSc training in genetic counselling -at UBC and beyond- to continue their academic path by undertaking a PhD, thus creating the critical mass necessary to truly establish genetic counselling as an academic discipline in its own right.

### **3.0 Program Description**

#### **3.1 Admission and Enrolment**

##### **Target Audience**

The target audience for the PhD program (and academic requirements for entry into the PhD program) will be fully-trained and clinically-qualified genetic counsellors who have graduated from an accredited genetic counselling training program, who are board eligible or certified in Genetic Counselling, and who are motivated to pursue doctoral studies to become thought leaders in this emerging field. Reasonably comparable training and certification/experience (to Canadian Association of Genetic Counsellors/American Board of Genetic Counseling (CAGC/ABGC)) from international students will be considered. UBC anticipates admitting approximately three students each year to the program, with capacity to scale up as needed. Starting small will help to build demand alongside the process of launching and delivering the program.

An advisory and admissions committee has been established for the PhD Program in Genetic and Genomic Counselling. Faculty members who comprise this committee will review applications and determine successful applicants. Applicants deemed competitive by the Program Committee (see below) will be interviewed via Skype by at least one committee member to explore areas of research interests, commitment to a doctoral program, etc.

The committee is comprised of the following members: Dr. A. Elliott (Genetic Counsellor and Associate Professor, Dept of Medical Genetics), Dr. J Austin (Genetic Counsellor and Professor, Dept of Medical Genetics) Dr. J Friedman (Clinical Geneticist and Professor, Dept of Medical Genetics) , Jenna Scott (Genetic Counsellor, Co-Director of the UBC MSc Genetic Counselling Training Program and Clinical Associate Professor, Dept of Medical Genetics), Tracey Oh (Genetic Counsellor, Co-Director of the UBC MSc Genetic Counselling Training Program and Clinical Assistant Professor, Dept of Medical Genetics) and Dr. Alice Virani (Genetic Counsellor, Director of Ethics Provincial Health Services Authority and Clinical Assistant Professor, Dept of Medical Genetics).

##### **Application Requirements**

###### **Step 1: Application Documents**

- Statement of Interest describing their research interests, reason for pursuing doctoral studies and commitment to advancing the field of genetic and genomic counselling
- Curriculum Vitae (CV)

- Official post-secondary transcripts and degree certificates (issued by the university, not web transcripts) and grading key
- Copy of board certification in genetic counselling (if applicable)
- TOEFL or IELTS test score (if required) (see <https://www.grad.ubc.ca/prospective-students/application-admission/admission-requirements>)
- Permanent Resident card copy (if applicable)
- References (3 in total) and must include one from a supervisor who can speak to the candidate's research potential and one from a supervisor from the Genetic Counselling training program who can speak to the candidate's commitment to advancing the profession

## Step 2: Application Review

1. Completed applications are reviewed and ranked by the Genetic and Genomic Counselling Admissions Committee in consultation with the Medical Genetics Admissions Committee.
2. Applicants will be emailed the status of their application review: "admissible" or "declined".
3. Admissible applicants must secure the commitment of a Research Supervisor who agrees to provide supervision and financial support. An interview will be part of this process.
4. The admissible applicant will receive an official offer of admission letter from UBC once they have secured the written commitment of a Research Supervisor.

## Step 3: Following an Offer of Admission

Mail or courier official, degree-conferred transcripts and degree certificates to:

Graduate & Postdoctoral Studies  
University of British Columbia  
6371 Crescent Rd  
Vancouver, BC CANADA V6T 1Z2

Admission will be based on:

Academic excellence, letters of reference, CV, research interest and potential and securing a thesis supervisor.

## Funding Opportunities

It is anticipated that candidates entering this program will be competitive for academic awards that include, but are not limited to: CIHR Frederick Banting and Charles Best Canada Graduate Scholarship Doctoral Award, Vanier Canada Graduate Scholarship, UBC Four-Year-Fellowship, UBC President's Academic Excellence Initiative PhD Award, Medical Genetics Departmental Entrance Awards, BCCHR and WHRI trainee awards, and the National Society of Genetic Counselors trainee awards .

In addition, as Dr. Bev Holmes, President and CEO of the Michael Smith Foundation for Health Research identifies in her letter of support: "*MSHFR offers a number of awards for which those associated with your program would be eligible and encouraged to compete for.*"

### 3.2 Program Goals and Learning Outcomes

#### Program Goals

The overall goals of this program include:

- Enhance the strength and rigour of genetic counselling as an academic discipline in Canada
- Improve the evidence base for genetic counselling practice in the era of genomic medicine
- Generate thought leaders in the field of genetic and genomic counselling
- Consolidate the international stature of BC and UBC as world leaders for genetic and genomic counselling, genomics and translational medicine

#### Program Learning Outcomes (PLOs)

At the completion of the program, graduates will be able to:

1. Apply a comprehensive understanding of the academic and theoretical foundations of genetic counselling research topics such as qualitative and quantitative methods, health services research, applied ethics, counselling techniques, outcome measures, clinical genomics and clinical utility in order to advance professional practice.
2. Identify knowledge gaps in the literature regarding genetic and genomic counselling as they relate to theoretical foundations of clinical practice
3. Conduct and lead academic empirical research in genetic and genomic counselling, from the identification of the research question through the design of research protocols and appropriate methodologies to data analysis and interpretation, that will inform and form a strong basis for evidence-based clinical practice
4. Critically evaluate the implications of clinical implementation of research findings in the rapidly expanding field of genetic and genomic counselling
5. Contribute to the academic community by writing and publishing detailed original research manuscripts in the scientific literature and competently delivering highly professional oral presentations to scientific and lay audiences

#### Program Graduation Requirements

In order to graduate from the program, students must:

- complete 18 credits, which include
  - MEDG 596 - Advanced Research Topics in Genetic and Genomic Counselling (6 Credits)
  - MEDG 548 – Directed Studies (6 Credits) For the majority of students, the Directed Studies Course will be in the form of a Scoping Review with support from the Health Science Library staff (see Library Consultation). The Scoping Review will be related to the student's thesis topic.
  - Approved Electives (6 Credits)

- Submit a proposal and successfully defend a comprehensive examination (see <https://med-fom-medgen.sites.olt.ubc.ca/files/2020/08/Guidelines-for-the-PhD-Comprehensive-Examination.pdf>)
- Complete and successfully defend a dissertation (MEDG 649 – Thesis Course 0 Credits)

Electives will be approved by the student's supervisory committee and must relate to the focus area of inquiry. Typically electives will be chosen from Medical Genetics (<https://medgen.med.ubc.ca/graduate-program/current-students/courses/>). For students conducting a thesis utilizing in-depth qualitative methods, a relevant course is: INDS502U - Qualitative Methods in Applied Ethics Research and is in the Interdisciplinary Studies Program. Interdisciplinary Studies: Thematic Seminars - QUAL MET ETH RES. Credits: 3

### **3.3 Program Structure and Curriculum Design**

PhD students in this program must complete courses during the first two terms of their program. Students required to take additional courses after their first year (including auditing a course) must receive permission from their Supervisor, the Supervisory Committee, and the Graduate Advisor for the PhD in Genetic and Genomic Counselling.

#### **Student's Supervisory Committee**

The PhD Student's Supervisory Committee is comprised of a minimum of four faculty members including the Research Supervisor. At least two of the members, including the Supervisor, must have appointments in the Department of Medical Genetics (including Associate Faculty Members) and be genetic counsellors. The majority of the Committee members must hold PhD degrees. The Student's Supervisory Committee will be chosen in consultation with the Research Supervisor and the Graduate Advisor for the PhD Program in Genetic and Genomic Counselling and will be established by the third week of studies in the first term of the program.

Function: The primary role of the student's Supervisory Committee is to offer advice and encouragement throughout the student's training. The Committee is responsible for ensuring that the student generates high quality research. The student is responsible for taking advantage of the expertise and experience of their Committee members.

Initial Supervisory Committee Meeting: It is recommended that the incoming student's Supervisory Committee be established during the first term of their program. The student should consult their supervisor for input as to what to expect from their first committee meeting (discussion of their progress to date and plans for thesis project going forward, etc.) and for suggestions as to how to prepare for the meeting. The September-start student should have their committee meeting before May 30th of their first year. The student's Research Supervisor is Chair of the student's Supervisory Committee meetings; and ensures that the guidelines are followed. The Committee is expected to have input into grading the student's progress in MEDG 548 (directed studies).

Subsequent Supervisory Committee Meetings: Following the initial Supervisory Committee Meeting, the student must arrange for at least one committee meeting annually. Additional committee meetings can be called when useful such as for approval to take the comprehensive examination, write up the thesis, etc. It is important that all committee members be present (in person or virtually if required) at every meeting.

**Documentation:** The candidate is expected to provide each committee member with an outline of their research a minimum of three working days before the meeting. This outline will be comprised of one to three pages of text and up to six tables of figures detailing progress since the last meeting. It is suggested to also provide the Committee with an agenda. A committee meeting report form should be completed by the Research Supervisor at each committee meeting and signed by all attendees. The student will email the signed copy of the form to the Graduate Program Assistant for the PhD in Genetic and Genomic Counselling (medgeneducation@cw.bc.ca).

**Supervision:** Both the student and their Supervisory Committee are responsible for ensuring that the student's progress meets the requirements of the Faculty of Graduate and Postdoctoral Studies (G+PS) and the PhD Program in Genetic and Genomic Counselling. The final responsibility rests with the student. The student has the privilege to change Research Supervisors and members of their Supervisory Committee with the approval of the Medical Genetics Graduate Advisor and the supervisors involved.

### **Comprehensive Examination**

**Overview:** The student in the PhD in Genetic and Genomic Counselling Graduate Program is required to pass a comprehensive examination in genetic and genomic counselling. This oral examination is held after completion of all required coursework. It is intended to test the student's grasp of their field of study as a whole, as well as their ability to communicate their understanding.

**Purpose:** The purpose of the PhD comprehensive examination is to evaluate the candidate's knowledge of the areas of specialization relevant to their research project, and of general genetic and genomic counselling. The ability to reason and to integrate knowledge of the discipline related to the student's thesis project will be emphasized. The exam is intended to determine whether the student has developed:

- Strong analytical, problem-solving, and critical thinking abilities;
- Required breadth and in-depth knowledge of the discipline;
- Required academic background for the specific doctoral research to follow;
- Potential ability to conduct independent and original research; and
- Demonstrated ability to communicate knowledge of the discipline. The comprehensive examination is intended to test the student's grasp of the chosen field of study as a whole, and the student's ability to communicate his or her understanding of it in English.

**Timing of Examination:** PhD Students in Genetic and Genomic Counselling should take the comprehensive exam by 20 months and no later than 24 months of initial registration in their program.

### **3.4 Linking Learning Outcomes and Curriculum Design**

The proposed curriculum will address the program learning outcomes (PLOs) through the following curriculum elements:

- A mandatory new six credit course in Advanced Research Topics in Genetic and Genomic Counselling (MEDG 596) offered during the winter and spring terms (PLOs1)
- A mandatory directed studies course (MEDG 548) which will comprise six credits and, for the purposes of this program, will typically be a scoping review of the thesis topic (PLOs2)
- The thesis course (MEDG 649) will be required as students will be required to complete and defend a dissertation (PLOs3,4,5)



- Six credits of electives will be recommended by the student's supervisory committee which will be relevant to the thesis topic (PLOs1,2)

### **3.5 Degree Level Standards**

#### **Depth and Breadth of Knowledge**

Applicants to the program must have a Master of Science degree in Genetic Counselling in order to be accepted into the program. The program expands upon this existing knowledge and skill base. Students will explore an area in comprehensive depth, passing a comprehensive exam prior to the completion of their thesis research and defence of their dissertation. The comprehensive exam, Advanced Research Topics Course (MEDG 596), Directed Studies Course (MEDG 548) and the electives requirement all add breadth to the learning experience. At the completion of the program, graduates will have developed significantly more specialized knowledge and skill in related to theory, clinical practice, research and implications of genetics and genomic counselling and will have achieved a level of autonomy that allows them to work independently on novel and complex research and take leadership of projects in unique and creative ways.

#### **Knowledge of Methodologies and Research**

Genetic and Genomic Counselling is an evolving field. It is therefore critical that researchers and thought leaders in the field are able to access and evaluate various research methodologies in order to choose the most appropriate methods of addressing emerging and complex research questions. In the program, students will explore a number of well established and emerging methodologies and explore the appropriate applications of each.

#### **Application of Knowledge**

The specific nature of genetic and genomic counselling as a clinical practice profession makes it imperative that the knowledge developed in the program and through the research activities of its students and graduates is conceived and operationalized in application in practice. The research skills and knowledge developed in the students in this program are specifically focused on application of knowledge in order to contribute to evidence-based clinical practice.

#### **Communication Skills**

Genetic and genomic counsellors must have sophisticated oral and written communication skills in order to be successful as practicing clinicians who deal directly with the public. This program helps graduates to further extend those communication skills in a variety of ways. In MEDG596, students not only prepare at least 4 presentations that would be appropriate for a variety of audiences, but they also must pass an indigenous cultural safety training course. Students in the program must also submit manuscripts for publication in reputable journals and present at genetics conferences.

#### **Awareness of Limits of Knowledge**

The field of genetic and genomic counselling is ever evolving. This means there are always limits on the knowledge a program can provide and there are a variety of appropriate ways to approach a clinical practice scenario. Instructors in the program will be clinical and research professionals who keep current on these evolutions and who are able to provide students with a variety of perspectives on how best to approach evolving knowledge. The program will engage students with the latest methodologies and emerging technologies and perspectives. Students will also be taught to evaluate and assess emerging trends in methods and technologies for their suitability to the wide variety of contexts.

**Professional Capacity/Autonomy**

The knowledge and skills necessary for further research, advanced employment and leadership opportunities, and other activities require the exercise of initiative, personal responsibility and accountability in both personal and group contexts. Embedded in the courses, projects and assignments are the principles of inquiry-based learning for achieving the anticipated learning outcomes in preparation for the professional knowledge application and responsibilities that exist in the field. Successful candidates develop dispositions for continuous professional development, team-work, collaboration, project management, presentation, innovation, problem-solving, analytical thinking, perseverance and ethical behaviour.

**3.6 Credential Recognition and Nomenclature**

The degree of Doctor of Philosophy (PhD) is widely recognized and understood to be a terminal degree in a field in which its graduates produce original research and knowledge at the cutting edge of the field and in advancement of the field. This degree is designed specifically to do this for the field of Genetic and Genomic Counselling. Therefore, it is appropriate that this program be called and will be recognized as a PhD in Genetic and Genomic Counselling.

This will be the first degree of its kind, so currently no regulating bodies have formally recognized this nomenclature. However, we are assured that the Canadian Association of Genetic Counsellors and the National Society of Genetic Counselors will recognize this nomenclature (see letters of support).

**3.7 Relationships to Other Programs**

Currently, there is no program that offers a PhD in Genetic and Genomic Counselling. This program will mark UBC as a trailblazer in this domain.

A requirement for admission to this PhD program is that the applicant is a graduate from an accredited MSc/MS training program in genetic counselling and is board eligible/certified with the Canadian Association of Genetic Counselling or American Board of Genetic Counseling or equivalent. Reasonably comparable training and certification/experience from international students will be considered. Although there is currently a PhD in Medical Genetics at UBC, the requirement of the candidate being a board eligible /certified genetic counsellor from an accredited training site is distinct from the PhD in Medical Genetics. Furthermore, the core requirement courses of the PhD in Medical Genetics are required courses for students who enroll in the MSc in Genetic Counselling Program at UBC (MEDG 520 and MEDG 530). The proposed PhD program goes beyond these two courses, since students from other MSc training programs in genetic counselling will have taken equivalent courses at their respective institutions. Consequently, these two courses are not required in the PhD in Genetic and Genomic Counselling and have been replaced by the new proposed mandatory six credit course MEDG 596: Advanced Research Topics in Genetic and Genomic Counselling.

Canada has 5 genetic counselling training programs: University of British Columbia, University of Manitoba, University of Toronto, Université de Montréal, and McGill University. Together, these programs train ~24 new genetic counsellors each year. UBC's two-year Master of Science in Genetic Counselling Program — one of the largest of the 5 programs in Canada — is dedicated to equipping the next generation of genetic counsellors with the skills, knowledge and mindset to flourish as part of an inter-disciplinary team and work across a broad range of health care settings and specialties. Graduates of these programs and others in the United States and abroad will be potential applicants for the PhD in Genetic and Genomic Counselling. Through the establishment of the PhD program we anticipate certain

inspiring students who undertake MSc training in genetic counselling -at UBC and beyond- to continue their academic path by undertaking a PhD, thus creating the critical mass necessary to truly establish genetic counselling as an academic discipline in its own right.

The recently funded Graduate Certificate in Genomic Counselling and Variant Interpretation through the Faculty of Medicine Online Advancement Learning Fund (OLAF; Dr. J. Austin (PI), with co-applicants Dr. A. Elliott and P. Birch) has generated four online courses at the graduate level in Medical Genetics that can serve as electives for PhD students in this program who wish to have a genomic focus to their research.

The recently awarded Faculty of Medicine Strategic Investment Fund “Omics Training Cluster” (A. Elliott PI, W. Wasserman Co-PI) resulted in increased compute capacity on the C&W campus supporting students in this PhD program who will have a strong bioinformatic/rare disease focus to their research.

There are many opportunities for collaboration within the Medical Genetics Department, and within the Faculty of Medicine. An important collaboration will be with the Allied Professional researchers as part of UBC Health. In addition, collaborations with the School of Population and Public Health, Nursing, Psychology and Social Work will prove to be fruitful for research projects (see letters of support and collaboration). Patient outcomes research will be enhanced with pre-existing collaborations between CORE (Collaboration for Outcomes Research and Evaluation) and Medical Genetics as part of the GenCOUNSEL project. These important collaborations are reflected in letters of support in Appendix 1. BCCHRI and WHRI provide outstanding and enriching research environments for researchers to share and develop their expertise and succeed in their independent research programs.

Precision medicine initiatives on the Children’s and Women’s Hospitals campus such as the CAUSES Research Study (a pediatric genome-wide sequencing initiative that sequenced 500 BC children with suspected genetic disease), RAPIDOMICS Study (rapid genome-wide sequencing in the neonatal intensive care unit at BC Women’s Hospital) and GenCOUNSEL (optimization of genetic counselling with clinical implementation of genome-wide sequencing) provide important foundational research opportunities for this program. The Personalized Onco-Genomics Program at BC Cancer can provide additional opportunities.

### **3.8 Support or Recognition from Other Institutions**

This proposal has received enormous support from a variety of key stakeholders including genetic counselling professional organizations, research institutes, academic and allied health partners and funding agencies. See Appendix 1.

Melanie Care – President Canadian Association of Genetic Counsellors  
 Dr. Gillian Hooker – President National Society of Genetic Counselors  
 Dr. Wyeth Wasserman – Vice President Research, BC Children’s Hospital, Associate Dean Research, BC Children’s Research Institute  
 Dr. Lori Brotto – Executive Director, Women’s Health Research Institute  
 Pascal Spothelfer, President and CEO, Genome BC  
 Dr. Bev Holmes, President and CEO, Michael Smith Foundation for Health Research  
 Dr. Anne Martin-Mathews Associate Vice President, Health/UBC Health  
 Dr. Larry Lynd – Professor and Director Collaboration for Outcomes Research and Evaluation, Associate Dean Research, Faculty of Pharmaceutical Sciences  
 Dr. Allison Eddy – Department Head, Pediatrics

Dr. Elizabeth Saewyc – Director and Professor School of Nursing  
Dr. Horacio Osioyich – Division Head, Neonatology  
Patricia Birch – Clinical Associate Professor, Department of Medical Genetics  
Genetic counselling MSc training programs

### **3.9 Curriculum Consultation**

The proponents engaged in consultation with interested units at UBC. The full consultation report is included in Appendix 2.

### **4.0 Resources**

#### **4.1 Budget and Financial Plan**

The full budget and financial plan including tuition fees for the program is outlined in Appendix 3.

#### **4.2 Human Resources**

##### **Advisory Committee:**

The program will be led by Dr. Alison Elliott who will function as the Program Director and Graduate Advisor. Dr. Elliott spearheaded the development of the MSc in Genetic Counselling at the University of Manitoba prior to relocating to UBC. She is a Genetic Counsellor and Associate Professor in the Department of Medical Genetics and the Lead of GenCOUNSEL – the largest genetic counselling research grant ever awarded. In 2018 she was awarded the Canadian Association of Genetic Counsellors (CAGC) National Award for Leadership in Professional Practice, Innovation, and Advocacy. She has been the Project Lead for several genomics initiatives on the Children's and Women's Campus and is the Course Director for the Directed Studies Course in the MSc in Genetic Counselling at UBC. She is a member of the Advisory Board of the Directed Studies Committee and has supervised genetic counselling students and graduates in the Department of Medical Genetics.

Dr. Jehannine Austin, Genetic Counsellor and Professor, UBC Department of Psychiatry and Medical Genetics, Canada Research Chair in Translational Psychiatric Genomics and Graduate Advisor, UBC MSc Genetic Counselling Training Program. Dr. Jehannine Austin is the past president of the National Society of Genetic Counselors and is an internationally recognized, award-winning, leader in the field of genetic counselling and holds numerous leadership positions within the profession. She is Co-Lead of the GenCOUNSEL project. She has been awarded the Dr. Sam Lal Award from the Graham Boeckh Foundation for her work in developing the psychiatric genetic counselling field. She has extensive experience as a supervisor and mentor.

Dr. Alice Virani, Genetic Counsellor, Clinical Assistant Professor and Director, Clinical Ethics Provincial Health Services Authority. Alice is a member of the Directed Studies Advisory Committee for the MSc in Genetic Counselling Program at UBC. Her Research interests relate to the many ethical and social issues inherent within clinical practice and research in genetic and genomic medicine including: direct to consumer genetic testing; incidental/ secondary findings; and biobanks. She has extensive experience supervising Genetic Counselling students and graduate students in the Department of Medical Genetics.

Dr. Jan Friedman, Professor, Department of Medical Genetics and previous Department Head. He is a medical geneticist and is known internationally for his contributions to clinical genetics, genomics, teratology and Neurofibromatosis. The American Society of Human Genetics (ASHG) named Dr.

Friedman as the 2018 recipient of the *Arno Motulsky-Barton Childs Award* for Excellence in Human Genetics Education. This award recognizes an individual for contributions of exceptional quality and importance to human genetics education internationally. His research bridges clinical genetics and basic science focusing on using new genomic technology and bioinformatics tools to identify mutations that cause intellectual disability and other neurodevelopmental disorders, and in applying what is learned to improve the clinical care of affected individuals and their families.

Tracey Oh, Genetic Counsellor, Clinical Assistant Professor and Program Co-Director of the MSc in Genetic Counselling Training Program at UBC. She became Program Co-Director in 2012 with a primary focus on clinical training. In addition to her role overseeing clinical rotations, Tracey has mentored and supervised many of the directed studies projects in the MSc Genetic Counselling Training Program.

Jenna Scott, Genetic Counsellor, Clinical Associate Professor and Program Co-Director for the UBC Master's Program in Genetic Counselling. She became Program Co-Director in 2012 with primary responsibility for curriculum development and the directed studies research projects. Involved with the program since its inception in 1996, her roles have included Clinical Supervisor, Lecturer, Selection Committee, Advisory Board Member, and Acting Program Director. She has supervised over 50 genetic counselling students in clinical rotations and/or directed studies research projects and was awarded the Department of Medical Genetics Clinical Teaching Award in 2006 and the Faculty of Medicine Clinical Excellence in Teaching Award in 2007. She served as the Provincial Clinical Coordinator for the Hereditary Cancer Program from 2006 – 2012. Professional contributions include ABGC Item Writer, ABGC Certification Exam Committee, CAGC Professional Governance Committee, ACGC Board of Directors and Manuscript Reviewer for the Journal of Genetic Counseling. Her research interests include genetic counselling service provision models including exploration of group counselling and videoconferencing modalities, as well as the process changes needed to effectively incorporate multiplex genetic testing into hereditary cancer genetic counselling. She is also currently a Healthcare Professional Educational Advisor with Genome BC.

The Advisory Committee will be responsible for overseeing admissions, curriculum changes and curriculum quality. This committee will also oversee student advising in conjunction with Dr. Elliott (Graduate Advisor) and the supervisory committee of the student.

### **Research Support**

The Research & Technology Development Office (RTDO) at BCCHR provides expertise in strategic research planning and the development of successful research programs, major projects, and partnership activities. Focusing on the quality of science and health research, the RTDO facilitators assist and advise investigators in the articulation of research ideas, development of competitive funding proposals, and in knowledge exchange, technology transfer and protection of intellectual property.

The goal of the RTDO is to maximize the success of researchers at BC Children's Hospital Research Institute and Women's Health Research Institute to obtain external research, salary, and infrastructure awards. Since establishment of the RTDO in 2003, the facilitators have developed and supported more than 2500 research proposals, helping to bring over \$450 million to BC Children's Hospital.

The WHRI assists investigators and trainees with all aspects of research related to women's and newborn's health. Their research support services are available to all WHRI members and trainees and to investigators and trainees conducting research and include: protocol planning and development, preparation and submission of ethics and regulatory documents, grants facilitation, budget advising and development, recruitment and consenting of study participants, conduct of study interviews and questionnaires, facilitation of data access, database building and data entry (REDCap, Excel), statistical analysis planning and completion, presentation (power point slides / poster) development and manuscript planning and development.

### **Administrative Support**

Administrative support for the existing MSc in Genetic Counselling program and the residency training program is already provided by a program assistant at 0.8 FTE. Administrative support for the proposed PhD program will be addressed by increasing the program assistant role by 0.2FTE to 1.0FTE (see financial modelling). Existing infrastructure will be utilized with respect to office space (on the Children's and Women's campus), computer and access to required UBC portals.

### **4.3 Space and Equipment Resources**

The courses will be held at the UBC Children's and Women's Hospital Campus. Office space for the students is available within BC Children's Hospital Research Institute (BCCHR). The BCCHR facility encompasses 264,000 square feet and supports 319 UBC-affiliated clinicians and scientists who are dedicated to world-class research spanning the entire range of children's, maternal, and family health.

The WHRI has also committed to providing office space, communications support and computer access to trainees in addition to access to the BC Women's Research Laboratory and to the newly built WHRI Wet Lab (located onsite at BC Women's Hospital + Health Centre) to trainees of this Program

Both Research Institutes are located on the campus of the Children's and Women's Health Centre of BC (C&W), alongside two provincial, tertiary care teaching hospitals (BC Children's and BC Women's Hospitals) (see letters of support from Dr. Lori Brotto, Executive Director, WHRI and Dr. Wyeth Wassermann, Executive Director, BCCHR).

### **IT support**

The BCCHR Research Information Technology team directly enable research by supporting state-of-the-art computing, helping researchers manage extremely large data sets, and contributing to clinical tools that use technology to improve care. They provide integrated Research IT infrastructure and support for research activity on the BC Children's Hospital campus. Their mandate and objective is to provide a research-focused service in parallel complement to the clinical network of the Provincial Health Services Authority.

### **4.4 Library Resources**

Please see the Library Consultation Report in Appendix 4.

### **5.0 Curriculum Change Forms**

Please see the Curriculum Change Forms in Appendix 5.

### **6.0 Syllabus for MEDG 596**

Please see the syllabus for MEDG 596 in Appendix 6.

## UBC Curriculum Proposal Form Change to Course or Program

### Category: 1

<b>Faculty:</b> Medicine <b>Department:</b> Medical Genetics <b>Faculty Approval Date:</b> 05/11/21 <b>Effective Session (W or S):</b> W <b>Effective Academic Year:</b> 2022	<b>Date:</b> 2020 09 19 <b>Contact Person:</b> Alison M. Elliott <b>Phone:</b> 604 875 3790 <b>Email:</b> aelliott@bcchr.ca
<b>Proposed Calendar Entry:</b>  <b>MEDG 596 (6) Advanced Research Topics in Genetic and Genomic Counselling</b> Qualitative and quantitative methodology, models of decision making, patient-oriented research, applied ethics, clinical genomics, diversity, privacy, health services, health policy, health economics and practice-based implications. <i>This course is not eligible for Credit/D/Fail grading.</i> [3-0-0; 3-0-0]	<b>URL:</b> <a href="http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&amp;code=MEDG">http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&amp;code=MEDG</a>  <b>Present Calendar Entry:</b> N/A  <b>Type of Action:</b> Create new course  <b>Rationale for Proposed Change:</b> The new course is a mandatory course in the newly proposed PhD program in Genetic and Genomic Counselling.  <input checked="" type="checkbox"/> <b>Not available for Cr/D/F grading (undergraduate courses only)</b> (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)  <b>Rationale for not being available for Cr/D/F:</b> The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.
<b>Proposed Calendar Entry:</b>  <b>Doctor of Philosophy</b>  Please see the <a href="#">Ph.D. Program in Rehabilitation Sciences</a> or the <a href="#">Ph.D. Program in Genetic and Genomic Counselling</a> and related fields.	<b>URL:</b> <a href="http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,209,878,0">http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,209,878,0</a>  <b>Present Calendar Entry:</b>  <b>Doctor of Philosophy</b>  Please see the <a href="#">Ph.D. Program in Rehabilitation Sciences</a> and related fields.  <b>Type of Action:</b> Add a PhD program.



	<p><b>Rationale for Proposed Change:</b> new program needs to be listed as one of the PhD programs in the Faculty of Medicine.</p> <p>Note that the “PhD Program in Rehabilitation Sciences” is a hyperlink to the calendar page for that program. The “PhD Program in Genetic and Genomic Counselling” should also be a hyperlink to the calendar page for that program. The request for that new page to be built is below.</p>
<p><b>Proposed Calendar Entry:</b></p> <p><u>Homepage Faculties, Colleges, and Schools</u> <u>The Faculty of Graduate and Postdoctoral Studies Degree Programs</u> <b>Genetic and Genomic Counselling</b></p> <p><b>Genetic and Genomic Counselling</b></p> <p>Degree Offered: Ph.D.</p> <p><b>Members</b></p> <p><b>Professors</b> L. Arbour, J. Austin, J.M. Friedman, W. Gibson, D. Huntsman, S. Jones, S.F. Langlois, L. Lynd, M. van Allen, W. Wasserman.</p> <p><b>Associate Professors</b> A. Elliott, C. Ross.</p> <p><b>Program Overview</b></p> <p>In addition to the PhD program in medical genetics, the Department of Medical Genetics also offers a PhD degree in Genetic and Genomic Counselling. Unique in the world, this program attracts students from around the globe who are interested in conducting empirical research that will</p>	<p><b>URL:</b> N/A</p> <p><b>Present Calendar Entry:</b> N/A</p> <p><b>Type of Action:</b> Create a new page for a new program within the Faculty of Graduate and Postdoctoral Studies, offered by the Dept of Medical Genetics.</p>

advance the profession and practice of genetic and genomic counselling.

### **Doctor of Philosophy**

#### **Admission Requirements**

Students must meet the Graduate and Postdoctoral Studies minimum admission requirements [Link to: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,340,18>].

Students applying to Ph.D. studies in Genetic and Genomic Counselling must hold a M.Sc./MS degree from an accredited genetic counselling training program, and must be board certified/eligible with the Canadian Association of Genetic Counsellors (CAGC) or the American Board of Genetic Counseling (ABGC). Comparable training and certification/experience from international students will be considered. Candidates who have not taken MEDG520 or MEDG530 (or equivalent(s)) will be required to take these courses.

Admission will be competitive and limited, and is based on academic background and achievement, relevant research experience, and letters of recommendation. Academically admissible applicants must also obtain the commitment of a research supervisor in the Department of Medical Genetics before receiving an admission offer from the Program and the Faculty of Graduate and Postdoctoral Studies.

#### **Program Requirements**

In order to graduate, students are required to pass a comprehensive examination, complete and successfully defend a dissertation that

<p>meets the Faculty of Graduate and Postdoctoral Studies guidelines, as well as take 18 credits including MEDG 596 (6), MEDG 548 (6), and 6 credits of relevant electives determined in consultation with the students' supervisory committee. MEDG 596 must be completed within the first year of the program.</p> <p><b>Contact Information</b></p> <p>Dr. Alison Elliott, PhD, MS, CGC Associate Professor Dept of Medical Genetics, UBC BC Children's Hospital Research Institute Clinical Services Building V3-326 West 28<sup>th</sup> Avenue Vancouver, BC V5Z 4H4</p>	
<p><b>Proposed Calendar Entry:</b></p> <p>[...] <u>Gender, Race, Sexuality and Social Justice</u> <u>Genetic and Genomic Counselling</u> <u>Genetic Counselling</u> <u>Genome Science and Technology</u> <u>Geography</u> [...]</p>	<p><b>URL:</b> <a href="http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,828,0">http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,828,0</a></p> <p><b>Present Calendar Entry:</b></p> <p>[...] <u>Gender, Race, Sexuality and Social Justice</u> <u>Genetic Counselling</u> <u>Genome Science and Technology</u> <u>Geography</u> [...]</p> <p><b>Type of Action:</b> Add Genetic and Genomic Counselling to the list of degree programs offered by the faculty of Graduate and Postdoctoral studies</p>

## **Letters of Collaboration and Support**



Canadian Association of Genetic Counsellors  
Association Canadienne des Conseillers en Génétique

Dr. Alison M. Elliott  
Associate Professor  
Department of Medical Genetics  
University of British Columbia

September 9, 2020

Dear Dr. Elliott,

We are writing to express our strong support of the proposed PhD in Genetic and Genomic Counselling at the University of British Columbia (UBC). The Canadian Association of Genetic Counsellors (CAGC) is a national organization with over 300 members, that represents genetic counsellors and the genetic counselling profession across Canada. Our mission is to promote high standards of practice, encourage professional growth and increase public awareness of the genetic counselling profession in Canada.

We believe this program presents a unique opportunity for academic growth, both for our members who wish to pursue doctoral studies and for our profession, as a whole. Currently genetic counsellors who wish to pursue an academic path through doctoral studies must do so in other disciplines due to the lack of a PhD options specific to our field. The CAGC strongly supports expanding training opportunities for genetic counsellors and the importance of evidenced-based research focussing specifically on genetic counselling.

We believe UBC is well-poised to host this program. It is one of Canada's largest and most long-standing MSc training programs in genetic counselling, has recently launched an online certification course in variant interpretation and genomic counselling for practicing genetic counsellors and has been awarded the largest ever international genetic counselling research grant. Your institution has demonstrated ongoing support for academic development of genetic counselling faculty as demonstrated by the appointment of two tenured genetic counsellors.

Employment opportunities for graduates of this novel PhD program will be diverse and multidisciplinary in nature including academia (research and education), industry (genetics laboratories), ministries of health and health authorities. Graduates will have expertise in genetic and genomic counselling, genomics, policy, applied ethics and health implementation science.

It is with great enthusiasm that the CAGC supports this proposed PhD program. We strongly anticipate this program will contribute to professional growth in the genetic counselling field in Canada and in turn, help to improve genetics care for patients across the country.

Sincerely,

Melanie Care, MSc, CCGC  
CAGC President

September 8, 2020

Dr. Alison Elliott,  
950 West 28th Avenue  
Vancouver, British Columbia  
V5Z 4H4

Dear Dr. Elliott:

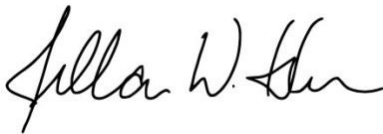
As the major professional organization for genetic counsellors in the United States, and representing a vast network of genetic counsellors throughout the world, we wish to express our enthusiastic support for your proposal to launch a PhD in Medical Genetics in Genetic and Genomic Counselling at the University of British Columbia. The proposal is very timely, as we have seen a significant increase in demand for genetic counsellors with additional training in research and currently, demand far surpasses supply, even as our profession grows rapidly. At present, less than 2% of our members have doctoral degrees.

NSGC has recognized the strategic importance of fostering genetic counselor led research, and the establishment of genetic counseling as an academic discipline. Indeed, promoting research to enhance the evidence base to support genetic counseling practice and demonstrate the value of our services is a key pillar of our current strategic plan. Recently, we convened a task force to further articulate the high priority research questions facing our field and strategies for meaningful progress in research. Expansion of training opportunities is critical to the advancement of this strategy, and this UBC- led initiative aligns with NSGCs activities and goals.

UBC is uniquely positioned to launch this doctoral program, having been a center of thought leadership in genetic counseling research for many years now. UBC is one of the few (perhaps only) institutions to have recruited and retained genetic counselors in tenured research professorships. It would follow that UBC is rightfully on the front lines and in an ideal position to launch the first program of this kind and, through it, will continue to lead and draw accolades from the international genetic counseling community.

The NSGC enthusiastically endorses the foundation of this program and would be happy to provide any additional information that might be helpful in its development.

Sincerely,



Gillian Hooker, PhD, ScM, LCGC  
President, National Society of Genetic Counselors  
[gillian.hooker@gmail.com](mailto:gillian.hooker@gmail.com)



BC Children's Hospital Research Institute  
950 West 28<sup>th</sup> Avenue, Vancouver, B.C. V5Z4H4  
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September 14, 2020

Alison M. Elliott, PhD, MS, CGC  
Associate Professor  
Department of Medical Genetics

RE: Proposal "PhD in Genetic and Genomic Counselling"

Dear Dr. Elliott,

As Vice-President of Research of the BC Children's Hospital Research Institute (BCCHR), I am delighted to provide this letter of support for the exciting proposal "PhD in Genetic and Genomic Counselling" within the UBC Department of Medical Genetics.

This novel PhD program will build on UBC's reputation as leader in the field of translational medicine and increases UBC's competitive advantage over other programs in attracting the best and brightest trainees both nationally and internationally. It will also position UBC Faculty of Medicine as a visionary leader in elevating the impact of Genetic and Genomic Counselling research in academic medicine – providing a highly strategic investment for the Faculty of Medicine.

This program will contribute to the further development of the genetic counselling (GC) profession as an academic discipline, improve the evidence base for genetic counselling practice in the era of genomic medicine and consolidate the international leadership of the UBC Genetic Counselling Program. Dr. Alison Elliott has been recently recruited for the leadership position to guide the vision of this program. Dr. Elliott, researcher, a leader of genomic research initiatives on the BC Children's and Women's Hospital Campus, and genetic counsellor in the Faculty of Medicine is the project lead of the largest genetic counselling research grant in the world ("GenCOUNSEL" at \$4.27M).

The establishment of this program will establish UBC as the centre of taking genetic and genomic counselling research to the next level. The recent funding approval of an online certification course in genomic counselling and variant interpretation through the Online Learning Advancement Fund (OLAF) and enhanced genomics training - Strategic Investment Fund (SIF) at UBC further consolidates UBC's leadership in research and education in precision medicine.

This proposal supports the Genomics and 'Omics platform. Genetic counselling research has the capacity to impact all areas of medicine and therefore spans all five research priorities of the Faculty of Medicine. The proposed Precision Health Priorities in Research and Education within the Faculty of Medicine at UBC provides further alignment for this program. The Rare Disease Discovery Hub, supported by a multidisciplinary group of clinicians and researchers at BCCHR provides an additional research resource for this program.

There are many opportunities for collaboration. In addition to collaborative interactions spanning departments within the Faculty of Medicine, an important collaboration will be enabled with the Allied Professional researchers via UBC Health. In addition, collaborations with Nursing, Psychology and Social Work will prove to be fruitful for research projects. BCCHRI and WHRI provide outstanding and enriching research environments for researchers to share and develop their expertise and succeed in their independent research programs.

Precision medicine initiatives on the BC Children's and Women's Hospitals campus such as the CAUSES Research Study (a pediatric genome-wide sequencing initiative that sequenced 500 BC children with suspected genetic disease), RAPIDOMICS Study (rapid genome-wide sequencing in the neonatal intensive care unit at BC Women's Hospital) and GenCOUNSEL (optimization of genetic counselling with clinical implementation of genome-wide sequencing) have created important foundational research opportunities for this program. In addition, the Personalized Onco-Genomics Program at BC Cancer, and its descendant PROFYLE program for pediatric oncology genomics, will provide additional opportunities.

The proposed novel PhD program in Genetic and Genomic Counselling would be a strength to BCCHR in ensuring we continue to build on our strong research base, while building further capacity, ensuring excellence and transferring knowledge. We are enthusiastic supporters of Dr. Elliot and this initiative.



**Wyeth Wasserman, PhD**

Vice President, Research, BC Children's Hospital

Associate Dean, Research, BC Children's Hospital Research Institute, Faculty of Medicine

Senior Scientist, Centre for Molecular Medicine and Therapeutics

Professor, Department of Medical Genetics

University of British Columbia



September 10, 2020

**SUBJECT: Letter of Support – UBC Medical Genetics PhD Program in Genomic Counselling**

Dear members of the Review Committee:

I am delighted to have the opportunity to write this letter of support and collaboration for the establishment of a research focused doctoral program in Genomic Counselling within the Department of Medical Genetics.

The Women's Health Research Institute (WHRI) is an enthusiastic champion of the importance of building a strong program of research within the Department of Medical Genetics, especially as it relates to the area of women's health. As evidence of our commitment to grow research capacity in this area, the WHRI has been a strong advocate for increased funding for the development of a world-class genomic medicine research program at BC Women's Hospital. In 2018, through a partnership with the BC Women's Health Foundation, the WHRI established the inaugural *Genomic Medicine Clinician Scientist Salary Award*. The purpose of this award was to enable a promising early- to mid-career clinical geneticist to become an independent clinician scientist who could lead a genomic medicine research program at BC Women's Hospital. The recipient of the first WHRI Genomic Medicine Clinician Scientist Salary Award was Dr. Anna Lehman who, through the support of this award, has been enabled to build a translational research program geared toward improving the process of genomic diagnosis.

Two local experts, Dr. Alison Elliot and Dr. Jehannine Austin are now developing a new research focused doctoral program— PhD in Medical Genetics in Genetic and Genomic Counselling, to be situated at the BC Children's and Women's Hospital campus. This initiative will establish UBC as the first university internationally to offer a PhD program in Genetic and Genomic Counselling and consolidate UBC's position as an international leader in genetic and genomic counselling research.

This novel PhD program will build on UBC's reputation as leader in the field of translational medicine, and increase our competitive advantage over other programs in attracting the best and brightest trainees both nationally and internationally. It will also position UBC Faculty of Medicine as a visionary in elevating the impact of Genetic and Genomic Counselling research in academic medicine.

The proposed PhD program in Genetic and Genomic Counselling will mark UBC as a trailblazer in the area of translational research and genomic health. Within the genetic counselling community, there is consensus that establishing the field as a legitimate academic discipline in its own right as the next frontier for the profession. There is a desire to follow the path of nursing in moving from being a community of exclusively clinical practitioners, to becoming a thriving and diverse community comprising clinical practitioners and academic researchers whose work forms the basis for clinical practice. In this proposal, we seek to establish UBC as the leader in enacting this change for the genetic counselling profession – to establish the first PhD program in genetic counselling.

The WHRI is fully and enthusiastically supportive of this proposal. One of our Strategic Plan goals is to advance the training of new women's health researchers (<http://whri.org/whri-strategic-plan-2019-2024/>). We have developed a Trainee Strategic Framework to aid the expansion of women's health research capacity by guiding our efforts to support the next generation of women's health scholars and addressing the critical need for mentorship in the field.

The proposed establishment of a research focused doctoral program in Genomic Counselling within the Department of Medical Genetics is fully aligned with this vision and our trainee strategic framework. The WHRI will be proud to support the trainees enrolled in this new PhD program in the following ways:

- Providing dedicated research facilitation support via access to the trained research staff of the WHRI, including access to a biostatistician, data management specialist, grant facilitator, research manager, coordinators and assistants, and a Knowledge Translation Specialist.
- Facilitating the communication of trainee research through the WHRI's communications channels, including our website, social media sites, e-newsletters and virtual research rounds.
- Providing office space, communications support and computer access to trainees.
- Providing access to the BC Women's Research Laboratory and to the newly built WHRI Wet Lab (located onsite at BC Women's Hospital + Health Centre).

As the Executive Director of the Women's Health Research Institute, I am enthusiastic in my support of the creation of a new doctoral program in Genomic Counselling. We look forward to cultivating and strengthening linkages between this PhD program, the Department of Medical Genetics, BC Women's Hospital, the WHRI, the UBC Department of Medicine, and national collaborators in order to provide the best possible evidence-based care for women and girls in British Columbia.

Sincerely,



**Lori A Brotto PHD, R PSYCH**

Executive Director, Women's Health Research Institute

Professor | Department of Obstetrics & Gynaecology, University of British Columbia

Canada Research Chair | Women's Sexual Health

Allied Staff Member | Vancouver Acute Health Service

Alison M. Elliott, PhD, MS, CGC  
Associate Professor  
Department of Medical Genetics  
University of British Columbia

Dear Alison,

It is with great enthusiasm that I support the proposal for the PhD in Genetic and Genomic Counselling at the University of British Columbia. This proposed PhD program will mark UBC as a trailblazer in the area of translational research and genomic health.

This thesis-based program will establish UBC as the centre of the advancement of the discipline of genetic counselling as a rigorous academic research-based discipline. The research embedded in this PhD program will include: innovative mechanisms for delivery of genetic counselling (online decision aids, utilization of videoconferencing, telehealth), investigation and development of best practices for delivery of genetic counselling, improving access to genetic counselling, in particular for underserved patient populations, health implementation science health economics, genomics, education, precision health, rare disease, ethics and policy.

Genome BC highly endorses “genomic counselling” research and through GBC funded initiatives like CAUSES (pediatric sequencing initiative), RAPIDOMICS (rapid genome sequencing in the neonatal intensive care unit), Indigenous Peoples and Genomics and most recently, GenCOUNSEL (the largest genetic counselling research grant ever awarded through the Large Scale Applied Research Project Genome Canada competition) - \$4.2M – Elliott lead, Austin Co-Lead (both genetic counsellors) GBC has provided genetic counselling trainees with opportunities to pursue their research questions which has resulted in awards and numerous publications in top genetic counselling journals.

We look forward to continuing to support high level evidenced-based research at the doctoral level and collaborating across a number of areas going forward including, but not limited to our goal of enhancing health care professional genomics education in BC.

Sincerely,



Pascal Spothelfer  
President & CEO



September 11, 2020

Alison M. Elliott, PhD, MS, CGC  
Associate Professor  
Dept of Medical Genetics  
University of British Columbia

Dear Dr. Elliott,

Thank you very much for your communication to the Michael Smith Foundation for Health Research regarding your proposed PhD in Medical Genetics in Genetic and Genomic Counselling program.

Funded by the province of BC, MSFHR helps develop, retain and recruit the talented people whose research improves the health of British Columbians, addresses health system priorities, creates jobs and adds to the knowledge economy. Our two core strategic directions are supporting health research talent, and strengthening research capacity across the province. As such, we are supportive of PhD programs such as yours that will attract outstanding students, and support them to develop a deep and strong academic/theoretical foundation in core aspects of their practice.

MSFHR offers a number of awards for which those associated with your program would be eligible and encouraged to compete for.

We wish you the best in the development of this program.

Sincerely,

*Bev Holmes*  
Dr. Bev Holmes  
President & CEO

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V6H 3X8 Canada

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September 14, 2020

Dr. Alison M. Elliott  
Associate Professor  
Department of Medical Genetics  
University of British Columbia

Dear Dr. Elliott,

With a remit that extends across both the Vancouver and Okanagan campuses, UBC Health works collaboratively across health professional programs and other health-related initiatives, to *strengthen the University's impact and capacity for excellence in health education and research*. UBC Health works with programs across the university to develop models of collaborative and team-based care (TBC), to help prepare the health care workforce of tomorrow. In one of our nascent initiatives, TBC@UBC, we have been pleased to engage with colleagues from Medical Genetics in developing a vision for evidence-informed team-based models of care.

The proposed PhD in Genetic and Genomic Counselling presents a unique opportunity for UBC to further these objectives through the pursuit of doctoral studies within the discipline of genetic counselling. Research in this thesis-based program is expected to be cross-disciplinary – with research foci, including models of decision making, patient-oriented research, applied bioethics, clinical genomics, diversity, privacy, health economics and practice-based implications. This orientation to training well resonates with the spirit of cross-disciplinary learning and synergies central to the work of UBC Health.

Graduates of this unique PhD program will enhance UBC's reputation for advancing excellence in health education and research, and ultimately benefit the health outcomes of our population both locally and internationally.

On behalf of UBC Health, I am pleased to support this significant proposal.

Sincerely,

**Anne Martin-Matthews, O.C., Ph.D., FCAHS**  
Associate Vice-President, Health | UBC Health  
Professor, Department of Sociology  
The University of British Columbia | Vancouver Campus  
400 - 2194 Health Sciences Mall | Vancouver BC | V6T 1Z3 Canada  
Phone 604 822 7333 | Fax 604 822 2495 (UBC Health)  
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September 16, 2020

Alison M. Elliott, PhD, MS, CGC  
Associate Professor  
Department of Medical Genetics  
Faculty of Medicine  
University of British Columbia

Dear Alison:

**Re: Letter of support for PhD in Genetic and Genomic Counselling**

I am very pleased to provide a letter of support for your proposal for the PhD in Genetic and Genomic Counselling Program at UBC.

This proposal will establish UBC as the leader in the field of genetic and genomic counselling. UBC is already home to our Large Scale Applied Research Project Grant, through Genome Canada “GenCOUNSEL – optimizing genetic counselling with clinical implementation of genome-wide sequencing” in addition to one of Canada’s largest MSc training program in Genetic Counselling and an online certification program in variant interpretation for practicing genetic counsellors internationally. The online program was funded by the Online Learning Advancement Fund by the Faculty of Medicine.

Our work together in genome sequencing initiatives like CAUSES (pediatric), RAPIDOMICS (rapid sequencing in the neonatal intensive care unit) and GenCOUNSEL have made significant contributions to the literature with respect to benchmarking for costing of sequencing, need for genetic counselling services, unique counselling issues for families in the pediatric and neonatal intensive care settings and we are currently working on projections around future need. This is important work as genetic counselling is recommended for all families considering genome sequencing. Furthermore, this testing is becoming increasingly available including to health care professionals external to genetics. Our transdisciplinary approach studying these issues establishes important strategies for health services implementation in order to optimize care for patients considering genome-wide sequencing and for the health care providers who follow these families.

Thus, the ongoing and rapid expansion of genetic testing services has created a need for a significant growth in research in the area of implementation and evaluation. UBC is well positioned to contribute to filling this need, and this PhD program will increase UBC’s competitive advantage over other programs in Canada and beyond in attracting the most exceptional trainees. It will also position UBC Faculty of Medicine as a visionary in advancing the impact of Genetic and Genomic Counselling research in academic medicine, generating thought leaders in the field.

I wish all the best with this important proposal, and I look forward to continuing our research collaborations in this area by contribution to the mentorship and training of students and future leaders in this area.

Regards,



Larry D. Lynd, PhD, FCAHS  
Professor and Director, Collaboration for Outcomes Research and Evaluation  
Associate Dean, Research – Faculty of Pharmaceutical Sciences





**Allison A. Eddy MD**  
**James & Annabel McCreary Chair in Pediatrics**  
**Head, Department of Pediatrics UBC**  
**Chief, Pediatric Medicine BCCH**  
**Hudson Family Hospital Chair in Pediatric Medicine**  
4480 Oak Street, Room 2D15  
Vancouver B.C. V6H 3V4  
Tel: 604-875-2923 Fax: 604-875-2969  
email: allison.eddy@cw.bc.ca



September 16, 2020

Alison M. Elliott, PhD, MS,CGC  
Associate Professor  
Department of Medical Genetics

Letter of support for PhD in Genetic and Genomic Counselling

Dear Alison,

It is a pleasure to provide a letter of support for your proposal for the PhD in Genetic and Genomic Counselling.

Genome sequencing has become an important part of clinical care for pediatric patients. This remarkable technology is extraordinarily powerful in diagnosing children with suspected genetic disease. It has transformed how we manage patients. However, results that are difficult to interpret and incidental findings are an inevitable consequence of this technology. Canadian, European and American guidelines state that pre- and post-test genetic counselling is recommended for all families considering genome sequencing. The role of the genetic counsellor is instrumental in ensuring families are making informed decisions consistent with their values.

Genome sequencing initiatives have been the focus of your work since relocating to UBC. On the Children's and Women's campus, projects like CAUSES (pediatric) and RAPIDOMICS (rapid sequencing in the neonatal intensive care unit) are important translational examples of precision medicine. Both initiatives generated significant evidence-based clinical genomics, health services and genetic and genomic counselling research with several resulting publications. Furthermore, many of these publications are the result of projects undertaken by the trainees in the MSc Genetic Counselling Training Program here at UBC who you have supervised.

This unique PhD program you are proposing will build on UBC's reputation as leader in the field of translational medicine, and increase our competitive advantage over other programs in Canada and beyond in attracting exceptional trainees. It will also position UBC Faculty of Medicine as a visionary in elevating the impact of Genetic and Genomic Counselling research in academic medicine. UBC is home to one of Canada's largest MSc in Genetic Counselling training programs, an online certification program in Variant interpretation for genetic counsellors practicing internationally, in addition to the largest research grant in genetic counselling ever awarded (\$4.27M) through the Genome Canada Large Scale Applied Research Project competition with you as Project Lead and Dr. Jehannine Austin (also a genetic counsellor) as Co-Lead.

I wish you much success with this important proposal.

British Columbia Children's Hospital and British Columbia Women's Hospital  
Sunny Hill Health Centre for Children

*C&W is an academic health centre affiliated with the University of British Columbia (UBC), Simon Fraser University,  
The Child & Family Research Institute (CFRI) and the Women's Health Research Institute.*



Sincerely,

A handwritten signature in black ink that reads "Allison Eddy". The signature is written in a cursive, flowing style.

Allison A. Eddy MD, FRCP(C)

British Columbia Children's Hospital and British Columbia Women's Hospital  
Sunny Hill Health Centre for Children

*C&W is an academic health centre affiliated with the University of British Columbia (UBC), Simon Fraser University,  
The Child & Family Research Institute (CFRI) and the Women's Health Research Institute.*



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September 12, 2020

Alison M. Elliott, PhD, MS, CGC  
Associate Professor  
Department of Medical Genetics  
Faculty of Medicine, UBC

September 10, 2020

Dear Alison:

It is with great excitement that I write this letter of support for the proposal for the new doctoral program— **PhD in Medical Genetics in Genetic and Genomic Counselling**.

This novel PhD program will build on UBC's reputation as leader in the field of translational medicine and positions UBC Faculty of Medicine as a visionary in elevating the impact of Genetic and Genomic Counselling research in academic medicine.

I know there is consensus in the genetic counselling community that establishing the field as a legitimate academic discipline in its own right is the next frontier for the profession. This parallels in some part the path of nursing in moving from being a community of exclusively clinical practitioners to a thriving community of clinical practitioners and academic researchers whose work forms the basis for the discipline's theory and clinical practice. Your proposal will catalyze this change for the genetic counselling profession – to establish the first PhD program in genetic and genomic counselling.

I wish you all the very best with this initiative.

Regards,

Elizabeth M. Saewyc, PhD, RN, FSAHM, FCAHS, FAAN  
Director and Professor, School of Nursing  
Executive Director, Stigma and Resilience Among Vulnerable Youth Centre (SARAVYC)  
Research Director, McCreary Centre Society



a place of mind  
THE UNIVERSITY OF BRITISH COLUMBIA



September 8, 2020

Alison M. Elliott, PhD, CGC

Associate Professor, Department of Medical Genetics

RE: Letter of support for PhD Program in Genetic and Genomic Counselling

Dear Alison,

It is with great enthusiasm that I write this letter of support for your proposal “PhD Program in Genetic and Genomic Counselling.” As Division Head of the Neonatal Intensive Care Unit (NICU) at BC Women’s Hospital, and Co-Principal Investigator of the RAPIDOMICS project (rapid genome-wide sequencing in the NICU), I have a great deal of experience with genome-wide sequencing (GWS) and the importance of genetic counselling for families considering this test.

As you know, our clinical genetic counselling research have resulted in important contributions to the literature. We demonstrated genetic counselling differences between families in the NICU and those of older patients: *Genetic Counseling Considerations With Rapid Genome-Wide Sequencing in a Neonatal Intensive Care Unit*; (Smith et al., J Gen Couns, 2019). Also, our recently published manuscript: *RAPIDOMICS: rapid genome-wide sequencing in a neonatal intensive care unit—successes and challenges*; (Elliott et al., Eur J Peds, 2019) discussed how our diagnostic rate was 60% with sequencing and there was an immediate change in medical management in 83% of diagnosed patients.

By evaluating patient outcomes with genetic counselling services for this population, we will be able to gather important health services data that will be very relevant once genome-wide sequencing becomes routinely available as a clinical service.

I wish you all the best on this application and look forward to working with you on this important project.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Horacio Osio'.

Horacio Osio MD, FRCP  
Division Head of Neonatology  
Clinical Professor of Pediatrics  
University of British Columbia

## THE UNIVERSITY OF BRITISH COLUMBIA

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September 8, 2020

Dr Alison Elliott  
Associate Professor,  
Medical Genetics  
University of British Columbia

Re: Proposed PhD in Genetic and Genomic Counselling

Dear Alison,

This letter is in support of a new academic degree: The PhD in Genetic and Genomic Counselling.

Genetic counselling is a new profession – it was essentially unknown in Canada until the mid-1980s, and the first genetic counselling master's training program in Canada began, at the University of British Columbia, in 1996. Genomic counselling – an extension of genetic counselling that recognizes the intricacies of providing support and guidance through genomic healthcare, is even younger: The world's first certificate in Genomic Counselling and Variant Interpretation welcomed its inaugural class of international genetic counsellors on September 8<sup>th</sup>, 2020, again at U.B.C. Clearly, UBC is a world leader in developing this profession.

The University of British Columbia has a history of recognizing the importance of formal academic training in professions. For example, Canada's first degree in nursing was also at UBC 100 years ago: Insightful nursing leaders recognized that formation of a profession requires a scholarly approach to developing the body of knowledge that defines a profession's roles and functions. Like nurses, genetic and genomic counsellors work closely with medicine and allied health professionals. But unlike nursing, genetic counsellors have few formal opportunities for the academic research that is fundamental to defining clinical practice, and for defining a profession with a distinct body of knowledge.

As a nurse who completed one of the earliest Canadian graduate degrees in that discipline, I recognize that the genetic counselling profession is today at the stage where nursing was many years ago: The next step is absolutely clear: There needs to be a conscious decision to perform basic research to address many fundamental questions in genetic counselling – questions that define the validity of the profession itself.

Proposing a PhD in genetic and genomic counselling is a visionary move towards the goal of guiding the profession towards evidence-based practice via the creation of new knowledge. Graduates will be expected to become clinical leaders, educators, administrators, researchers, and take leading roles in healthcare management, providing advice on best practices at all levels of healthcare decision-making.

The PhD in genetic and genomic counselling will also attract the brightest genetic counsellors to British Columbia. I have no doubt that you will success in developing an excellent program that will solidify this province's position as an international leader in genetic and genomic healthcare.

Sincerely



Patricia Birch  
Clinical Associate Professor  
Department of Medical Genetics  
University of British Columbia



**Department of Human Genetics**  
3640 rue University, Room W315-C  
Montreal, Quebec H3A 0C7

September 16, 2020

Alison M. Elliott, PhD, MS, CGC  
Associate Professor  
Dept of Genetics  
University of British Columbia

Dear Alison,

I am a genetic counsellor and Program Director of the MSc in Genetic Counselling Program at McGill University. As you know, the McGill genetic counselling program was the first in Canada and has a long legacy of teaching and research in genetics. We consider our Program to be an important contributor to the current genetic counselling workforce in North America as well as active in the global network of genetic counselling education.

Recently I became aware of the PhD program in Genetic and Genomic Counselling in development at UBC and stand in **strong support** of it. Every field in the health professions must have a research branch that can support the evaluation and incorporation of findings from basic science, social science and educational scholarship into the clinic and training programs. In order for our field to grow to meet the exponential needs for genetic and genomic counselling of the population, a doctoral level research program must be part of the educational landscape. It is no longer appropriate for genetic counsellors who wish to pursue research training in our field to have to do so in other disciplines such as psychology or basic science.

We wish you every success in implementing the program and foresee a healthy (if not overwhelming) demand for it.

Sincerely,

A handwritten signature in black ink that reads "Jennifer Fitzpatrick".

Jennifer Fitzpatrick, MS, CGC  
Assistant Professor  
Director, MSc in Genetic Counselling Program



**University  
of Manitoba** | Rady Faculty of Health Sciences  
Max Rady College of Medicine

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[jessica.hartley@umanitoba.ca](mailto:jessica.hartley@umanitoba.ca)

September 18, 2020

Alison M. Elliott, PhD, MS, CGC  
Associate Professor  
Department of Medical Genetics, UBC

Dear Dr. Elliott,

I am a genetic counsellor and Program Director of the University of Manitoba MSc in Genetic Counselling Program. I am in support of the proposed PhD program in Genetic and Genomic Counselling at UBC, which will serve needs of Canadians and the genetic counselling profession.

We are the only Canadian program where students complete Masters Thesis. This MSc thesis provides a unique opportunity for genetic counselling students to make a significant impact on the field, first through dissemination of their work, and second in providing the skills and experiences to facilitate continued involvement in research throughout their careers. In fact, students, applicants and employers have identified our research training as a strength among the Canadian Programs.

The proposed PhD program in Genetic and Genomic Counselling at UBC aligns with these values. There is a need for genetic counsellors with the education and capacity to lead research projects in their field. The rapid changes in access to genetic testing and the evolving professional role warrants a continued and deep research focus. Further, the proposed program provides an opportunity for interested counsellors to contribute to the academic discipline focusing on areas such as service delivery and patient experience, to meet the needs of Canadians.

In summary, I am in support of the proposed PhD program in Genetic and Genomic Counselling at UBC. The establishment of this program will permit further growth in research capacity in the genetic counselling profession and will foster academic collaboration toward improving patient care. I am available for further discussion should questions arise (204-789-3717) or [jessica.hartley@umanitoba.ca](mailto:jessica.hartley@umanitoba.ca)

Regards

Sincerely,

Jessica Hartley, MS, CGC  
Program Director, Genetic Counselling Program  
Assistant Professor



THE UNIVERSITY OF BRITISH COLUMBIA

**MSc. Genetic Counselling Program**

Medicine | Medical Genetics

The University of British Columbia | C &amp; W Hospital

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Dr. Alison M. Elliott  
Associate Professor  
Department of Medical Genetics  
University of British Columbia

September 10, 2020

Dear Dr. Elliott

The UBC Master's Program in Genetic Counselling is a strong supporter and ongoing collaborator for the proposed PhD program in Genetic Counselling. In accordance with our Mission statement, the UBC Genetic Counselling Program is committed to building excellence and supporting innovation in genetic counselling for patient care, education, research, and leadership. The PhD in Genetic and Genomic Counselling at UBC presents a unique opportunity for UBC to meet these goals through the pursuit of the first ever doctoral studies within the discipline of genetic counselling.

Established in 1996, the UBC MSc in Genetic Counselling is one of the largest programs in Canada. We have over 130 graduates to date who have gone on to pursue careers in genomic research, private industry, public and private clinical services, as well as policy development. Many alumni and faculty have become international leaders in the field. Competition between programs for the top applicants is fierce, and the PhD program offers a unique competitive advantage to continue to attract the best and the brightest to our campus.

Previously, for genetic counsellors who wish to pursue an academic path through doctoral studies, they have had to accomplish this in other disciplines due to the lack of a PhD specific to our field. The profession of genetic counselling is ready to establish the field as a legitimate academic discipline in its own right as the next frontier for the profession.

UBC has established itself as a trailblazer in genetic counselling. UBC supports the academic development of genetic counselling faculty with two tenured genetic counsellors and is the academic institution for the largest genetic counselling research grant ever awarded (\$4.2M). Our world renowned faculty have recently launched an online certification course in variant interpretation and genomic counselling for practicing genetic counsellors internationally, and has attracted a significant cohort of PhD genetic counsellors to UBC who lend their expertise as faculty members or teaching and research.



Graduates of this novel PhD program will enhance UBC's reputation for advancing excellence in health education and research and ultimately benefit the health of our population both locally and internationally.

It is with extreme enthusiasm that the UBC MSc Genetic Counselling supports this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Scott', with a long horizontal flourish extending to the right.

Jenna Scott, MS, CGC  
Program Co-Director  
UBC MSc Program in Genetic Counselling

A handwritten signature in black ink, appearing to read 'Tracey Oh', with a large, stylized loop at the beginning and a horizontal flourish at the end.

Tracey Oh, MS, CGC  
Program Co-Director  
UBC MSc Program in Genetic Counselling



20 October 2021

To: Vancouver Senate

From: Senate Curriculum Committee

Re: October Curriculum Proposals (approval)

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The Senate Curriculum Committee has reviewed the material forwarded to it by the Faculties and encloses those proposals it deems as ready for approval.

The following is recommended to Senate:

**Motion:** *“That the new courses brought forward by the Faculties of Graduate and Postdoctoral Studies (Education) and Forestry be approved.”*

Respectfully submitted,

Dr. Claudia Krebs, Chair  
Senate Curriculum Committee



## **FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES**

### **Education**

*New course*

**EDCP 546 (3)** Indigenous Visual Expression as Pedagogy

## **FACULTY OF FORESTRY**

*New course*

**FRST 107 (0)** Introduction to Forestry Co-op

## UBC Curriculum Proposal Form Change to Course or Program

**Category: 1**

<p><b>Faculty:</b> Education  <b>Department:</b> Curriculum and Pedagogy  <b>Faculty Approval Date:</b> 05/05/2021  <b>Effective Session (W or S):</b> W  <b>Effective Academic Year:</b> 2022</p>	<p><b>Date:</b> March 4<sup>th</sup>, 2021  <b>Contact Person:</b> Dr. Shannon Leddy  <b>Phone:</b> 604-822-9069  <b>Email:</b> shannon.leddy@ubc.ca</p>
<p><b>Proposed Calendar Entry:</b></p> <p><b>EDCP 546 (3) Indigenous Visual Expression as Pedagogy</b></p> <p>Pedagogical implications of Indigenous art making and visual expression both for Indigenous peoples and for non-Indigenous viewers and consumers through the lenses of misrepresentation, self-representation, and auto-pedagogical potential and practice.</p>	<p><b>URL:</b> None</p> <p><b>Present Calendar Entry:</b> N/A</p> <p><b>Type of Action:</b> new course</p> <p><b>Rationale for Proposed Change:</b>  There remains a critical need for graduate courses in our Faculty with an Indigenous focus. Indeed, this course may also be of interest to students in the Faculty of Arts as well, particularly those interested in Indigenous studies, museum studies, and public pedagogies. Further, few courses are currently offered that focus specifically on Indigenous pedagogies. Finally, the course assists the Department of Curriculum and Pedagogy in meeting the goals of our faculty and department strategic goals, as well as the goals of UBC's Indigenous Strategic Plan.</p> <p>Indigenous Visual Expression as Pedagogy offers students insight into Indigenous pedagogies linked to cultural and political material culture and art making practices and serves as a mechanism for decolonizing curriculum by exploring the history of display practices for Indigenous material culture, definitions of art, modernity, and the politics inherent in how these discourses are informed.</p> <p>Indigenous art, in this context, is viewed as a radical act of self-expression that challenges historic misrepresentation</p>

	<p>through self-representation. In this course we engage in a process of phenomenological art inquiry, reading the art as text, developed as part of Dr. Leddy's dissertation research. This course has now run in three terms as a special topics course (W 2 2019, S2 2020, and W2 2020) so this application is for course regularization.</p> <p style="text-align: center;"><b>Not available for Cr/D/F grading (undergraduate courses only)</b></p> <p>(Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)</p> <p><b>Rationale for not being available for Cr/D/F:</b> The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.</p> <p style="text-align: center;"><b>Pass/Fail or      Honours/Pass/Fail grading</b></p> <p>(Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</p>
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## UBC Curriculum Proposal Form

### Change to Course or Program

#### Category: 1

<p><b>Faculty:</b> FRST  <b>Department:</b> Forestry Co-op  <b>Faculty Approval Date:</b> 1 September 2021  <b>Effective Session (W or S):</b> W  <b>Effective Academic Year:</b> 2021</p>	<p><b>Date:</b> August 15, 2021  <b>Contact Person:</b> Chiara Longhi  <b>Phone:</b> 604-822-9187  <b>Email:</b> chiara.longhi@ubc.ca</p>
<p><b>Proposed Calendar Entry:</b>          (40 word limit for course descriptions)</p> <p><b>FRST 107 (0) Introduction to Forestry Co-op</b></p> <p>An introduction to Forestry Co-op including: completion of preemployment workshops, career skills toolkits, networking opportunities, interview training, individual coaching sessions, and job search skills. Restricted to students meeting the requirements of the Faculty of Forestry Co-operative Education Program.</p>	<p><b>URL:</b> n/a</p> <p><b>Present Calendar Entry:</b> n/a</p> <p><b>Type of Action:</b> n/a</p> <p><b>Rationale for Proposed Change:</b>          The Forestry co-op program is proposing the development of a 0 credit course for newly admitted co-op students and continuing co-op students to participate in prior to their first work term. The course being proposed will be open to all of our students in all of the different Forestry Programs.</p> <p>The creation of this 0 credit course allows the co-op program to formalize the pre-job search curriculum that has been well established and is a requirement of participation of the program as per our accreditation guidelines. This will allow for a stronger student experience for newly admitted students and better understanding of what is expected when they are admitted to the program. Another reason for this proposal is to be able to meet FIPPA requirements for a resume checking software called VMock that is made available to students once they are admitted to co-op. Having students registered for a course allows for us to implement and utilize CWL integration for the software. This change is being done in collaboration with both the Arts and Sauder co-op programs who also use this software at the UBC Vancouver campus.</p> <p><input checked="" type="checkbox"/> <b>Not available for Cr/D/F grading</b>          (undergraduate courses only)          (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)</p> <p><b>Rationale for not being available for Cr/D/F:</b>          The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.</p> <p><input checked="" type="checkbox"/> <b>Pass/Fail or</b> <input type="checkbox"/> <b>Honours/Pass/Fail grading</b>          (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</p>

# STUDENT EXPERIENCE OF INSTRUCTION

## 2020W REPORT TO SENATE

Abdel Azim Zumrawi, PhD, P.Stat.  
Planning & Institutional Research (PAIR)

## **EXECUTIVE SUMMARY**

This report summarizes the results for 8,200 Student Experience of Instruction (SEI) reports, for 7,087 course sections in which the University Module Items (UMI) were administered during 2020W1 and 2020W2 sessions. During this period, the majority of instruction at UBC was offered fully online. About half of the SEI ratings in 2020W had an interpolated median of 4.5 or higher for all UMI questions (on a 5-point scale), with favourable ratings (sum of 'agree' and 'strongly agree' responses) greater than 75%. This represents a remarkable achievement given the challenges and uncertainties that faculty and TAs teaching courses experienced, and shows evidence of the care and attention devoted to supporting students in their continued learning activities despite challenging circumstances. On the other hand, less than 10% of the ratings had an interpolated median below 3.5 and with favourable rating of less than 50%. Both of these results are similar to those obtained in previous years. For all University Module Items (UMI), there were no statistically significant differences between SEI score distributions in the 2020 Winter Terms when compared to the corresponding Winter Terms of 2019.

Overall, 51% of surveys in Term 1 (2020W1) met or exceeded the university's recommended minimum response rate, slightly lower than 57% in Term 1 of the previous year (2019W).

However, in Term 2 only 40% of the ratings met or exceeded the university's recommended minimum response rates a modest improvement when compared to the 32% reported in Term 2 of 2019 (interrupted in March 2020 by COVID19 restrictions).



## 1. SCOPE OF IMPLEMENTATION

8,200 Student Experience of Instruction (SEI) reports were submitted to the University, for 7,087 course sections in which the University Module Items (UMI) were administered in 2020W. This represents a 2.8% increase in the number of course sections, but slight decrease in the number of submitted ratings, compared to the 8,241 ratings in 2019W. 3,850 of the 2020W SEI reports (47%) were from winter Term 1, and 4,350 (53%) from Term 2.

A summary of the scope of implementation, by Faculty and year level, is shown in Table 1.

**Table 1. Scope of 2020W Implementation<sup>1</sup>**

FACULTY	NUMBER OF INSTRUCTORS EVALUATED <sup>2</sup>					
	100 Level	200 Level	300 Level	400 Level	Grad	Total
<b>Applied Science</b>	98	180	170	187	356	991
<b>Arts</b>	699	391	839	410	419	2,758
<b>Commerce</b>	61	144	245	158	134	742
<b>Dentistry</b>	3	10	7	126	18	164
<b>Education</b>	28	21	292	265	238	844
<b>Forestry</b>	17	38	40	46	55	196
<b>Land &amp; Food Systems</b>	10	21	59	45	44	179
<b>Law</b>	0	39	67	79	51	236
<b>Medicine<sup>3</sup></b>	11	19	75	118	318	541
<b>Pharmaceutical Sciences</b>	29	23	40	8	4	104
<b>Science</b>	388	237	326	171	211	1,333
<b>Vantage College</b>	72	40	0	0	0	112
<b>TOTAL</b>	1,416	1,163	2,160	1,613	1,848	8,200

<sup>1</sup> In accordance with the Senate Policy, courses of an independent nature, sections with very small enrolments and those where other forms of evaluation are more appropriate are not included in this analysis.

<sup>2</sup> Unique course section/instructor combination.

<sup>3</sup> Includes Medicine courses evaluated by Science.

## 2. RESPONSE RATES

Percentage of SEI reports with response rates that met or exceeded the recommended minimum response rates are shown in Tables 2 and 3, for Terms 1 and 2, respectively; including comparative data for 2019W. Overall, response rates are lower in Term 2 compared to Term 1. In Term 1 (2020 W1), 51% of evaluations met/exceeded the recommended minimum response rates, compared to 57% in winter Term 1 of 2019. However, response rates are comparable in sections with 100 or more students (last two columns of Table 2). It is worth noting that winter Term 1 of 2019 was the last, fully in-person, academic Term before the COVID-19 epidemic.

**Table 2. Sections Meeting or Exceeding the Recommended Response Rate in 2020 Term 1**

Class Size <sup>1</sup>	Course Sections	Number of Evaluations	Total Enrolment	Recommended Minimum Response Rate <sup>1</sup>	% meeting minimum recommended	
					2020W1	2019W1
≤ 10	217	248	1,751	75%	27%	37%
11 -19	592	678	8,903	65%	27%	37%
20 -34	956	1,026	25,243	55%	31%	41%
35 - 49	561	618	22,984	40%	56%	63%
50 -74	355	397	21,513	35%	57%	57%
75 -99	163	184	14,135	25%	84%	92%
100 -149	260	325	31,289	20%	91%	93%
150 - 299	239	319	49,439	15%	92%	87%
300 - 499	31	45	10,527	10%	100%	100%
> 500	4	10	4,153	5%	100%	100%
<b>Overall</b>	<b>3,378</b>	<b>3,850</b>	<b>189,937</b>		<b>51%</b>	<b>57%</b>

<sup>1</sup> Zumrawi, A., Bates, S. & Schroeder, M (2014). What response rates are needed to make reliable inferences from student evaluations of teaching? *Educational Research and Evaluation: An International Journal on Theory and Practice*, 20:7-8, 557-563

As evident in table 2, more than two thirds of the sections in Term 1, with less than 35 students, did not meet the recommended minimum response rate.; these sections accounted for 19% of the total enrollment in the Term. In Term 2 (Table 3), 40% of SEI reports met or exceeded the minimum recommended response rates, which is a modest improvement compared to the 32% in Term 2 of 2019. Nonetheless, in Term 2 more than half of the sections with less than 75 students, did not meet the minimum recommended response rate. These sections accounted for 47% of the total enrollment in the Term.

**Table 3. Sections Meeting or Exceeding the Recommended Response Rate in 2020 Term 2**

Class Size <sup>1</sup>	Course Sections	Number of Evaluations	Total Enrolment	Recommended Minimum Response Rate	% meeting minimum recommended	
					2020W2	2019W2
≤ 10	378	455	3,015	75%	21%	19%
11 -19	736	834	11,089	65%	21%	11%
20 -34	962	1088	25,222	55%	27%	16%
35 – 49	552	608	22,437	40%	42%	32%
50 -74	400	514	23,872	35%	40%	34%
75 -99	213	250	18,493	25%	68%	66%
100 -149	237	289	28,743	20%	85%	80%
150 - 299	212	292	43,293	15%	93%	88%
300 - 499	18	19	6,145	10%	100%	100%
> 500	1	1	937	5%	100%	100%
<b>Overall</b>	3,709	4,350	183,246		40%	32%

### 3. RESULTS

Statistics reported and used to summarize instructor ratings in this section include: The Interpolated Median (IM), Dispersion Index (DI), and Percent Favorable Rating (PFR).

The interpolated median (adjusted median) is an appropriate measure for the center of the data, and is computed by adjusting the customary median (50% percentile). The extent of the adjustment depends on the distribution of SEI ratings relative to the customary median i.e., how many of the students' scores are greater than, equal to, or less than the customary median.

The dispersion index is a measure of variability in student scores. It ranges in value from zero to 1.0. A value of zero is obtained when all student respondents agree on the same rating. A value of 1.0, on the other hand, occurs when respondents split 50/50 between scores of strongly disagree and strongly agree. (This rarely happens in practice; values for the dispersion index in 2020W range from 0 - 0.88, but dispersion was higher than 0.8 in only 31 of 3,680 evaluations that met the minimum expected response rates).

Percent favourable rating reflects the ratio of students who responded with 'Agree' or 'Strongly Agree' as a percentage of all respondents.

The IM scores for the 6 UMI questions by year level, are shown in Tables 4 and 5 for Term 1 and Term 2, respectively. Average percent favourable rating (agree and strongly agree) is given in parenthesis. For all UMI questions, there were no significant differences in the distributions of SEI ratings between the corresponding Terms of 2020 and 2019. The percentiles of the distributions are shown, by academic Term, in Appendix A.

**Table 4. 2020 Term 1 IM Score and (Percent Favourable Rating) by Year Level<sup>1, 2,3</sup>**

UMI	Year Levels						2019W1 Median
	100 Level	200 Level	300 Level	400 Level	Grad	Overall	
1. The instructor made it clear what students were expected to learn	4.3 (82%)	4.3 (81%)	4.4 (82%)	4.4 (84%)	4.5 (86%)	4.4 (83%)	4.3
2. The instructor communicated the subject matter effectively	4.3 (79%)	4.3 (78%)	4.3 (79%)	4.4 (82%)	4.5 (85%)	4.3 (80%)	4.3
3. The instructor helped inspire interest in learning the subject matter	4.2 (72%)	4.3 (74%)	4.4 (78%)	4.5 (80%)	4.6 (85%)	4.3 (76%)	4.3
4. Overall evaluation of student learning (through exams, essays, presentations, etc.) was fair	4.2 (77%)	4.2 (75%)	4.4 (80%)	4.5 (83%)	4.6 (87%)	4.3 (79%)	4.3
5. The instructor showed concern for student learning	4.2 (78%)	4.3 (81%)	4.5 (83%)	4.5 (85%)	4.6 (90%)	4.4 (82%)	4.3
6. Overall the instructor was an effective teacher	4.3 (79%)	4.3 (79%)	4.4 (80%)	4.4 (83%)	4.6 (87%)	4.3 (81%)	4.3

<sup>1</sup> Based on a 5-point scale, where 1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree<sup>2</sup> Interpolated Median<sup>3</sup> Percent favourable rating (in parenthesis) defined as the percentage of respondents who rated the instructor a 4 or 5.

**Table 5. 2020 Term 2 IM Score and (Percent Favourable Rating) by Year Level<sup>1, 2,3</sup>**

UMI	Year Levels						2019W2 Median
	100 Level	200 Level	300 Level	400 Level	Grad	Overall	
1. The instructor made it clear what students were expected to learn	4.3 (83%)	4.3 (84%)	4.3 (84%)	4.3 (83%)	4.4 (88%)	4.3 (84%)	4.4
2. The instructor communicated the subject matter effectively	4.2 (80%)	4.3 (81%)	4.3 (81%)	4.3 (82%)	4.4 (86%)	4.3 (82%)	4.4
3. The instructor helped inspire interest in learning the subject matter	4.2 (76%)	4.2 (77%)	4.3 (81%)	4.3 (81%)	4.5 (86%)	4.3 (81%)	4.4
4. Overall evaluation of student learning (through exams, essays, presentations, etc.) was fair	4.3 (82%)	4.3 (81%)	4.4 (83%)	4.4 (86%)	4.5 (88%)	4.4 (84%)	4.4
5. The instructor showed concern for student learning	4.3 (82%)	4.4 (83%)	4.4 (85%)	4.4 (87%)	4.6 (90%)	4.4 (86%)	4.5
6. Overall the instructor was an effective teacher	4.3 (81%)	4.3 (81%)	4.3 (82%)	4.3 (83%)	4.5 (87%)	4.3 (83%)	4.4

<sup>1</sup> Based on a 5-point scale, where 1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree<sup>2</sup> Interpolated Median<sup>3</sup> Percent favourable rating (in parenthesis) defined as the percentage of respondents who rated the instructor a 4 or 5.

#### 4. MAGNITUDE AND VARIABILITY OF RATINGS

In this section we consider all 3 key statistics (IM, DI and PFR) in summarizing SEI ratings. Table 6 provides an analysis of UMI question 5 ('The instructor showed concern for student learning') in Term 1, for evaluations meeting minimum response rates. Average percent favourable rating, within each cell in the Table, is given in parenthesis.

As an example of how to interpret the data in Table 6, consider the middle row in the Table. There are 235 SEI reports within this rating band of UMI 5 score between 3.5 and 4.0. Of these, 128 have a dispersion index between 0.4 and 0.55, and within these 128 reports, there is (on average) 64% of respondents who rated their experience of instruction favourably (the sum of 'agree' and 'strongly agree' categories on UMI 5).

Thus, it would be plausible, within this subset of the dataset, to find a median UMI score of e.g. 3.7, where more than two thirds of the student respondents rated their experience favourably. This illustrates the additional insight gained from considering both the interpolated median of the UMI score and the variability in instructor rating that this measure of dispersion provides, rather than relying on a single metric alone.

Table 6: 2020 Winter Term 1 - Distribution of Instructor Ratings for UMI Question 5 for Surveys Meeting the Recommended response Rate (% favourable rating in parenthesis).

	Variability in SEI Rating (dispersion)							Total
	0	< 0.2	0.2 - 0.3	0.3 - 0.4	0.4 - 0.55	0.55-0.70	0.7-0.85	
<b>IMedian</b>	Number of Evaluations (% Favourable Rating in Parenthesis)							
<b>&lt; 5.0</b>	31 (100%)	291 (99%)	360 (97%)	249 (91%)	83 (85%)	10 (77%)	1 (67%)	<b>1,025</b>
<b>&lt; 4.5</b>			73 (96%)	246 (87%)	253 (78%)	37 (72%)	3 (63%)	<b>612</b>
<b>&lt; 4.0</b>			4 (77%)	28 (68%)	128 (64%)	69 (59%)	6 (57%)	<b>235</b>
<b>&lt; 3.5</b>				3 (40%)	18 (42%)	25 (40%)	6 (42%)	<b>52</b>
<b>&lt; 3.0</b>					2 (19%)	16 (26%)	5 (30%)	<b>23</b>
								<b>1,947</b>

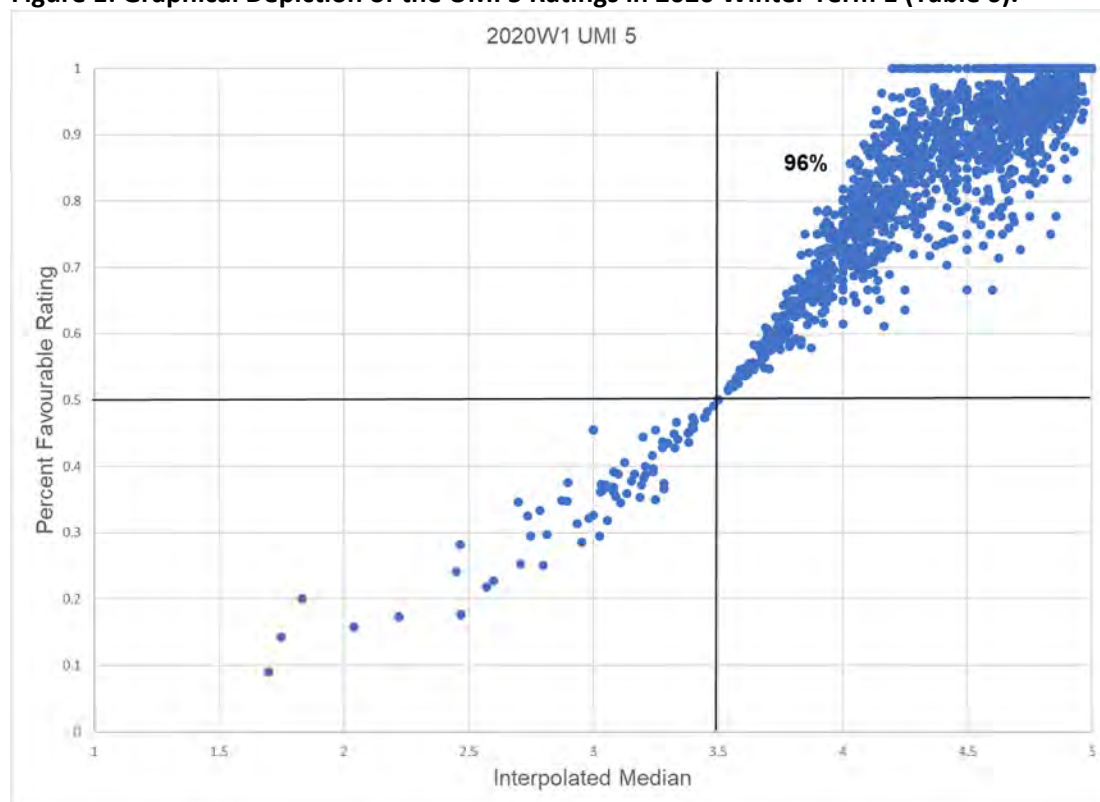
As would be expected, favourable rating decreases – on average - as dispersion increases in the first three rows (IM of 3.5 or more), but increases with dispersion in the lower two rows (IM

less than 3.5). Thus, evaluations in the upper left cells have high ratings, with low variability, resulting in higher percentages of favourable ratings. Whereas the lower left cells show low ratings, with low variability in students' scores, resulting in low percentages of favourable ratings. Furthermore, SEI evaluations in the bottom two rows, corresponding to an IM of less than 3.5, have percent favourable ratings not exceeding 50%.

As evident in Table 6, most of the low ratings with low dispersion index (lower left cells of the Table) are from surveys that did not meet the minimum recommended response rates, i.e., few or no evaluations that met the minimum recommended response rates are found in these cells.

Low ratings with high dispersion should be interpreted within context, considering factors such as response rate, class size and the magnitude of the dispersion. Few, if any, SEI ratings with extreme dispersion index, met the minimum recommended response rate (last column in Table 6). It is worth noting that such extreme distributions, indicative of polarized ratings, are not common and mostly occur in smaller classes; often where the minimum recommended response rate is not met. Figure 1 is a graphical depiction of the data in Table 6, plotting two of the key statistics – IM against PFR.

**Figure 1: Graphical Depiction of the UMI 5 Ratings in 2020 Winter Term 1 (Table 6).**





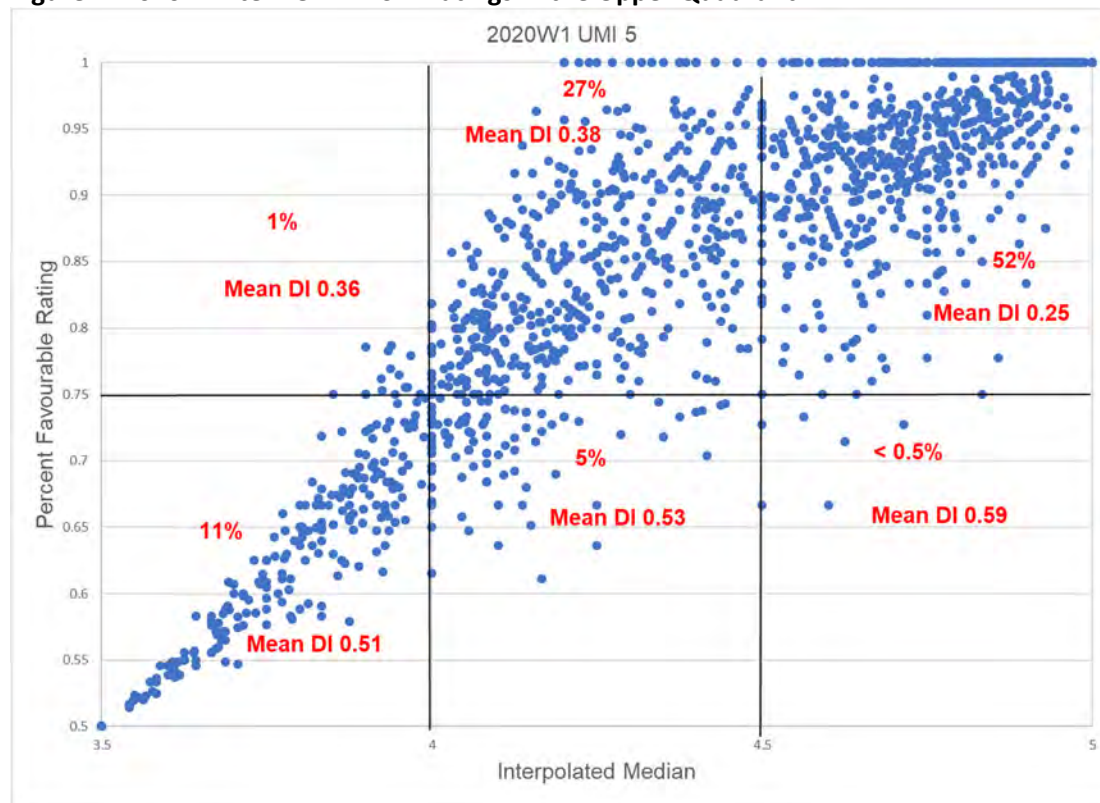
As evident in Figure 1, the pivot point in the relationship between IM and PFR, on a 5-point scale, is an IM of 3.5 and 50% favourable rating. The relationship between the two metrics is such that, no instructor evaluation with an IM below 3.5 would have favourable ratings above 50%, nor would evaluations with an IM above 3.5 ever have favourable ratings below 50%.

As such, the upper right quadrant in Figure 1 corresponds to the first three rows in Table 6. 96% of Term 1 UMI 5 ratings are in this quadrant. Likewise, the lower left quadrant (with 4% of the ratings) corresponds to the bottom two rows in the Table and includes evaluations with favourable ratings not exceeding 50%.

Figure 2 is a closer look at the SEI ratings in the upper right quadrant of Figure 1. 52% of the UMI 5 ratings in Term 1 are in the upper rightmost sub-quadrant of Figure 2, with low dispersions and IM above 4.5. Almost 80% of the UMI 5 ratings in Term 1 are in the two upper right sub-quadrants, with IM above 4.0 and over 75% favourable rating.

This visualization illustrates a remarkable feature that is often obscured in Tables of data: in about four-fifths of all evaluations in Winter Term 1, 75% or more student respondents 'agree' or 'strongly agree' that the instructor showed concern for student learning. Given the circumstances under which these courses took place, this is a significant achievement.

**Figure 2: 2020 Winter Term 1- SEI Ratings in the Upper Quadrant**



Term 2 data for UMI question 5 is qualitatively equivalent; a summary and a graphical representation is shown in Appendix B. Graphical representation of SEI ratings for UMI questions 1, 2, 3 and 6 are shown in Appendix C. UMI question 4 has been consistently answered by fewer students and was not included in this analysis (and this question will be replaced in the UMI set from 2021).

## 5. LOOKING FORWARDS

The Student Evaluation of Teaching Working Group Recommendations were endorsed by both UBC Vancouver and UBC Okanagan Senates in May 2020. A committee was tasked with planning for the implementation of the Working Group recommended changes to the UMI questions. The recommended new questions were tested and refined in a series of sessions with faculty and students, including a pilot survey in the summer of 2021. A set of new 6 UMI questions (on a 5-point Likert scale) and 3 open-ended questions were approved by both the UBC-Vancouver Senate Teaching and Learning Committee and the UBC-Okanagan Learning and Research Committee in August 2021. Five of these six were rewordings of the current questions; UMI 4 was replaced. The following new UMI questions will be implemented across both campuses starting in Fall 2021:

1. Throughout the term, the instructor explained course requirements so it was clear to me what I was expected to learn.
2. The instructor conducted this course in such a way that I was motivated to learn.
3. The instructor presented the course material in a way that I could understand.
4. Considering the type of class (e.g., large lecture, seminar, studio), the instructor provided useful feedback that helped me understand how my learning progressed during this course.
5. The instructor showed genuine interest in supporting my learning throughout this course.
6. Overall, I learned a great deal from this instructor.

As well, a set of three open-ended questions are included on surveys on both campuses starting in Fall 2021:

1. Please identify what you consider to be the strengths of this course.
2. Please provide suggestions on how this course might be improved.
3. Do you have any suggestions for what the instructor could have done differently to further support your learning?
- 4.

For more information on these changes see

<https://seoi.ubc.ca/files/2021/09/One-Pager-SEI-Changes-Faculty.pdf>

Information about Student Experience of Instruction at UBC is available at

<https://seoi.ubc.ca/>.

## APPENDIX A

### 2020W UMI Interpolated Median Percentiles

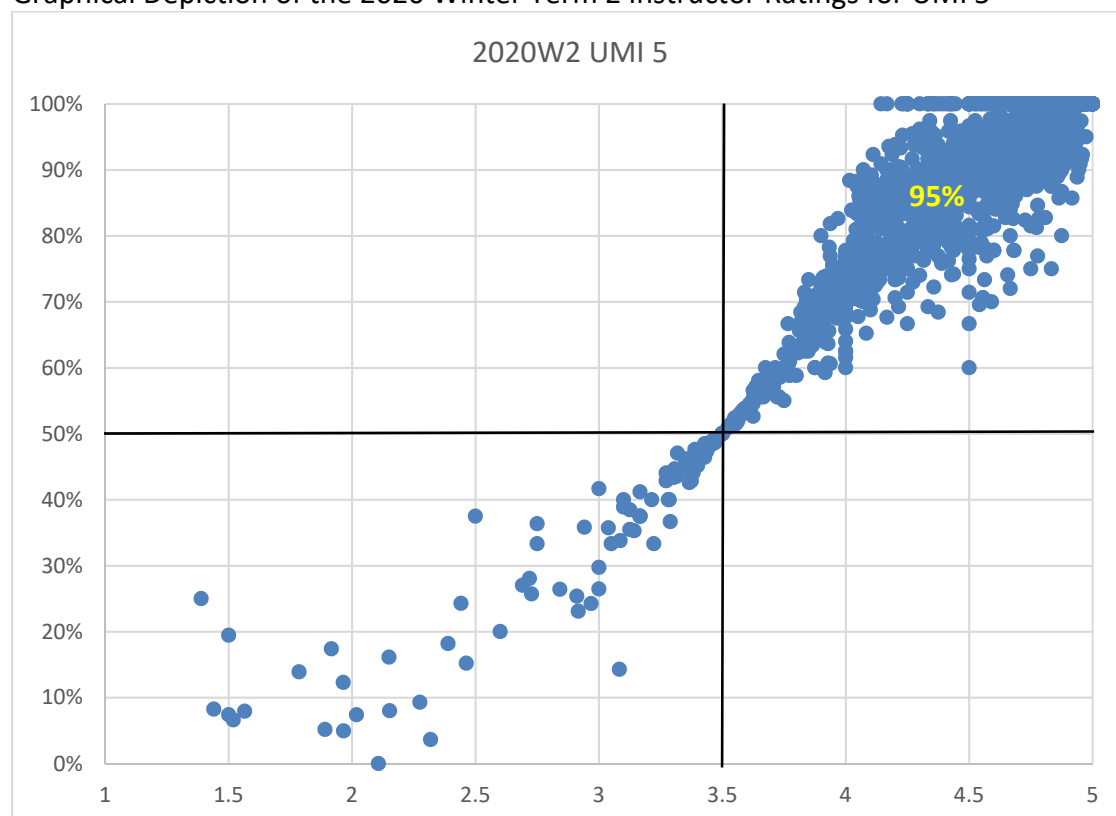
UMI	Term	5 <sup>th</sup> Percentile	25 <sup>th</sup> Percentile	50 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile	Interquartile Range
1	2020W1	3.3	4.0	4.4	4.7	4.9	0.7
	2020W2	3.3	4.0	4.5	4.8	5.0	0.7
2	2020W1	3.2	4.0	4.4	4.8	4.9	0.8
	2020W2	3.2	4.0	4.5	4.8	5.0	0.8
3	2020W1	3.1	4.0	4.5	4.8	5.0	0.8
	2020W2	3.1	4.0	4.5	4.8	5.0	0.8
4	2020W1	3.3	4.1	4.5	4.8	5.0	0.7
	2020W2	3.4	4.1	4.5	4.8	5.0	0.7
5	2020W1	3.5	4.1	4.5	4.8	5.0	0.7
	2020W2	3.4	4.1	4.6	4.8	5.0	0.7
6	2020W1	3.2	4.0	4.5	4.8	5.0	0.8
	2020W2	3.2	4.0	4.5	4.8	5.0	0.8

## APPENDIX B

2020 Winter Term 2 - Distribution of Instructor Ratings for UMI Question 5 for Surveys Meeting the Recommended response Rate (% favourable rating in parenthesis).

		Variability in Instructor Rating (dispersion)							Total
		0	< 0.2	0.2 - 0.3	0.3 - 0.4	0.4 - 0.55	0.55 - 0.70	0.7 - 0.85	
IMedian	Number of Evaluations (% Favourable Rating in Parenthesis)								
< 5.0	37 (100%)	294 (99%)	327 (97%)	219 (91%)	82 (84%)	10 (76%)			969
< 4.5		2 (100%)	47 (96%)	193 (87%)	217 (79%)	40 (72%)	1 (63%)		500
< 4.0			5 (75%)	15 (68%)	106 (64%)	45 (59%)	5 (60%)		176
< 3.5			1 (14%)	4 (40%)	17 (44%)	29 (42%)	5 (45%)		56
< 3.0				1 (0%)	9 (8%)	16 (20%)	6 (29%)		32
									1,733

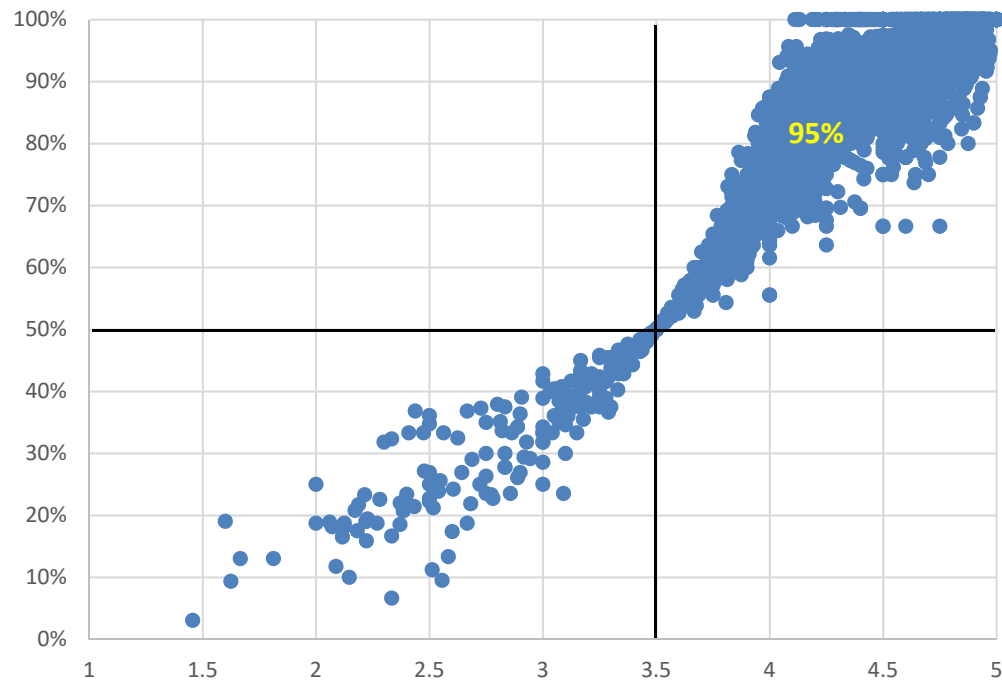
Graphical Depiction of the 2020 Winter Term 2 Instructor Ratings for UMI 5



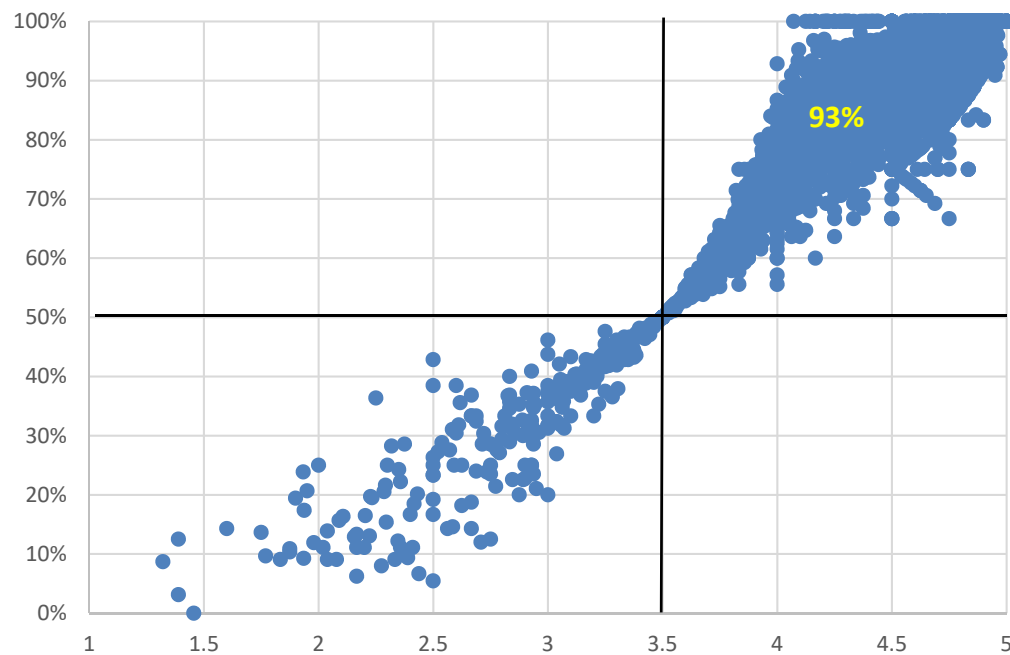
## APPENDIX C

Graphical depiction of the distribution of the 2020W (both Terms) ratings for UMI question 1, 2, 3 and 6.

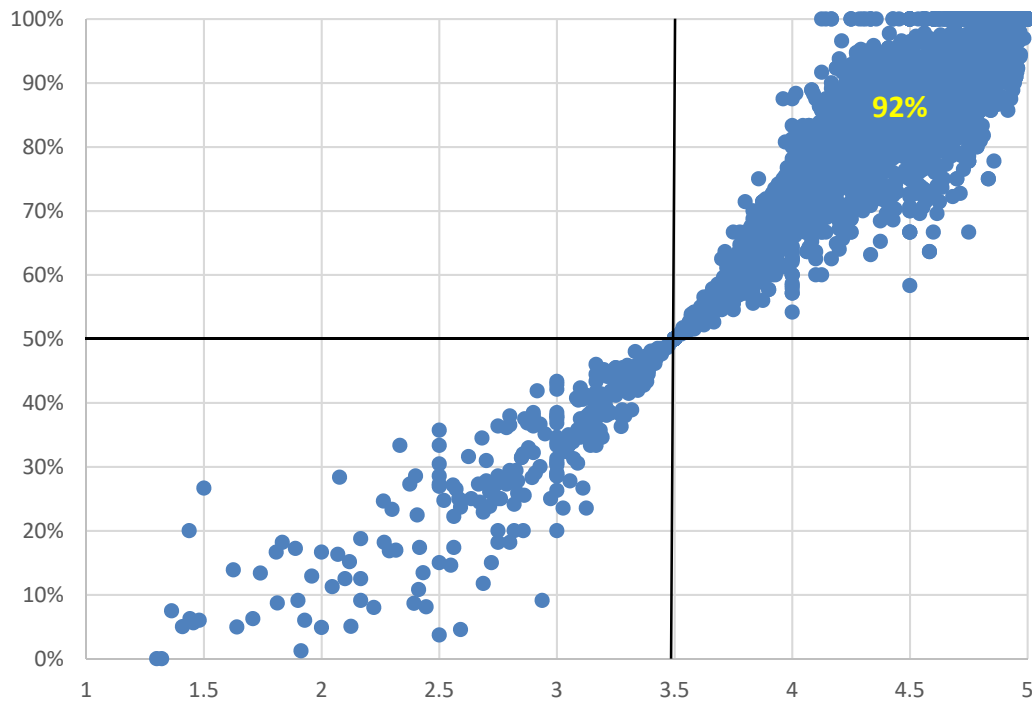
2020W UMI 1



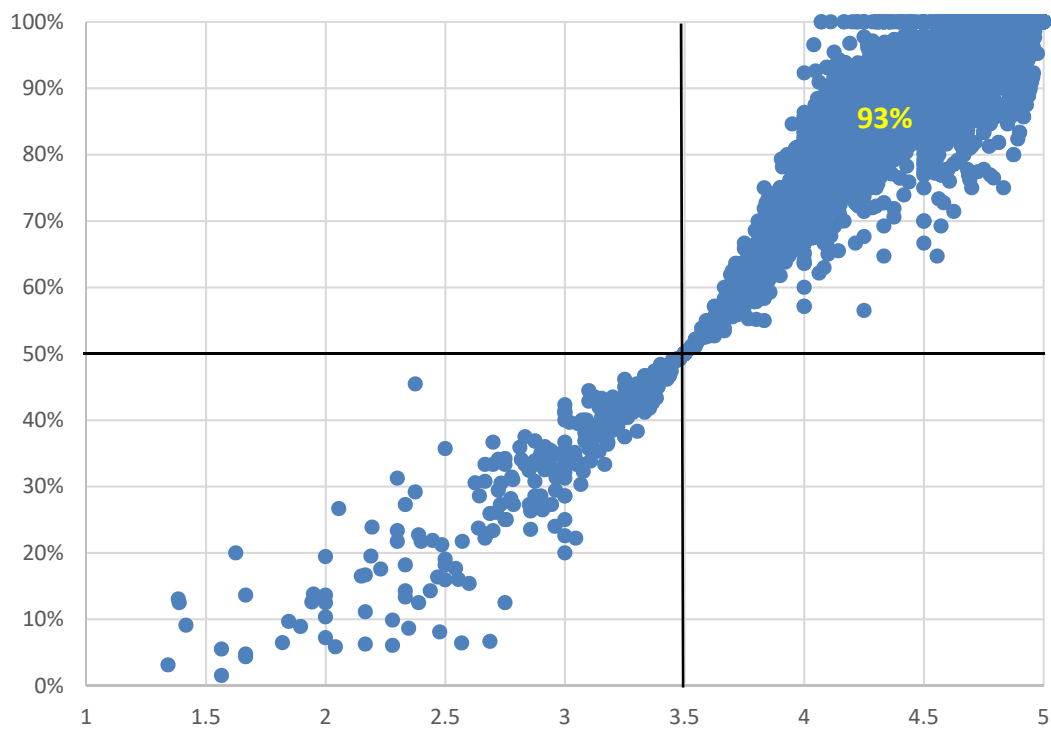
2020W UMI 2



2020W UMI 3



2020W UMI 6



To: Senate

From: Nominating Committee

Re: A) Amendment to the Rules and Procedures of Senate to Require Consideration of Equity, Diversity, and Inclusivity in Committee Deliberations

B) Establishment of a Standing Committee on Equity, Diversity, and Inclusion

Date: 15 October 2021

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As Senate is aware, following the Triennial Review of Senate, the Nominating Committee has continued discussions on how best to incorporate considerations of matters relating to equity diversity and inclusivity more formally into the work of Senate. Two proposals have been developed, one to set this as a responsibility for all standing committees or senate, and another to establish a new standing committee of Senate with equity, diversity, and inclusion as its core function. The Nominating Committee does not believe these proposals to be mutually exclusive nor in conflict with the responsibilities of any existing Senate committees. The Nominating Committee unanimous in supporting Proposal A, and a majority in favour of supporting Proposal B.

As noted to Senate in May, the proponents of the structural change have suggested that these considerations need to be imbedded in the operations of all Senate committees as part of their ongoing responsibilities in considering the academic governance of our institution. The opponents of this idea have suggested that Senate's committees do not necessarily have the expertise, interest, or capacity to consider such matters independently.

The proponents of the committee proposal have suggested that a focused group would be the best way to bring attention and expertise to this area, and that to date some Senate Committees have not shown interest in this work. Opponents of the committee idea have suggested that these values should be embedded in everything that senate does rather than being siloed into a separate committee that risks being either ignored or viewed as having a policing function. They have also noted the administrative overhead of another Senate committee for both senators and staff.

Proposal A:

*That the Rules and Procedures of Senate to be amended to insert the following as a new Rule 29*

“In addition to their specific terms of reference, all standing committees are responsible for considering the following for any decisions or recommendations made by the committee:

- the University's expressed values of excellence, integrity, respect, academic freedom and accountability,
- the mental health and well-being of University members, and

- equity, inclusivity and inclusion.” *And*

*That all subsequent and referential sections be renumbered accordingly.*

NB: Requires 2/3rds in favour

Proposal B:

*That the Rules and Procedures of Senate be amended to insert the following as subsection G to Rule 27:*

*Equity, Diversity, and Inclusion;*

*That all subsequent and referential sections be renumbered accordingly; and*

*That the terms of reference and composition for the Senate Equity, Diversity, and Inclusions Committee be set as follows:*

### **Terms of Reference**

To consider and to provide advice and recommendations to the Senate for areas of general interest, or its committees for those areas under their terms of reference, on academic matters related to equity, diversity and inclusion at the University, including, but not limited to:

- recommendations outlined in the “Senate Ad Hoc Committee on Academic Diversity and Inclusion Final Report” (July 2020);
- on-going development and review of policies and procedures that help elevate historically and systemically marginalized communities at UBC
- development of best practices surrounding equity, diversity and inclusion in the Senate.

### **Composition**

- 7 members appointed by the Senate on the recommendation of the Senate Nominating Committee to ensure that at least that number of Senate Committees is represented (voting):
- Such other voting members as may be appointed by the Senate from time to time on the recommendation of the Senate Nominating Committee to ensure that the Committee’s membership includes at least 3 students and at least a faculty member, a convocation member, and a dean.
- Ex officio:  
Chancellor (voting)  
President (voting)  
Registrar or Designate (non-voting)



Dean of the Faculty of Graduate & Postdoctoral Studies or Designate(non-voting)

Associate Vice-President Equity & Inclusion or Designate (non-voting)

Director of the First Nations House of Learning or Designate (non-voting)

Director of the Centre for Accessibility or Designate (non-voting)

Director of the Centre for Teaching, Learning & Technology or Designate (non-voting)

Quorum: 5 voting members.

NB: Requires 2/3rds in favour



To: Senate  
From: Nominating Committee  
Re: C) Appointment to a President's Advisory Committee for the Extension of Appointment of the Vice-President Research and Innovation  
D) Committee Adjustments  
Date: 15 October 2021

---

C) Appointment to a President's Advisory Committee for the Extension of Appointment of the Vice-President Research and Innovation

The Senate Nominating Committee has received a request from the President to appoint a senator who must be a faculty member to serve on a President's Advisory Committee for the Extension of Appointment of the Vice-President Research and Innovation. The Committee understands the time sensitively in commencing that process, but is committed to considering nominations for any eligible senator for this committee. As a result, the Senate Nominating Committee would ask any interested Faculty Member who is a Senator to express their interest by email to [vancouver.senate@ubc.ca](mailto:vancouver.senate@ubc.ca) by 9 am on 20 October 2021. The Nominating Committee will consider nominees and make a recommendation that evening with the following motion

*That Senate appoint \_\_\_\_\_ to a President's Advisory Committee for the Extension of Appointment of the Vice-President Research and Innovation*

D) Committee Adjustments

The Senate Nominating Committee has considered vacancies on several Senate Committees and is pleased to recommend that Senate resolve as follows:

*That Senate appoint Ingrid Price to Senate Committee on Appeals on Academic Standing until 31 August 2023 and thereafter until replaced, to replace Santokh Singh*

*That Senate appoint Robert Kozak and Charles Menzies to Senate Curriculum Committee until 31 August 2023 and thereafter until replaced, to fill vacancies.*



*Office of the  
Vice-President  
Research & Innovation*

**ANNUAL REPORT**

**2020/21**

# Contents

We acknowledge that UBC’s campuses are situated within the traditional territories of the xʷməθkʷəy̓əm (Musqueam), Squamish and Tsleil-Waututh, and in the traditional, ancestral, unceded territory of the Syilx Okanagan Nation and their peoples. UBC’s activities take place on Indigenous lands throughout British Columbia and beyond.

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24	Enabling Knowledge Exchange
25	Enhancing Research Culture
26	Reciprocity with Indigenous Partners
28	Looking Forward
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The Vice-President, Research and Innovation portfolio is grateful to work collaboratively with units, departments, schools and faculties across our campuses and affiliated health-authority research institutes in delivering support for the UBC research community.



# Vice-President's Message

Professor Gail C. Murphy



The University of British Columbia is one of the world's top 40 research universities, recognized for its research excellence and for the impact of this research on local, national and global communities. The Vice-President, Research and Innovation (VPRI) portfolio works with colleagues across the university's campuses and affiliated health-authority research institutes to provide support throughout the research life cycle. This support includes identifying, securing and managing funding; supporting the ethical conduct of research; providing shared research platforms; celebrating research success; and helping researchers and their partners to generate social and economic impacts.

We are guided by the needs of UBC researchers and by UBC's strategic plan, *Shaping UBC's Next Century*. We respond directly

to the strategies associated with the core area of research excellence and are inspired by the plan's themes of innovation, collaboration and inclusion.

To meet the plan's vision, our portfolio works to enhance UBC's research capacity and infrastructure and promotes collaboration that builds on UBC's recognized disciplinary strengths. These strengths span business, creative and performing arts, engineering, health, humanities, law, life sciences, physical sciences and the social sciences. Through the work of Innovation UBC, we help UBC researchers and scholars connect with partners to generate transformative new products, treatments and ventures, and contribute to advances in practice and policy that improve lives in British Columbia and around the world.

In 2020/21 the impacts of the COVID-19 pandemic on the research and scholarly activities of our faculty members, students and research personnel were profound. Researchers experienced curtailed and restricted access to campus research labs and offices, and were also unable to access critical archives and engage in planned field work or in-person studies. As a result, projects were significantly interrupted and many graduate students have had to change the course of their degree. This report highlights some of the institutional and governmental responses to support our research community and acknowledges the outstanding efforts of researchers to continue their activities, where possible, through the transition to remote work. For many, this involved pivoting these activities to respond to the pandemic's medical, health, social and economic impacts.

In spite of the significant disruption, UBC researchers continued to attract research funding at or near record levels and also garnered major national and international honours—in areas such as climate change, the environment, forestry and food security.

UBC Okanagan (UBCO) continues to make significant strides toward meeting the mandate established in the founding memorandum of understanding between the Ministry of Advanced Education and the university to "develop a research-intensive university campus of UBC in the Okanagan." The last several years have seen increases in research funding at UBCO, with overall research income at the Okanagan campus having grown more than three-fold since 2015 and topping \$38 million in 2020/21.

Our portfolio, in particular through the Indigenous Research Support Initiative (IRSI) on the Vancouver campus and the Indigenous Community Liaison on the Okanagan campus, made significant contributions to UBC's *Indigenous Strategic Plan*, and supported the development of new agreements and mutually beneficial collaborations and engagements between researchers and Indigenous communities. Significant steps were also taken to provide research computing infrastructure that can support respectful data sharing arrangements with Indigenous communities.

The VPRI and the Equity & Inclusion Office are co-leading UBC's pilot project of the federal Dimensions program, which seeks to identify and eliminate systemic barriers and inequities experienced by members of historically marginalized, under-represented or excluded groups in the research ecosystem, including women, Indigenous Peoples, persons with disabilities, members of visible minorities/racialized groups, and members of 2SLGBTQIA+ communities. In March 2021, UBC's Dimensions project team released the self-assessment framework that defines the scope of the current Dimensions pilot, and that will help to inform the development of an action plan that will build upon and reinforce UBC's *Inclusion Action Plan*, *Indigenous Strategic Plan* and anti-racism initiatives.

Within the portfolio, we have continued to adapt and enhance our support for the research community, despite the majority of our staff working remotely throughout the pandemic. We expanded our range of shared research platforms to include the Facility for Infectious Disease and Epidemic Research (FINDER), while other support units such as Advanced Research Computing (ARC) have increased their support and the provision of dedicated infrastructure for researchers.

2020/21 also saw leadership transition within the portfolio. Associate Vice-President, Dr. Helen Burt, who was recently appointed as an Officer of the Order of Canada, retired after more than 40 years of service to the university. Dr. Rachel Fernandez was welcomed to the leadership team as our new Associate Vice-President.

We invite you to learn more about the ways in which our portfolio has adapted and developed to support continued excellence at the university across both the Vancouver and Okanagan campuses. And, as we hope for a full resumption of research and scholarly activities during 2021/2022, we encourage you to read about the range of research and scholarly activities, initiatives and achievements of UBC researchers in 2020/21.

**Professor Gail C. Murphy**

*Vice-President, Research & Innovation*



# The Impact of COVID-19

## on UBC's Research and Innovation Activity



Research and scholarly activities were rapidly curtailed in March 2020 at both Vancouver and Okanagan campuses, with the exception of critical COVID-19 research, essential clinical trials and critical research and maintenance activities. A gradual, phased resumption of research activities began in June, and on-campus research activities became managed by faculties in ways that were consistent with their individual safety plans.

The COVID-19 pandemic adversely impacted all disciplines and aspects of research and scholarship. Examples include delays to funding competitions, reduced productivity due to the postponement of on-campus research activities, the sudden transition—where possible—to remote/virtual activities, reduced access to libraries and archives, as well as cancellations, delays and changes to field work and in-person clinical and behavioural studies. Researchers experienced significant impacts on their ability to conduct community-based and participatory research, especially research with Indigenous, rural or remote communities.

As early as April 2020, the VPRI portfolio worked with faculties and partners across the university to hear from the research community about their concerns and the impacts of the pandemic on research, and to develop a planning process for a later phased resumption of research. This consultation took place through meetings with the associate deans of research, and at a series of town halls with the faculties. Cross-functional working groups were also formed to address major themes from these discussions. The themes included potential impacts on student advancement and faculty career progression; planning for the safe and phased resumption of some on-campus research activities; providing access to specialized facilities for research (including a biosafety level three facility for research studies involving the SARS-CoV-2 virus); and ways to ensure that research personnel and trainees continued to be paid when funding sources were interrupted.

UBC's institutional research support services (VPRI portfolio units such as the Office of Research Services, Research Ethics, etc.) transitioned to providing remote/virtual services wherever possible. This enabled them to continue to support researchers in developing and submitting grant applications, to review research protocols and ethics applications, and to expedite reviews of research related to COVID-19 so that it could commence quickly.

As the pandemic continued, the Office of the Provost and Vice-President Academic, the Michael Smith Foundation for Health Research and the Women's Health Research Institute

conducted surveys to evaluate the ongoing impacts on faculty members and trainees. The findings of these and other surveys highlighted the pandemic's profound impact on all researchers but in particular, the impact on researchers that are also caregivers, women, IBPOC (especially IBPOC women), or postdoctoral fellows as well as those who are considered early-career researchers. The surveys also revealed that the pandemic had increased researchers' workloads and decreased time for research, primarily due to the increase in online teaching and related administrative duties brought on by the pandemic. Survey respondents also reported increased stress and impacts on their mental health.

The university introduced new mechanisms to provide additional support to its research community, many of which were in response to recommendations from the April town halls and working groups. The university developed new mechanisms to pay graduate student stipends, enhanced its support for shared research facilities and oversaw emergency funds to support research trainees and personnel as well as costs related to research maintenance and ramp-up activities incurred due to the pandemic. Furthermore, federal support through the Canada Research Continuity Emergency Fund (CRCEF) required the university to develop and administer stringent processes to account for equity, diversity and inclusion in the application for and disbursement of funds. As part of this process, all researchers were contacted and the VPRI also provided targeted support for early-career researchers, members of equity-deserving or under-represented groups and those personally impacted by COVID-19. All of the funding requests made by UBC and our affiliated health-authority research institutes were met under this program and our researchers received \$55.5 million in support from a total national investment of \$415 million.

The university also played an active role—working directly with the federal government and in partnership with sector associations—to ensure that the federal research funding agencies understood the scope and scale of the pandemic's impacts on the research community. We are happy to see that the agencies now proactively seek statements of impact in grant applications, whereby researchers explain how they and their research programs may have been adversely affected by COVID-19.

We recognize the significant impact of the pandemic on UBC's research community and appreciate the dedication and commitment of our faculty, students and staff throughout this time.



# The Impact of COVID-19

## UBC's Research Response

Many UBC researchers and scholars pivoted their activities to respond to the pandemic and its impacts. In April 2020, a website ([covid19.research.ubc.ca](https://covid19.research.ubc.ca)) was created to facilitate collaboration and to profile UBC's research response to the pandemic. Nearly 400 UBC researchers across both campuses and at affiliated health-authority research institutes, and more than 300 projects are listed on the site, detailing responses that cover a range of cultural, economic, environmental, medical, mental health, public health, social, and technological aspects of the pandemic.

UBC researchers and their work in response to the pandemic was evident at local, national and international levels. They contributed to many vaccine and treatment studies. Dr. Srinivas Murthy is leading the national Canadian Treatments for COVID-19 (CATCO) clinical trial as part of the World Health Organization's SOLIDARITY trial, which involves more than 100 countries, to determine the effectiveness of different treatment options. Dr. Terry Snutch is leading the COVID-19 genome sequencing component of the Canadian COVID Genomics Network (CanCOGen) initiative, which was backed by \$40 million in federal funding, while Dr. Steven Jones is leading the BC branch of this network to sequence the genomes of Canadians who tested positive for COVID-19.

UBC researchers have participated in province-wide initiatives, including the:

- BC COVID-19 Strategic Research Advisory Committee,
- COVID-19 Clinical Research Coordination Initiative, and the
- BC COVID-19 Modelling Group.

UBC's Facility for Infectious Disease and Epidemic Research (FINDER), a biosafety level three facility, has enabled researchers to study SARS-CoV-2. Researchers studying the virus in this facility include Dr. François Jean, who is co-leading a project that aims to develop new antiviral drug leads targeting recently discovered host enzymes that contribute to the spread of SARS-CoV-2. Many UBC researchers engaged in projects targeting medical responses to COVID-19. This included a number of researchers addressing the dual public health emergencies of COVID-19 and opioid overdose. UBC researchers are also contributing insights into and responding to the social, economic and mental-health impacts of the pandemic.

Drs. Anita DeLongis and Nancy Sin leveraged previous work on SARS and H1N1 to develop a study of the psychological, social and behavioural reactions in coping with the pandemic, while UBC sociologists Drs. Yue Qian and Amy Hanser studied the human experiences and mental-health consequences of quarantine.

Many projects have focused on the impacts on vulnerable and marginalized populations, including a project led by Dr. Jennifer Baumbusch to investigate the impact of COVID-19 on

inclusive education in BC's K-12 education system, and a team of Indigenous and allied researchers governed by the Cedar Project Partnership and led by UBC's Dr. Patricia Spittal is studying the impacts of COVID-19 among Indigenous people who use drugs. Other studies examined morals and beliefs as they were affected by, or impacted behaviours during, the pandemic, as well as ethics and attitudes towards the allotment of scarce medical resources during the crisis.

The Peter Wall Institute for Advanced Studies created rapid publication working groups, covering areas such as the impacts of the pandemic on personal privacy, building resilience in higher education, mathematical modeling, and the interaction between COVID-19, religion and conflict.

Researchers at the Vancouver School of Economics (VSE) created a novel tool to assess the risks and benefits of reopening different sectors of British Columbia's economy amid the COVID-19 pandemic. The VSE COVID-19 Risk/Reward Assessment Tool has been shared with the BC government and public health officials with the goal of informing policy recommendations related to restarting work. Other researchers developed biodegradable medical masks to mitigate the environmental impact of disposable masks.

The media frequently called upon researchers such as Drs. Steven Taylor, Sally Otto, Heidi Tworek and Anita Ho to provide accessible, scientifically accurate and research-informed commentary for the public.

Many key partnerships were developed with industry, government and community sponsors to respond to the pandemic. Supported by special NSERC COVID-19 Alliance grants, researchers on our Okanagan campus partnered with industry on a number of projects, including developing new fibre optic gas sensors with COVID-19 applications, and sustainably sourced or anti-fogging face shields and masks. On our Vancouver campus, these grants supported research partnerships that included investigating innovative ways to measure the prevalence and spread of the disease, ranging from the examination of municipal wastewater to monitoring the crisis from space. Drs. Don Sin and Marc Romney partnered with WestJet and Vancouver International Airport to investigate and trial a rapid screening program for air travellers. The Faculty of Medicine is working with partners including the Stelat'en First Nation, located about 160 kilometres west of Prince George, to develop a drone-based system to deliver medical supplies to remote, rural communities.

Our researchers are also leading multiple CIHR-funded projects to address research gaps and emerging priorities, ranging from repurposing existing drugs for COVID-19 treatments to investigating how stay-at-home policies can lead to unintended consequences such as increased abuse of children and youth.

The activities of UBC spin-off companies have further cemented the impact of UBC research on responses to COVID-19 and future pandemics. The earliest approved vaccines and treatments included those with roots in UBC research.

The Pfizer-BioNTech vaccine relies on an innovative delivery system—using lipid nanoparticles to deliver encapsulated mRNA to the interior of target cells—that can be traced back to research pioneered in the lab of Dr. Pieter Cullis in the late 1970s. UBC spin-off company Acuitas Therapeutics contributes the lipid formulations needed for the Pfizer-BioNTech vaccine to enter human cells.

AbCellera, which recently became one of Canada's fastest-growing and highest-valued biotechnology companies, is a UBC spinoff based on a rapid antibody-discovery platform. Dr. Carl Hansen, AbCellera's CEO and a former UBC physics and astronomy professor, first led the development of this technology in UBC's Michael Smith Laboratories. In March 2020 the AbCellera platform discovered a target therapeutic antibody for COVID-19 that has since been developed through a partnership with Eli Lilly and Company as bamlanivimab, a treatment for mild to moderate COVID-19 in patients who are at high risk for developing severe COVID-19 and/or may require hospitalization. In May 2020, AbCellera received a commitment of up to \$175.6 million from the Government of Canada under Innovation, Science and Economic Development's (ISED) Strategic Innovation Fund (SIF) to expand efforts related to the discovery of antibodies for use in drugs to treat COVID-19, and to build technology and manufacturing infrastructure for antibody therapies against future pandemic threats. In November 2020, the treatment received emergency-use authorization from the U.S. Food and Drug Administration and interim authorization from Health Canada as a treatment for COVID-19.

Precision NanoSystems, a 2010 spinoff from UBC, also received an investment of up to \$18.2 million from SIF in October 2020 for the development of its own RNA vaccine for COVID-19 and a further investment in February 2021 of up to \$25.1 million for the creation of an RNA-medicine biomanufacturing centre in Vancouver.

The ability of UBC researchers to adapt their efforts to address social and medical responses to critical world events, and of spin-off companies to leverage decades of research and development to contribute to early treatments and vaccines, highlight the importance of broad and sustained investment in research.





# Research and Innovation

at a Glance

**\$759 m**

UBC research funding  
2020/21

**10,116**

research projects

**#34**

THE ranking  
2021

**#13**

THE Impact  
rankings  
2021

**32**

faculty in 2020  
Highly Cited  
Researchers listing

**199**

Canada  
Research  
Chairs

**596**

active licenses  
to UBC  
technologies

**\$11.5 b**

cumulative sales of  
products incorporating  
UBC discoveries

**235**

cumulative  
spin-off  
companies

**1,353**

industry-  
sponsored research  
collaborations

**#1**

Canadian university  
granted U.S. utility  
patents 2020

**254**

patents filed  
2020/21



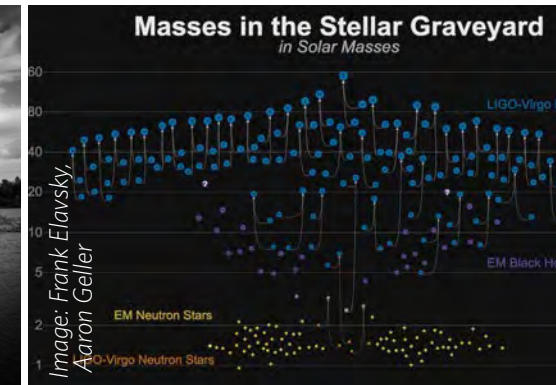
# Research Highlights

UBC researchers made significant discoveries and advances in many disciplines throughout 2020/21, over and above contributions to the COVID-19 response.



## Nisga'a Scholar Launches New Centre for Indigenous Fisheries

Indigenous fisheries scientist, conservation biologist and Nisga'a Nation member Dr. Andrea Reid joins UBC as principal investigator of the centre, which aims to support the management of aquatic ecosystems and fisheries in Canada and beyond by combining Indigenous knowledge systems and modern science.



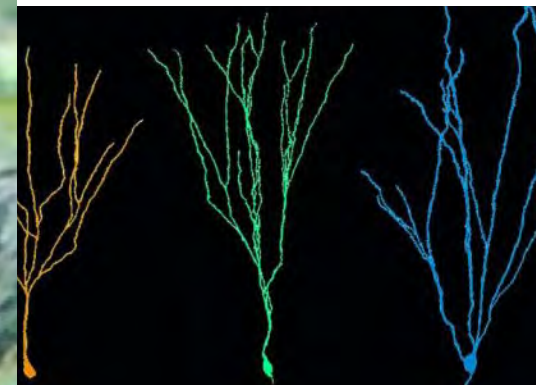
## Scientists Detect 39 New Gravitational Wave Events

The results provide new clues about how stars live and die. The LIGO-Virgo Collaboration, which includes researchers at UBC, detected more than quadruple the total known gravitational wave events, from 11 to 50.



## UBC Scientist Identifies a Gene That Controls Thinness

Life Sciences Institute Director Dr. Josef Penninger and a team of international colleagues reported their discovery that a gene called Anaplastic Lymphoma Kinase (ALK) plays a role in resisting weight gain.



## Adult-born Neurons Keep Growing and Contributing to Brain Flexibility Long After Neurogenesis Declines

Dr. Jason Snyder led a study focusing on the part of the brain involved in memory, learning and emotions.



## Lead Released in Notre-Dame Cathedral Fire Detected in Parisian Honey

Scientists from UBC's Pacific Centre for Isotopic and Geochemical Research (PCIGR) analyzed concentrations of metals in honey samples collected from Parisian hives.



## Half a Billion Bets Teach UBC Algorithm How to Identify Problem Gamblers

UBC researchers used machine learning to identify online gamblers whose betting behaviour could indicate a gambling disorder.

## Climate Change an Imminent Threat to BC's "Living Dinosaurs"

The first-ever, long-term lab study of glass sponges, led by Dr. Angela Stevenson, a postdoctoral fellow in zoology, reveals dire impacts of ocean warming and acidification.





UBC Okanagan Collaboration Supports Seniors Nationally

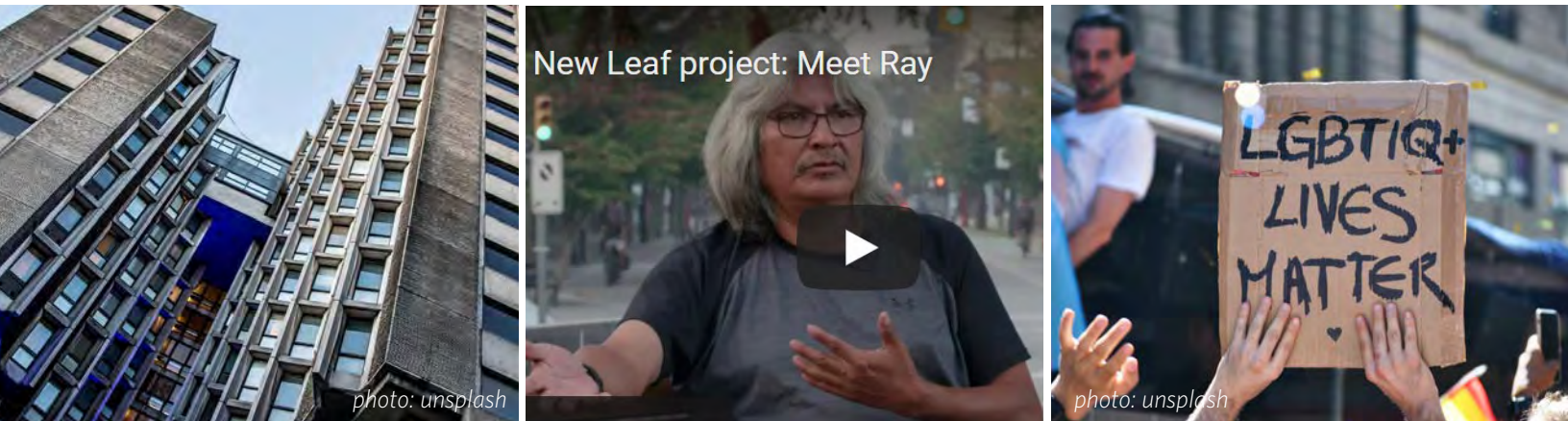
Health Canada awarded \$2.2 million to expand Nav-CARE (Navigation-Connecting, Accessing, Resourcing, Engaging)—a program developed by researchers at UBC Okanagan’s School of Nursing and the University of Alberta’s Faculty of Nursing.

Better Medical Diagnosis Through Levitating Human Blood

New research suggests that levitating human plasma may lead to faster, more reliable, portable and simpler disease detection.

Funds Bring Truth and Reconciliation Calls to Action Into the Classroom

University researchers and local partners have come together to seek respectful ways for educators to align their teaching practices toward reconciliation with support from a SSHRC Partnership Grant.



Seismic Guidelines Underestimate Impact of ‘The Big One’ on Metro Vancouver Buildings

Scientists examining the effects of a megathrust earthquake in the Pacific Northwest say tall buildings across Metro Vancouver will experience greater shaking than currently accounted for by Canada’s national seismic hazard model.

Research Shows Cash Transfers Allowed People to Access Housing Faster, Improving Stability and Lowering the Risk of Trauma

The New Leaf project shows that a direct cash transfer is a bold and innovative solution for people who are newly experiencing homelessness.

Supportive Communities and Progressive Politics can Reduce Suicide Risk Among LGBTQ Girls

New research from UBC’s School of Nursing shows that supportive communities—and a progressive political climate—can help mitigate the effects of stigma on mental health.

AWARD WINNERS

UBC researchers were recognized for their activities and achievements at a national and international level. Major awards received by research faculty in 2020/21 include:

International

Volvo Environment Prize

**Dr. Claire Kremen:** world-class research on how humanity can feed itself while also protecting biodiversity.

National Academy of Sciences

Elected Members: **Drs. Janet Werker** in the category of Psychological and Cognitive Sciences and **Loren Rieseberg** in Plant Biology

Guggenheim fellowships

**Drs. Shaylih Muehlmann** in anthropology and cultural studies and **Shannon Walsh** in film-video.

2020 Indianapolis Prize

**Dr. Amanda Vincent:** trailblazing work to protect seahorses and other marine life.

Marcus Wallenberg Prize

**Dr. Nicholas Coops:** helping to predict forest growth and the ability of forests’ response to climate change such as global warming, insect infestations and forest fires.

Wihuri International Prize

**Dr. Navin Ramankutty:** long-standing work on sustainable global food systems.

National

Order of Canada

Four current and former faculty members were elected as Officers of the Order of Canada:

**Drs. Helen M. Burt, Daniel Heath Justice, John Borrows** and the **Honourable Lynn Smith, Q.C..**

Ten current, former and emeriti faculty members were named as Members of the Order of Canada:

**Drs. Joseph Michael Connors, David P. Wilkinson, Roger Wong, B. Lynn Beattie, Izak Benbasat, Priscilla Edson Greenwood, Stanley Hamilton, John H. McNeill, Robert Krell** and **Carol Pearl Herbert.**

Brockhouse Canada Prize for Interdisciplinary Research in Science and Engineering

**Dr. Allan Bertram** was part of a collaborative team that received the prize for their research on the impact of aerosols on the climate.

Canadian Academy of Health Sciences

Nine UBC faculty members were announced as Fellows:

**Drs. Lori Brotto, Stirling Bryan, Allison Eddy, Markus Haapasalo, David Huntsman, Raymond W. Lam, Joy Richman, Lakshmi N. Yatham** and **Peter Zandstra.**

Royal Society of Canada

Seven UBC faculty members were elected Fellows of the Royal Society of Canada:

**Drs. Jinhua Chen, Mark Halpern, Scott Hinch, Ara Norenzayan, Leonie Sandercock, Alla Sheffer** and **Amanda Vincent.**

Two faculty members were named Members of the College of New Scholars, Artists and Scientists:

**Drs. Abbas S. Milani** and **Catharine Winstanley.**

E.W.R. Steacie Memorial Fellowships

**Drs. Mary O’Connor** and **William Cheung:** for work relating to climate change and biodiversity.

University Killam Professors

UBC bestowed the highest honour it can confer on six faculty members.

**Dr. Janice Eng,** Department of Physical Therapy, Faculty of Medicine

**Dr. Tina Loo,** Department of History, Faculty of Arts

**Dr. Bonny Norton,** Department of Language & Literacy Education, Faculty of Education

**Dr. Dolph Schluter,** Department of Zoology, Faculty of Science

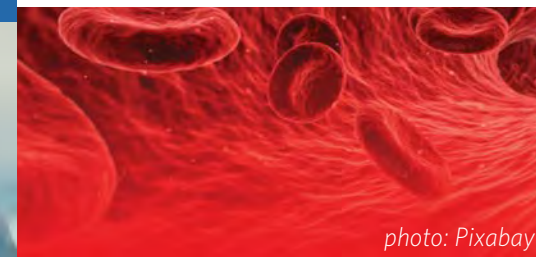
**Dr. Rashid Sumaila,** Institute for the Oceans and Fisheries, Faculty of Science, and School of Public Policy and Global Affairs, Faculty of Arts

**Dr. Dominique Weis,** Department of Earth, Ocean and Atmospheric Sciences, Faculty of Science



# Innovation Highlights

Innovation UBC has supported the university's research community to build collaborations with external stakeholders that generate a broad range of social, health, environmental and economic impacts. In addition to significant contributions made by UBC researchers, spin-off companies and partners to the COVID-19 response, highlights include the following:



## UBC Startup ABOzymes Makes Blood Types Obsolete

ABOzymes Biomedical is an early-stage, Vancouver-based enterprise with an innovative, unique, and proprietary platform that will help realize a world where blood type is no longer a constraint for those receiving a life-saving transfusion or organ transplant.



## New Regional Collaborations Accelerate Innovation in Data-Intensive Medical Science

Three Cascadia Collaboration Awards involving UBC researchers were announced by the Cascadia Data Alliance. The Alliance was launched in 2019 to create a Pacific Northwest data-sharing ecosystem comprising some of the region's powerhouse institutions.



## New Research Portal Opens Access for DTES Community

The Downtown Eastside Research Access Project provides access to research and research-related materials through an easy-to-use public interface.



## UBC Among Top Universities Granted U.S. Utility Patents

UBC was the number one Canadian university in the National Academy of Inventors' *Top 100 Worldwide Universities Granted U.S. Utility Patents, 2019*, published in June 2020.



## BC Tech Announces Technology Impact Award Winners

UBC companies AbCellera, NZ Technologies and Terramera were among the awardees.



## Digital Technology Supercluster COVID-19 Program

UBC is a partner in several projects funded to create a safe return to work and provide mental health support.

## Smart-City Pilot Project in Kelowna Explores Ways to Improve How We Move Around

Canada's first real-world, 5G smart-city solution launched in Kelowna in June 2020 via a partnership between Rogers Communications, The University of British Columbia and the City of Kelowna.



## MSFHR Funds Knowledge Translation Activities for 17 Teams Led by UBC Researchers

Projects will create pathways from research evidence to impact and help ensure that cutting-edge health research can directly improve BC's health system and the health of British Columbians.

## UBC Innovators' Inspiring Pitches

Revolutionizing the study of traumatic brain injury, improving the experience of expectant mothers, and helping neurodegenerative researchers optimize their time were the winning venture ideas in the first ever Innovation UBC Start-Up Idea Competition for the life sciences.

## Support for Innovation in Clean Technology and Sustainable Materials

Government of Canada funding will enable the establishment of a hub at UBCO that will develop and commercialize clean technologies.





# Innovation UBC

Innovation UBC helps bring opportunities to life, generating social, cultural, environmental, health and economic impacts that improve lives in BC and around the world.

It builds on UBC’s track record of translating research discoveries and partnerships into new technologies, services, treatments and policies. It makes connections and creates transformative partnerships between UBC research excellence, industry, government, non-profits and community groups. Innovation UBC guides these partnerships through the most effective pathways to help them generate impacts, including collaborative research, knowledge exchange, patenting and licensing, and venture building.

In 2020/21, the Innovation Partnerships team continued to build multi-faceted relationships with major partners such as Rogers Communications and Microsoft to deliver new opportunities for training, research collaborations, and access to leading-edge technology. The team also supported the development of partnerships through Canada’s Digital Technology Supercluster, bringing together UBC research teams with industry partners for programs that frequently focus on digital health delivery and responses to COVID-19.

Many of the UBC teams also received support through UBC supercluster expansion grants to further develop collaborations. The Intelligent Network for Point-of-Care Ultrasound (IN-POCUS) team, supported by supercluster funding, has developed a bedside tool for doctors that combines machine learning, handheld ultrasound devices and a cloud-based platform to create an integrated and intelligent point-of-care ultrasound network to deliver faster, more accurate diagnoses to patients across rural, remote and urban settings. Three patents have been issued for this work and the team has also been able to leverage the supercluster support into \$5.3 million in funding, with further funding under review. Other supported supercluster partnerships include facilitating UBC participation in the Athena Pathways program to advance the careers of women in artificial intelligence and data science.

The UBC Knowledge Exchange (Kx) Unit released its 2019–2022 strategy, *Expanding Conversations Through Engaged Research and Scholarship*, to implement Strategy 9 (Knowledge Exchange) of the UBC strategic plan to improve the ecosystem that supports the translation of research into action and to

deepen the relevance and public impact of UBC research and education. The Kx Unit held a Summer Institute and engaged in multiple collaborations, including supporting the development of the Downtown Eastside Research Access Portal (DTES RAP). The DTES RAP gives residents of the area access to research and research-related materials involving their neighbourhood and people through an easy-to-use public interface. The increased access to these materials serves a variety of purposes, including: amplifying the reach and impact of research projects; minimizing demands on community time from researchers undertaking new research projects by providing a reliable, primary information source; and with support from the DTES RAP team, helping researchers meet open-access requirements for their work. Three research excellence clusters supported through the 2021/22 Grants for Catalyzing Research Clusters program were also selected as pilot projects to co-develop knowledge exchange activities.

entrepreneurship@UBC provides programming and support that enables UBC faculty members, students, staff and recent alumni to develop impacts through venture building and helps to create a pipeline of scalable, investable startups for the region. Since its inception, entrepreneurship@UBC on the Vancouver campus has supported 484 ventures that have gone on to raise more than \$1.38 billion in financing, \$104 million in revenue and create over 900 full-time jobs, creating tangible economic and societal impact.

In 2020/21, enrolment in its programming increased 15 percent, despite having transitioned to virtual formats. It also welcomed new cohorts into the virtual and modified provision of its key programming streams and the HATCH Accelerator, which is delivered in partnership with UBC’s Institute for Computing, Information and Cognitive Systems (ICICS). Further along in their journey, the founders of the newest HATCH ventures work with entrepreneurship@UBC’s bench of Entrepreneurs and Executives in Residence to secure advisory boards, pilots and partnerships, and to prepare for investment and growth. The newest HATCH ventures are working on solutions based in agricultural technologies, climate solutions, virtual reality and other industries. The program also announced the launch of their Climate Venture Studio to support UBC researchers and innovators building breakthrough solutions to the climate emergency, including a collaboration with the Foresight Cleantech Accelerator Centre.

The University-Industry Liaison Office provided contractual support for more than 1,300 industry-sponsored research projects with a combined budget of over \$62 million in 2020/21 as well as a further 1,149 contracts with government and non-profit partners with a combined budget of more than \$101 million. The office also oversaw 164 invention disclosures and executed 235 new license and assignment agreements to UBC technologies. This included the creation of 14 new spin-off companies, raising the cumulative total of UBC spinoffs to 235. In 2020/21, more than \$43 million in revenue for the university was generated through technology transfer licensing. Spin-off companies AbCellera, Acuitas Therapeutics and Precision NanoSystems received a large amount of publicity for their roles in responding to the COVID-19 pandemic.

## 2020/21 Spin-off companies

1. Sapien Machine Learning Corporation
2. Inverted AI
3. VITA Imaging Inc.
4. Melio Peptide Systems Inc.
5. LAST Innovations
6. Bioform Solutions Inc.
7. Linax Technologies
8. A2O Advanced Materials Inc.
9. FP Pharma Inc.
10. Eyam Vaccines Immunotherapeutics Inc.
11. 1253079 BC LTD
12. Palamedrix Inc.
13. AMAG Holdings Australia Pty Ltd
14. Equiopps Inc.



# Enabling Collaboration

## Research Excellence Clusters

## Public Humanities Hubs

## Collaborative Research Mobility Awards

The Research Excellence Clusters program supports researchers to form new interdisciplinary clusters addressing key challenges facing society. With the support of the Grants for Catalyzing Research Clusters program in Vancouver and the Eminence Program at UBC Okanagan, our researchers are undertaking ground-breaking new work at the intersection of disciplines.

A total of 43 clusters were supported in 2020/21, 26 on the Vancouver campus and a further 17 on the Okanagan campus.

To better respond to feedback from our researchers, the 2020/21 clusters on the Vancouver campus were able to select a one or two-year term for their funding award and could access trainee stipends to expand the scope of the funding.

Clusters on the Okanagan campus receive three-year funding terms through the Eminence Program, which was launched in 2017.

The BioProducts Institute (BPI) was designated a Global Research Excellence (GREx) Institute in 2020, becoming the second such institute after the Stewart Blusson Quantum Matter Institute. BPI was previously funded as an established research excellence through UBC's Grants for Catalyzing Research Clusters program. To become a GREx institute, existing UBC research institutes, centres and clusters must demonstrate their potential to become globally exceptional, both in terms of academic impact and translational and societal impact.

Following years of innovations in the field, BPI is developing the resources, tools and infrastructure to make essential contributions to BC's status as a hub for global developments in the sustainable bio-economy. As part of the new designation, the institute is supported by resources from the university that support BPI to focus on conducting world-class research, and to recruit top talent based on UBC's reputation as a hub for excellence in bioproducts research.

### GLOBAL RESEARCH EXCELLENCE INSTITUTES

1. Stewart Blusson Quantum Matter Institute
2. BioProducts Institute

### RESEARCH EXCELLENCE CLUSTERS (receiving funding in 2020/21)

#### Vancouver Campus Established Clusters

1. Advanced Materials Manufacturing
2. BC Diabetes Research Network
3. BCREGMED: Cellular and Regenerative Therapies through Collaborative, Innovative Science
4. Biodiversity Research: An Emerging Global Research Priority
5. Biomedical Imaging and Artificial Intelligence
6. Bionics Network
7. Designing for People
8. Diversified Agroecosystem Cluster
9. Gynecologic Cancer Initiative
10. Harnessing the Social Exposome to Reduce Inequalities in Child Health and Development in Canada
11. Language Sciences Initiative
12. Migration
13. Quantum Computing Research Cluster
14. Resuscitating More Patients from Sudden Unexpected Death: Transformative Research
15. Wingspan: Dis/ability Arts, Culture & Public Pedagogy

#### Vancouver Campus Emerging Clusters

1. Action on Sepsis
2. Balanced Supply of Housing
3. Bee Health, Impact, and Value in the Environment (BeeHIVE)
4. Decision Insights for Business & Society (DIBS)
5. Dynamic Brain Circuits in Health and Disease
6. Future Waters—Water @ UBC

#### Okanagan Campus Clusters

1. Aging in Place
2. Airborne Disease Transmission
3. Watershed Ecosystems
4. Comfort-Enhancing Technologies
5. Homelessness
6. Rural Health Equity
7. Agricultural Technologies & Bioproducts
8. Biocomposites
9. Culture, Creativity, Health, Wellbeing
10. Enhancing Ecosystem Sustainability
11. Indigenous-Led Impact Assessment
12. Wine & Grapes
13. Community Health
14. Green Infrastructure
15. Exosome Isolation
16. Medical Physics & Data Analytics
17. Neurobiology

UBC has established a Public Humanities Hub on each campus to provide tailored support for humanities scholars. Supported by UBC's Academic Excellence Funds, this three-year pilot project is intended to highlight and develop public-facing research in the humanities. The hubs are the result of wide consultation with UBC humanities researchers and complement the existing research clusters competitions.

The Vancouver hub functions as an interdisciplinary academic center for UBC humanities faculty members, graduate students and staff. It imagines the humanities as innately public and fosters a rich community at UBC Vancouver through deliberately designed scholarly engagements such as fellowships and grants to incubate interdisciplinary and collaborative research, speaker series and conferences, toolkits and training in a range of public scholarship skills and resources. The hub also communicates and advocates for the value of public-facing humanities research, reciprocal knowledge exchange and community engagement.

The Public Humanities Hub (PHH) Okanagan coordinates and amplifies the work of humanities scholars on the Okanagan campus. It funds joint fellowships to connect researchers in the Okanagan to colleagues further afield, and Impact Awards for faculty members and students pursuing knowledge mobilization activities. As public gatherings become possible once again, the PHH Okanagan will look to improve the visibility and influence of humanities research on campus and in the region.

Working in concert, the hubs build new research connections and facilitate exchanges among humanities scholars at both UBC campuses and beyond.

The Collaborative Research Mobility Awards (CRMA) are designed to facilitate collaboration on timely research opportunities by enabling researchers to move between campuses or institutions. Three programs exist under these awards to promote collaboration across our two campuses, through partnerships with researchers at the University of California, Los Angeles (UCLA), and with researchers at the University of Washington. Each of these programs was launched in 2020/21 but put on hold in response to travel restrictions and public health guidance.

**The UBC CRMA**

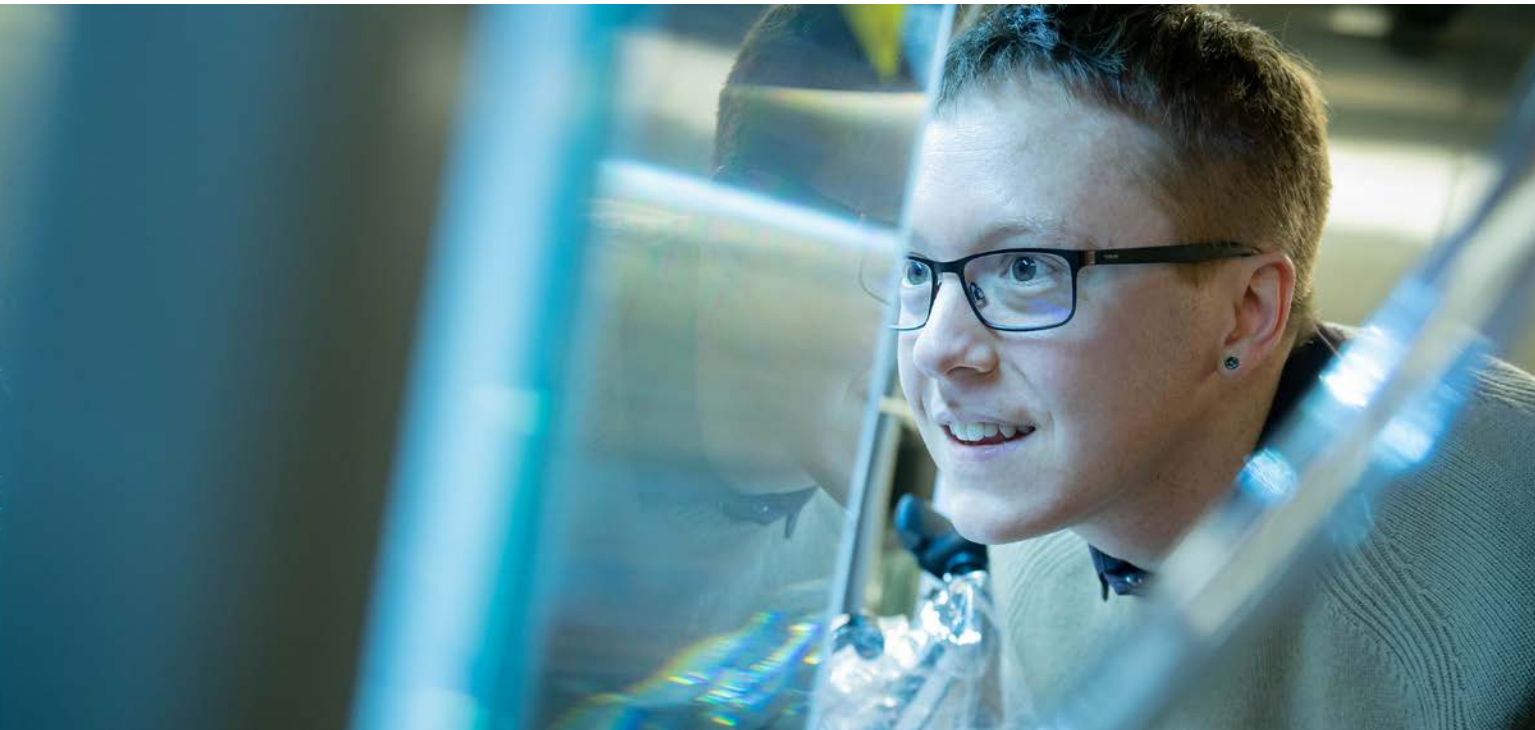
These awards support research collaboration across UBC in Vancouver and the Okanagan by providing funding to initiate new and strengthen existing research collaborations, and to enable access to unique infrastructure and core facilities at each location.

**The UBC & UCLA CRMA**

This new pilot fund supports activities to establish or enrich interdisciplinary research between faculty members at the two institutions, with preference given to collaborations based in the social sciences, humanities, and the creative and/or performing arts.

**The UBC & University of Washington CRMA**

These awards support research collaborations between researchers at either UBC campus and the University of Washington to provide collaborative training opportunities.





# Strengthening Shared Research Infrastructure and Resources

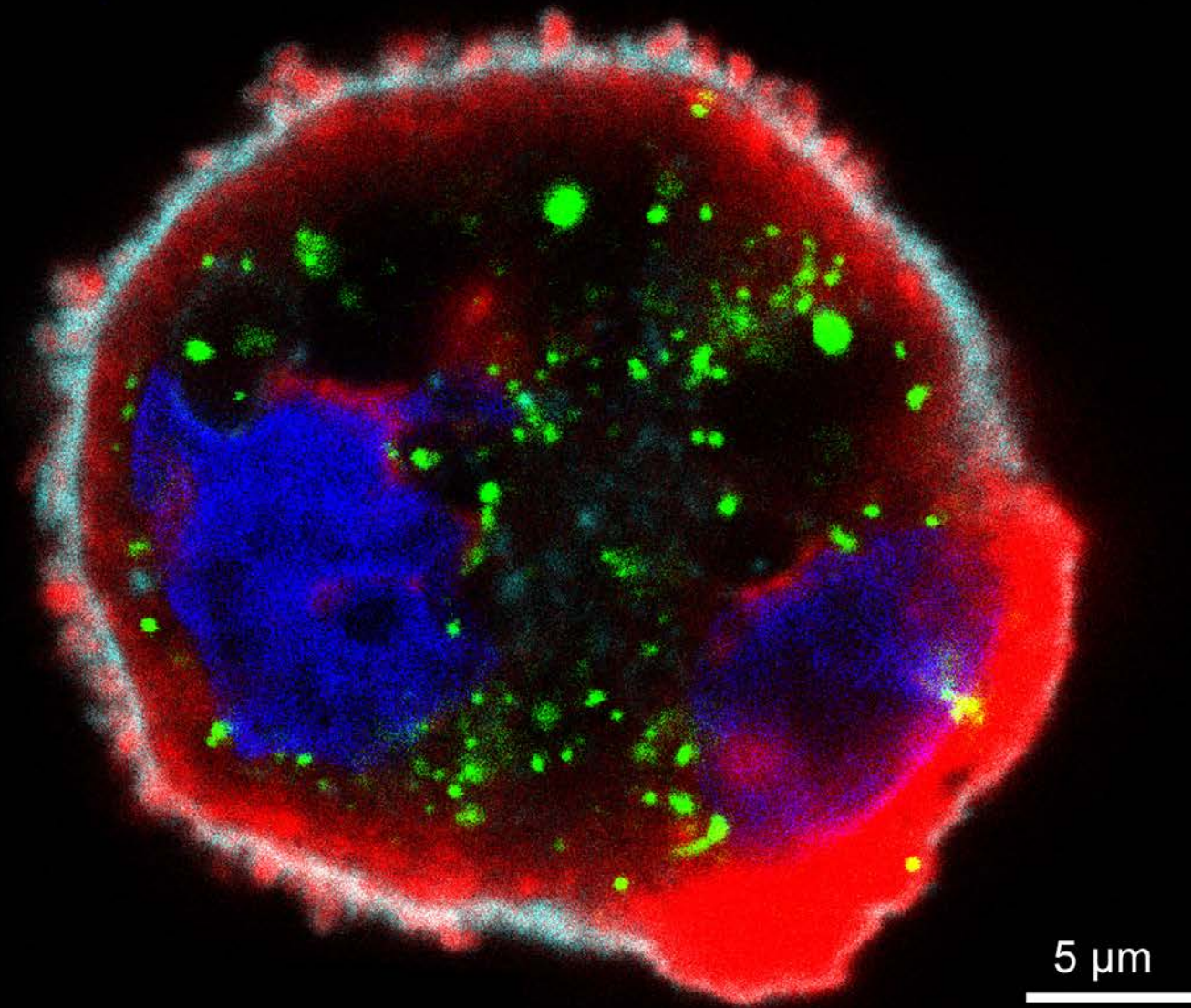


Image of a human cell infected by SARS-CoV-2. This image was created through research led by Dr. François Jean (UBC Life Sciences Institute) undertaken at UBC's Facility for Infectious Disease and Epidemic Research (FINDER), a biosafety level three facility.

Host cell: ■ nuclei ■ actin  
Virus: ■ dsRNA ■ nucleocapsid

The VPRI portfolio works with academic leaders to develop shared platforms for researchers to access specialized services, training and equipment to support the acquisition of preliminary data prior to or for the execution of funded projects.

In 2020/21, researchers received significant funding to study the pathogen causing COVID-19, SARS-CoV-2. This pathogen must be studied in biosafety level three facilities. To support the training and research needs of scientists studying SARS-CoV-2 *in vitro* and *in vivo*, UBC's Facility for Infectious Disease and Epidemic Research (FINDER), a biosafety level three facility, became a shared research platform in 2020. We are grateful to the Faculty of Medicine, Safety and Risk Services and Genome BC for supporting our enhancement of FINDER's research and training capacity.

Other shared platforms provide support for researchers who work with animals or plants, cryo-TEM imaging, DNA sequencing or that have advanced research computing needs. These platforms support researchers at any point in their career, but are particularly valuable to early-career researchers and those new to UBC, and cater to the training needs of graduate students and postdoctoral fellows.

In a year where on-campus research was curtailed suddenly, UBC's shared research platform staff worked with researchers to maintain essential services. Certain platforms, such as Animal Care Services and Plant Care Services, continued to operate, providing support for critical research during the curtailment period, which involved significant dedication from facility staff. Other facilities, such as the Sequencing and Bioinformatics Consortium, provided virtual consultations and support in advance of research resumption.

The Okanagan campus recently opened its new 5,000-square-foot plant-growth facility during the pandemic. The facility will serve the needs of faculty members in several faculties and is already nearing capacity. UBCO also opened its new Research Data Centre which will provide the university community and regional partners access to secure Statistics Canada databases.

For many researchers, shifting their research to enable remote work was facilitated by Advanced Research Computing (ARC). During this time, ARC also further enhanced its support for our research community. These enhancements included expanding support for commercial cloud computing services and the further development of dedicated advanced computing infrastructure at UBC. The high-performance computing platform, Sockeye, was expanded and ARC increased the flexibility for how researchers can access the platform.

ARC also launched a new secure object storage, UBC ARC Chinook, to meet the immediate needs of UBC researchers and supplement the storage resources available through national platforms. The Chinook platform can be used to retain and retrieve portions of large research datasets composed of files and unstructured data, such as short or medium-term archives, collection and aggregation of results, and copies of valuable datasets.

Other shared research facilities across the university were supported by an enhanced Research Facilities Support Grant competition, which was augmented to allow requests for funding to help support additional costs associated with research curtailment and the phased resumption of on-campus research activities in response to COVID-19. A total of \$3.5 million was available for this competition in 2020/21.



# Fostering Student Research

The transition to remote teaching severely impacted the Program for Undergraduate Research Experience (PURE), which was originally launched by the VPRI in 2019 to broaden access to and enhance undergraduate research experiences. Fifteen of the seventeen funded projects received two-year funding terms but with the transition to remote work, many of the activities scheduled for 2020/21 were postponed and projects received extensions to 2021/22. In spite of these challenges, some activities continued. For example, the Sustainability Science: An Immersive Research Training Experience in Socio-Ecological Systems project transitioned to provide an interdisciplinary research training course and online mentorship. The Undergraduate 3-Minute Thesis competition was held virtually in February 2021, facilitated by a no-cost extension to the initial one-year PURE award in order to replicate the success of the initial 2020 competition. At UBCO, the PURE-funded Multidisciplinary Undergraduate Research Projects in Health (MURPH) program led five applied health projects in 2020/21.

Graduate student training opportunities were enhanced through changes to the Grants for Catalyzing Research Clusters competition that allowed the inclusion of graduate student stipends.

The VPRI collaborated with units across the university to mitigate the impact of the pandemic on our graduate students, postdoctoral fellows and research staff. This population was particularly financially vulnerable where research projects were delayed or funding was interrupted, as these personnel were not supported by the large federal wage programs.

- The VPRI played a key role in establishing the Research Staff and Trainee Emergency Fund to mitigate salary shortfalls for UBC graduate students, postdoctoral fellows and research staff, both at UBC and our affiliated health-authority research institutes, where projects funded by industry or foundations had been interrupted as a result of the pandemic. After initial awards were offered, this program was superseded by the federal Canada Research Continuity Emergency Fund.
- The Canada Research Continuity Emergency Fund was announced in May 2020 as part of the Government of Canada's COVID-19 Economic Response Plan. The temporary program was established to help sustain the research enterprise at Canadian universities and health research institutions that were affected by the COVID-19 pandemic. The program provided wage support for research-related personnel and covered extraordinary costs associated with the maintenance of research equipment/facilities and the subsequent ramp-up of research activities. The VPRI portfolio oversaw the creation of simple application processes, supported by financial staff across the university and affiliated health-authority research institutes, and criteria to ensure that equity, diversity and inclusion principles were considered in allocating funding awards. All funding requests made by researchers at UBC and its affiliated health-authority research institutes were supported: an investment of \$55.5 million of the \$415 million allocated nationally.
- The VPRI collaborated with colleagues in the Faculty of Graduate and Postdoctoral Studies (UBC Vancouver) and the College of Graduate Studies (UBC Okanagan) to create a process to distribute graduate research stipends. This allowed supervisors to provide funding to support the research undertaken by graduate students unable to travel to Canada due to COVID-19 restrictions.





# Enabling Knowledge Exchange

As part of Innovation UBC, the UBC Knowledge Exchange (Kx) Unit builds capacity among researchers, students and staff across disciplines to develop and share impactful knowledge through connections and exchange with communities, government, non-profit organizations and the general public.

The unit supported a number of COVID-19 initiatives for researchers, including a webinar delivered in partnership with UBC Media Relations for researchers wanting to connect and share impactful knowledge on the broad range of societal issues that the pandemic has uncovered. Opportunities were also identified to help UBC researchers share their work related to COVID-19.

In July 2020, the Kx Unit also launched its first Knowledge Exchange Summer Institute. The institute included workshops, targeted resources, online discussions and other support for researchers wishing to refine their approaches to research partnerships and communication, and helped build a community of practice.

The Kx Unit was also involved in the Making Research Accessible Initiative (MRAi)—a partnership between the UBC Learning Exchange and UBC Library's Irving K. Barber Learning Centre—with input from the UBC Office of Community Engagement, UBC Knowledge Exchange, UBC's School of Information (iSchool), the Simon Fraser University Library and the Vancouver Public Library. Through this initiative, the Kx Unit contributed to the development and launch of the Downtown Eastside Research Access Portal (DTES RAP). The Kx Unit is working with the MRAi team to assess the benefits of this collaborative approach.

Partners engaging in collaborative research, teaching and learning projects were supported by a number of initiatives in which Kx Unit was involved. This includes the Community-University Engagement Support (CUES) fund overseen by UBC Community Engagement. CUES funds charitable organizations in British Columbia to build partnerships and pursue shared projects with UBC that benefit communities across the province.

# Enhancing Research Culture

The VPRI's commitment to enhancing research culture at UBC and nationally is evidenced by its engagement in a number of strategic initiatives and programs.

## UBC Dimensions Pilot

UBC is one of 17 Canadian post-secondary institutions participating in a pilot project of the federal Dimensions program, which seeks to identify and eliminate systemic barriers and inequities experienced by members of marginalized and under-represented groups in the research ecosystem. UBC's Dimensions pilot is co-led by the Office of the VPRI and the Equity & Inclusion Office.

During the pilot, the university will review its equity, diversity and inclusion (EDI)-related policies, programs, practices and initiatives, and perform an in-depth, reflective assessment of its research-related systems, practices and culture. This work will inform an action plan to address identified gaps, barriers and trends in EDI within the UBC research ecosystem. The framework for the self-assessment was released in March 2021. The self-assessment and development of the action plan will be conducted by a team comprising faculty members, staff and students, with representation from equity-deserving groups identified in the Dimensions program; these include, but are not limited to, women, Indigenous Peoples, persons with disabilities, members of visible minorities/racialized groups, and members of 2SLGBTQIA+ communities.

As a participant in the federal pilot, UBC is also contributing to the development of the federal program's design and delivery by providing relevant feedback to the federal Dimensions team. The pilot and action plan will reinforce UBC's commitment to ensuring equitable access to funding opportunities, increasing equitable and inclusive participation in research and embedding EDI-related considerations in research design and practice across the institution. The pilot and its outputs will also reinforce the university's *Inclusion Action Plan* and *Indigenous Strategic Plan*.

## Research Data Management

To support effective research-data management practices throughout the life cycle of a research project, UBC Advanced Research Computing collaborated with the UBC Library, the Office of the Chief Information Officer and units across the VPRI portfolio to build a new online resource. Hosted on the ARC website, it provides an overview of the support available to the UBC research community and outlines broader issues around effective research data management and UBC's responses in preparation for the new Tri-Agency research data management policy.

## Scholarly Integrity Initiative

The Scholarly Integrity Initiative, led by the VPRI and the Faculty of Graduate and Postdoctoral Studies, is supported by an advisory committee of members from across our campuses. It supports UBC researchers and scholars in all aspects of conducting research responsibly and was made possible through support from UBC's Academic Excellence Funds. The initiative is inspired by UBC's Scholarly Integrity Policy and informed by the Tri-Agency Framework on the Responsible Conduct of Research.

The UBC Responsible Conduct of Research website was launched in 2020/21 as a key component of the initiative. The website and its resources are designed to help the UBC research community not only to understand expectations and requirements outlined in UBC policy, but also to build capacity to engage with the broader issues and best practices in conducting research responsibly, and to create a culture embedded with responsible research practices. The website serves as a hub for new and existing resources around key pillars of responsible research, and introduces some of the new and evolving topics in this area. An online course is being developed for the research community to engage more deeply in these topics, with a target launch date of fall 2021.

## UBC Open Access Fund for Humanities and Social Sciences Research

The open sharing of research and scholarship can contribute significantly to research culture, and the UBC Open Access Fund for Humanities and Social Sciences Research was created in 2020/21 for UBC faculty authors wishing to publish in open access books and journals. Up to \$3,500 is available to an individual author or individual work each academic year to cover associated fees, sometimes known as article processing charges, where no other funding is available to the author for this purpose.

The fund supports the costs of making books or journal articles openly accessible without subscriptions or paywalls. Open access is a requirement of many funding agencies and enables wide dissemination of university research.

A separate fund, UBC's Scholarly Publication Fund, is available to subsidize other costs of publication such as publisher subventions, indexing, and image clearances.

Both funds are pilot programs administered by the UBC Library, with funding support from the VPRI and the Provost and Vice-President Academic through the Academic Excellence Funds.





# Reciprocity with Indigenous Partners



In August 2020, the T̓silhqot'in Nation and the University of British Columbia signed a memorandum of understanding and an Indigenous Knowledge Protocol Agreement to strengthen collaborative research partnerships with UBC's Centre for Environmental Assessment Research.

The VPRI's commitment to Indigenous engagement on the Vancouver campus is most clearly evidenced through the activities of the Indigenous Research Support Initiative (IRSI). Created in 2016 and supported by an advisory committee comprised of community members, IRSI provides professional support and services for Indigenous research collaborations. On the Okanagan campus, the VPRI's Indigenous Community Liaison works in alignment with the UBCO Declaration of Truth and Reconciliation Commitments to provide support and education for Indigenous research and engagement with Indigenous communities.

In 2020/21 key partnerships, activities and events included the following:

- Significant contributions were made to the UBC *Indigenous Strategic Plan*, which was endorsed by the UBC Board of Governors in July and formally launched in September 2020.
- In collaboration with the University-Industry Liaison Office, IRSI created an Indigenous Community Research Protocol Agreement. This is a legally binding, precedent-setting research agreement that explicitly acknowledges and incorporates the First Nations Principles of OCAP® (ownership, control, access and possession) relating to research data, the United Nations Declaration on the Rights of Indigenous Peoples and the principles of Free, Prior and Informed Consent (FPIC). The protocol agreement has already supported nine different research agreements at various stages of implementation to date.
- In August 2020, a memorandum of understanding (MOU) and an Indigenous Knowledge Protocol Agreement (IK Protocol) were signed by the T̓silhqot'in Nation and The University of British Columbia. These agreements were led by Chief Russell Myers Ross, Vice-Chair of the T̓silhqot'in National Government (TNG) and Professor Helen Burt, Associate Vice-President, Research and Innovation at UBC. The MOU and IK Protocol are a first between UBC and the T̓silhqot'in Nation and set a path forward for collaboration, cooperation and partnership, grounded in respect for the Indigenous Rights of the T̓silhqot'in Nation. UBC and TNG have multiple research collaborations underway, including a number of projects with the Centre for Environmental Assessment Research, a research centre based at the University of British Columbia's Okanagan Campus and led by Dr. Kevin Hanna.
- IRSI provided key support for the Living with Water project, a four-year, \$1-million collaboration launched by the Pacific Institute for Climate Solutions and led by UBC's Coastal Adaptation Lab in partnership with Simon Fraser University, the University of Waterloo, Wageningen University (Netherlands), and West Coast Environmental Law.
- Through a series of partnerships, IRSI is co-developing a series of learning modules and resources to support research with Indigenous communities. The Ethics Learning Resources Project supports academic activities that engage Indigenous knowledge, but which fall outside the scope of a traditional ethics-review process. This project is in collaboration with the Centre for Community Engaged Learning, Indian Residential School History and Dialogue Centre, UBC Learning Exchange, and other UBC units. Other learning support includes a pre-engagement learning series, being developed in collaboration with UBCO Indigenous Community Liaison, which will target UBC faculty members, students and staff looking to engage with Indigenous knowledge or communities, and learning modules related to OCAP that will be developed in collaboration with the First Nations Information Governance Centre.



# Looking Forward

## (2021/22)

While we anticipate that 2021/22 will bring a healthy environment that allows additional return to research, we also recognize that some research areas will continue to face challenges due to the impact of the pandemic. Community-based research, field work and internationally based research are just some of the areas for which we anticipate ongoing challenges. The VPRI portfolio will continue to help facilitate, as possible, the safe resumption of affected research and will continue to highlight to funders the challenges faced by researchers. The VPRI faculty research advisors, Profs. Liisa Galea (CIHR), Purang Abolmaesumi (NSERC) and Lisa Sundstrom (SSHRC), will be instrumental in expressing ongoing research challenges to the federal funding agencies.

In addition to providing ongoing services to support research and innovation, we intend to place specific focus on areas and projects guided by UBC's strategic plan, *Shaping UBC's Next Century*, and the *Indigenous Strategic Plan*.

### Strategy 6: Collaborative Clusters

*Enable interdisciplinary clusters of research excellence in pursuit of societal impact*

- The UBCV Research Excellence Clusters program has held five competitions since 2018. We plan to undertake an external review of the program to guide its future.
- We also plan to continue to refine the program and support a variety of forms of interdisciplinary research.

### Strategy 7: Research Support

*Strengthen shared infrastructure and resources to support research excellence*

- We will work with the support of the VPRI faculty research advisors to continue to express the need to governments for investigator-led research.
- We will expand support for additional shared research platforms as part of the President's Academic Excellence Initiative. Our goal is to ensure UBC provides shared research platforms across a multitude of research and scholarship disciplines.
- We will work with the Vice-Provost, International to enable UBC researchers to access anticipated federal funding for international partnerships.

### Strategy 8: Student Research

*Broaden access to, and enhance, student research experiences*

- We will support the completion of projects under the PURE pilot and work with faculties, provosts and the Vice-President, Students on future support for undergraduate student research.
- We will work with the VPRI faculty research advisors to continue to express the need for more higher-value graduate and postdoctoral funding.

### Strategy 9: Knowledge Exchange

*Improve the ecosystem that supports the translation of research into action*

- We will work to enhance support for community-based collaborative and respectful research with Indigenous partners.
- We will evolve and refine Innovation UBC support for knowledge exchange in collaboration with faculty colleagues.

### Strategy 10: Research Culture

*Foster a strong and diverse research culture that embraces the highest standards of integrity, collegiality and service*

- We will continue to advance the Dimensions project, helping to nurture a more equitable, more diverse and more inclusive research environment at UBC.
- We will work with other universities and the federal government to safeguard research while ensuring principles of academic freedom are upheld.
- We will work with the UBC Library and faculty partners to provide support to researchers in response to the new Tri-Agency research data management policy.

# VPRI Support at a Glance

## throughout the research project lifecycle

The following units are physically located at UBC's Okanagan campus:

#### entrepreneurship@UBCO

Offers UBC Okanagan students, faculty, staff and recent graduates training and mentorship support to explore their startup ideas, build connections within the Okanagan innovation ecosystem, and develop the skill sets needed to launch a successful new venture. [entrepreneurship.ok.ubc.ca](https://entrepreneurship.ok.ubc.ca)

#### Office of Research Services (ORS)

Provides research facilitation and administrative services. Helps researchers find funding and provides grant program and application support. Supplies the institutional signature for grant applications, manages new and ongoing compliance requirements, and sets up and provides ongoing maintenance for research accounts. [ors.ok.ubc.ca](https://ors.ok.ubc.ca)

#### UBC Survive and Thrive Applied Research (UBC STAR)

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#### SHARED RESEARCH PLATFORMS:

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**Office of Research Services (ORS)**

Helps researchers find funding opportunities, obtains the institutional signature for grant applications, manages ongoing compliance requirements, sets up research accounts and spending limits, transfers research funds and registers clinical trials. [ors.ubc.ca](https://ors.ubc.ca)

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# Re-envisioning the Student Experience of Instruction Survey Questions from the Student Perspective



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## Executive Summary

***“They were good questions that were able to help me re-evaluate my learning experience in this course and reflect upon it.”***

- Student comment provided during the SEI pilot testing phase

This report summarizes the results of an eight-step project to evaluate the proposed wording of the six University Module Items (UMI) on the Student Experience of Instruction (SEI) survey.

We used a mixed-methods approach for this project. We first conducted 24 online focus group sessions with 116 students (16 focus groups) and 40 faculty members (8 focus groups), and held 29 online think-aloud interviews with individual students. All focus group sessions and interviews were digitally recorded and transcribed for further analysis. The transcriptions were then uploaded into NVivo, a qualitative analysis tool, and participant comments were analysed to determine patterns of meaning and organized into general themes. The themes were further refined and coded to aid in the interpretation of the data. The results of the qualitative analysis were used to further refine the questions with the aim to clearly articulate the intention behind each of the questions, and how they were related to the student learning experience and feedback on instruction.

The next phase of the project involved pilot-testing the revised survey questions developed from the thematic analysis. Students were invited by email to participate in the pilot survey through an anonymous survey link, using the survey software program Qualtrics. We received 333 responses to the pilot survey. To determine how well the new items functioned across individuals and respondent groups, we conducted a quantitative analysis of the questions using Item Response Theory (IRT) and Differential Item Functioning (DIF), conducted using the software programs SAS and Winsteps. Results from the IRT models showed significant improvement in each individual item's contribution to the overall survey information compared with a similar sample drawn at random from the 2020/21 (Winter Term 2) course evaluations. Based on the results of this mixed-method approach, we make the following recommendations on the SEI UMI questions for use at UBC.



## Recommendations

We recommend that the following six new core UMI questions be adopted for implementation across both campuses for Winter Term 1 2021/22 courses and onwards:

*Note: for the reader's reference, the previously proposed questions from the SEoT Working Group in May 2020 are included in grey italicized font below each of the newly recommended questions.*

1. Throughout the term, the instructor explained course requirements so it was clear to me what I was expected to learn.  
*The instructor made it clear what I was expected to learn.*
2. The instructor conducted this course in such a way that I was motivated to learn.  
*The instructor engaged me in the subject matter.*
3. The instructor presented the course material in a way that I could understand.  
*I think that the instructor communicated the subject matter effectively.*
4. Considering the type of class (e.g., large lecture, seminar, studio), the instructor provided useful feedback that helped me understand how my learning progressed during this course.  
*I have received feedback that supported my learning.*
5. The instructor showed genuine interest in supporting my learning throughout this course.  
*I think that the instructor showed concern for student learning.*
6. Overall, I learned a great deal from this instructor.  
*Overall, this instructor was effective in helping me learn.*

Response options for all questions above: *strongly agree, agree, neutral, disagree, and strongly disagree.*

We also recommend that three common open-ended questions be included on all SEI surveys across both campuses to collect text comments:

7. Please identify what you consider to be the strengths of this course.
8. Please provide suggestions on how this course might be improved.
9. Do you have any suggestions for what the instructor could have done differently to further support your learning?

## 1.0 Introduction and Background

In February 2019, a Student Evaluation of Teaching (SEoT) Working Group formed with membership across both UBC Okanagan and UBC Vancouver campuses. Working under the auspices of the UBCO Senate Learning and Research Committee and the UBCV Senate Teaching and Learning Committee, the group had the following remit:

1. Interrogate anonymized UBC SEoT data, to determine if there is evidence of potential biases.
2. Review and assess the recent literature on the effectiveness of SEoT, with particular reference to potential sources of bias in evaluations.
3. Review the existing University questions used in SEoT in light of the data and available literature, recommending changes where appropriate.
4. Propose recommendations for appropriate metrics, effective analysis and presentation of data to support SEoT as a component of teaching evaluation.
5. Consider the implications any proposed changes may have on other components of teaching evaluation.

Through work and consultations conducted over an extended period, the SEoT Working Group presented a report to both the Okanagan and Vancouver Senates in May 2020. The report included 16 recommendations about student evaluations of teaching, which were endorsed by both Senates. Included in the report were recommendations to revise the former SEoT questions and to create a common set of core University Module Items (UMI) to be asked across both campuses. They also recommended changing the focus of these surveys to reflect the student experience, and to write the questions in a manner that puts the student at the heart of the question, thereby making the questions more student-centred. Thus, the Working Group recommended changing the name of the course-end questionnaire to Student Experience of Instruction (SEI).

The Working Group also proposed changes to the wording of the Vancouver version of the survey, including a substantial change to UMI 4, “Overall, evaluation of student learning (through exams, essays, presentations, etc.) was fair.” The changes proposed for the Okanagan version of the SEoT were more significant, reducing the questions asked from nineteen to six. Please see Appendix 1 for a list of the existing SEoT questions at each campus as well as the question wording proposed by the SEoT Working Group in their May 2020 report.

In the Fall of 2020, two new committees were formed to oversee the process of implementing the Working Group’s recommendations: a Steering Committee, and an Implementation Committee. Since one of the recommendations in the original Working Group’s report was to change the name of the process

from “student evaluations of teaching” to “Student Experience of Instruction” (SEI), these new committees are called the SEI Steering and SEI Implementation Committees. The SEI Steering Committee is made up of senior leaders, faculty, and students on both campuses, and provides strategic guidance and oversight for the Implementation Committee, which is tasked with operationalizing the implementation of the recommendations at both campuses. Please see Appendix 3 for membership of these groups.

## 1.1 PROJECT OVERVIEW

To address the recommendation by the Working Group to revise the existing University questions, the SEI Implementation Committee developed an eight-step project plan (see Figure 1). This plan included a mixed-method approach that collected qualitative feedback from student and faculty participants through focus groups and interviews, revised the questions based on this feedback, then conducted pilot-tests of the new questions using an online survey, and finally conducted a quantitative analysis of the results to see how well the revised items functioned.

Two questions did not function as well as expected, so we collected additional qualitative data from students on their interpretation of these items and made further refinements based on their comments. A final set of six core UMI questions are recommended to the Vancouver Senate Teaching and Learning and the Okanagan Senate Learning and Research Committees for their consideration and endorsement for implementation starting in Winter Term 1 2021/22 courses.

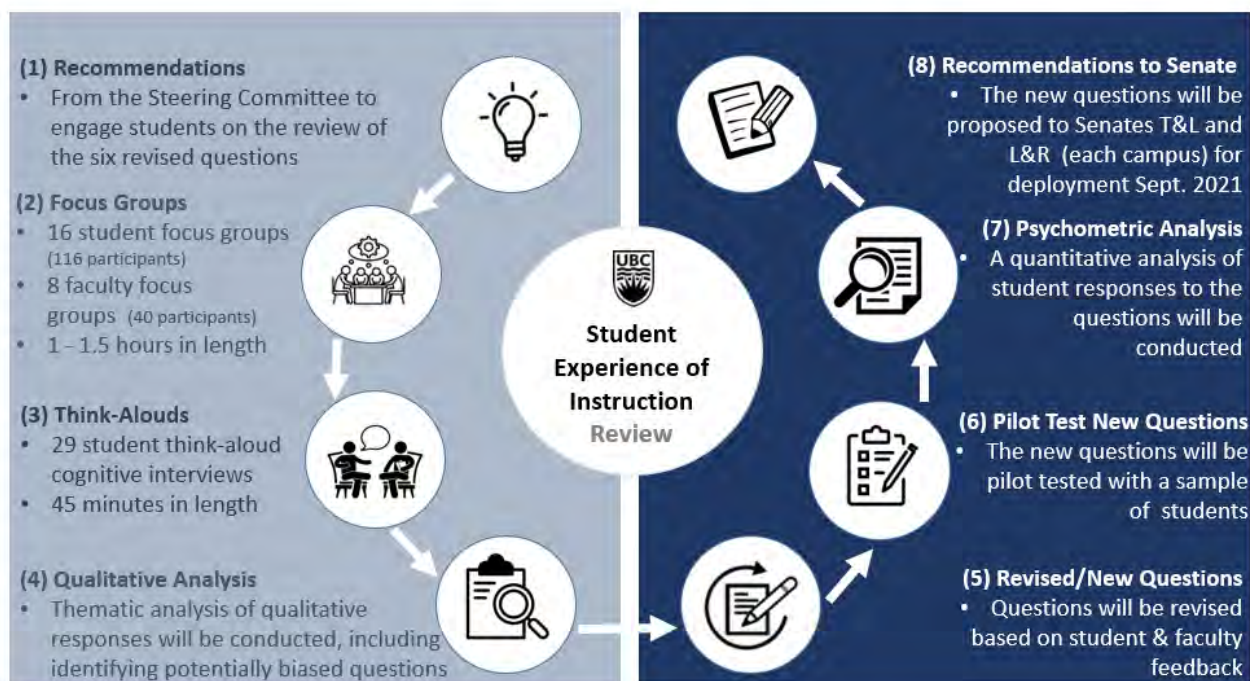


Figure 1. Eight-Step Project Plan to Evaluate the Proposed SEI Questions

## 2.0 Methodology

### 2.1 FOCUS GROUPS

We held 16 focus-group sessions with a total of 116 students across both campuses, all year levels, undergraduate and graduate, and across a diversity of programs. Each focus-group session was conducted online using Zoom and took between one hour and 1.5 hours to complete. Upon permission of the participants, each session was digitally recorded for later transcription. All students who participated in the focus group session received a \$20 electronic gift card of their choice.

The goal of the focus groups was to introduce the six proposed questions and to gain an understanding of how students interpreted and would respond to the survey questions. Further, we asked them to identify any possible confusion that might occur in terms of different interpretations of the questions, and suggestions on how to improve the questions that might be understood differently by students or in different environments, such as a large- or small-class setting or class type.

We asked participants to think about their experiences of receiving and completing the former student evaluations of teaching questions, and asked them if they knew what the surveys were used for at UBC. We shared with the participants highlights from the report and recommendations made by the SEoT Working Group. We then introduced participants to the proposed six UMI questions put forward by the SEoT Working Group and asked them to provide their overall impression of the proposed changes to each of the questions.

We walked the student participants through each of the six UMI questions, asking them to discuss the following for each question:

- What is your understanding of the question?
- How would you respond? Does your response reflect the change in the question?
- Is this question confusing? Are there any words which need further defining or is there a better word to use? Do you think students could interpret this question differently from each other? Can you think of anyone who might be able to interpret this question differently from you?
- Would you interpret this question differently if you were enrolled in a small class compared with a large class?
- Would you interpret this question differently if you were enrolled in [subject] compared with [subject]?

At the end of the focus group session we asked participants to reflect on the following question: “Of all the things we’ve discussed today, what would you say are the most important issues, in terms of refining the new questions on the student experience of instruction survey?”

We also held eight one-hour focus group sessions with faculty members, of which four involved Okanagan faculty and four involved Vancouver faculty. In total, 40 faculty members participated in the sessions, coming from a range of programs, and employed in tenure-track and non-tenure track positions. Again, we asked faculty participants to provide insight on how they interpreted the proposed questions and their thoughts on how students would understand and respond to the questions. We also collected suggestions on how to reword the questions. Faculty members who participated in the focus group sessions did not receive any remuneration for their involvement.

## 2.2 THINK-ALoud INTERVIEWS

In addition to the focus-group sessions, we conducted 29 one-on-one interviews with students who had not previously attended a focus group. Each interview was held online using Zoom and took between 45 minutes and one hour to complete. Upon permission of the participants, each session was digitally recorded for later transcription. Similar to the focus group sessions, all students who participated in the interview received a \$20 electronic gift card of their choice.

The goal of the think-aloud interviews was to collect information from student participants on the six UMI questions by way of verbal feedback about their understanding of the questions, and how they process the questions to be able to respond to them. These types of interviews are known as think-aloud sessions, or cognitive interviews, and are very different from a focus group or a typical interview (Ryan et al., 2012; Trenor et al., 2011). Students are asked to verbalize everything they are thinking about as they read through the survey question and recall experiences and thoughts that inform how they would answer each question. The objective is for the participant to talk constantly as if they were alone in the room speaking aloud to themselves. It is a useful technique to gather information on whether students who complete the survey make sense of the question in the same manner as it was intended to be interpreted from the survey designer, or if they are struggling to understand what the question is asking.

We began each think-aloud session by introducing the purpose of the interview and describing the process of a think-aloud interview. To get students feeling comfortable with the approach, the interviewer conducted a practice round with two survey questions from the UBC Undergraduate Experience Survey, which included, “I am proud to say that I attend UBC,” and “I feel a strong sense of connection to UBC.” Providing the participant with time to practice was an important step in this process because it enabled the interviewer to provide feedback on how well the student was thinking aloud and to encourage additional talking if necessary. In the practice round, the interviewer asked the participant to read each question aloud and verbalize their thoughts about the question itself.

The following suggestions were offered to the participant to consider while thinking about the question:

- What do you think this question is asking you?
- What are you thinking about while considering your response?

- What does the question mean to you when thinking about your experiences? Do you have any examples in mind?
- Are you thinking about something other than the question?
- Is there anything about the question that is confusing? What is it?
- Is the question vague?
- Are you able to answer the question easily?
- How did you arrive at your answer?
- Do the response options capture your answers appropriately? If not, how would you want to respond?

Once the participant understood what was expected of them, the interviewer then asked the participant to “think-aloud” while reading through the proposed six SEI questions. The think-aloud interviews are considered “facilitator light,” meaning that we want the participants to speak openly without too many prompted questions; however, students were prompted to give a response if they were silent for any long period of time, or if they seemed to be struggling and needed additional support from the interviewer.

Students were reminded that the aim of the interview was to evaluate the SEI questions, not the participant’s performance nor their instructor’s performance. We asked each participant to consider a lecture course they were currently enrolled in to use as an example when reviewing the question. We collected information about the course name and number, the year level of the course, the number of students enrolled in the course, if it was a required course for their program or an elective, if there was a teaching assistant (TA) assigned to the course, and if there was any additional information they wanted us to know about the course. With that course in mind, the participant began the SEI review using the think-aloud approach.

## 2.3 QUALITATIVE THEMATIC ANALYSIS

All focus-group sessions and interviews were digitally recorded and transcribed for further analysis. The transcriptions were uploaded into NVivo, a qualitative analysis tool, and participant comments were analysed to identify patterns of meaning, and organized into general themes. The themes were further refined and coded to aid in the interpretation of the data. A few members of the Implementation Committee were involved in the analysis of the qualitative data (see Appendix 3 for a list of Committee members). After individually analysing the qualitative data, the members met online to discuss the themes and any disagreements or differences they had with the interpretation of the data until agreement on the themes and interpretations was reached.



## 2.4 PILOT-TESTING THE REVISED QUESTIONS

The next phase of the project involved pilot-testing the revised survey questions developed from the thematic analysis. The 280 students who had indicated their interest in participating in the SEI project were contacted by email and asked if they would complete the pilot test of the revised questions through an anonymous survey link using the survey software program Qualtrics. In addition, students who had not previously participated in the project (through either focus groups or interviews) were invited by email to participate in the pilot survey by and asked to provide their feedback on the revised questions.

To collect contextual information, students were asked to provide some additional information at the start of the survey including: a course name and number that they were considering when responding to the questions; the number of students enrolled in the course; and whether it was a required course for their program or an elective. They were also asked to provide some additional information about themselves: whether they were an undergraduate or graduate student; at which campus they were enrolled; program of study; year level; and whether they were a domestic or international student. Participants were reminded at the start of the survey, and on each page of the survey, that this was a pilot project and that the focus of the survey was to review the revised questions, not the student's nor the instructor's performance.

## 2.5 ITEM RESPONSE THEORY AND DIFFERENTIAL ITEM FUNCTIONING

Quantitative data collected from the pilot survey were analysed using Item Response Theory (IRT) and Differential Item Functioning (DIF). IRT is an approach used for test development and can be used in a similar fashion for survey item development or refinement. Through IRT, we are able to: 1) predict individual survey responses based on a respondent's attitude or perception, and 2) to establish a relationship between an individual's item response and the set of traits underlying item performance through a function called the "item characteristic curve" (Hambleton et al., 1991). This information can help the survey developer evaluate how well the questions function across different attitudinal levels, and how well the response options work for each question.

DIF analyses examined whether students responded to the pilot survey questions differently across groups, such as focus-group participation, required vs. elective courses, class size, campus and year level. In surveys, DIF is conceptualized as occurring when survey respondents who have similar attitudes on a measured trait respond differently due to construct-irrelevant factors such as differential interpretation of terms used in the survey. If an item is flagged as having DIF it suggests that a survey question may indicate a different understanding across the student groups. When DIF is detected, further analyses examine why some items function differentially across respondents to determine whether refinement of the survey question is needed.

## 3.0 Findings

### 3.1 QUALITATIVE THEMATIC ANALYSIS

Most student and faculty participants supported re-writing the current UMI core questions from the perspective of the student. Participants from the Okanagan campus were overwhelmingly in support of reducing the number of items from 19 to six. Participants suggested that proposed questions from the SEoT Working Group were not consistently written as student-centred. They argued that simply adding “I think” to a question did not make it student-centred. In addition, participants interpreted some of the terms and phrases used in the proposed questions differently, and some participants suggested that terms could possibly lead to biased responses (e.g., the use of “concern” and the use of “communicated”). Much of the feedback from participants suggested that more clarity and specificity was required in the questions to reduce the potential ambiguity and multiple meanings that could be inferred from certain statements.

The results of the qualitative analysis were used to refine the questions with the aim to articulate the intention behind each of the questions clearly, and to relate them to the student-learning experience and feedback on instruction. Below is a list of the six UMI proposed by the SEoT Working Group in May of 2020, along with feedback from the student and faculty participants regarding each survey question. The revised wording on each question is included at the bottom of each of the sections below. These newly worded questions were used in the subsequent pilot survey to test how well students responded to them.

#### **Q1. The instructor made it clear what I was expected to learn.**

There was quite a bit of discussion on this item, and a variety of interpretations were drawn across the focus-group participants. The diverse interpretations were grounded in a lack of clarity on what it was that “the instructor made clear” in the sentence. Some participants thought it referred to clear communication of the syllabus at the start of the course, while others thought it meant that the instructor spoke clearly about the expected learning outcomes at the start of each class, and others wondered if it referred to clarity around course learning outcomes or course objectives. Some participants interpreted “what I was expected to learn” to be about tests and assignments delivered throughout the term, while others suggested it could also include broad skills learned throughout the term that might not be directly tied to the stated learning objectives for the course. Most participants suggested that clarifying the timing of what is being referred to in the question, such as throughout the term or at the start of the term, would help with interpretation. They also acknowledged that not all courses have articulated learning objectives, but all do have course requirements, so that would need



to be kept in mind when refining the question further. Some participants felt that this question was not student-centred and was still focused on the instructor rather than the student experience.

As a result of the feedback, the proposed new question wording for the pilot survey is:

*Q1. Throughout the term, the instructor explained course requirements so it was clear to me what I was expected to learn.*

**Q2. The instructor engaged me in the subject matter.**

In this question, there was lack of understanding by participants of the term “engaged” used in the sentence. Some participants thought this referred to time spent participating in class, or communicating with the instructor one-on-one during office hours, or in a group setting. Other participants suggested this could refer to being engaged in a class because of the subject matter alone, or due to the way in which the instructor taught the course. Many argued that due to the lack of clarity in understanding the term “engaged,” participants could respond differently to the question based on their own interpretation, which might not reflect the original intention of the question. In addition, some felt that they might have difficulty responding to the question because they could feel engaged with the instructor’s teaching style but not engaged with the subject matter, given that it is not of their own interest. Many suggested that the question should be reworded to ask about the way in which the course was taught, and they also suggested that we did not use the word “engaged”.

As a result of the feedback, the proposed new question wording for the pilot survey is:

*Q2. The instructor conducted this course in such a way that I was motivated to learn.*

**Q3. I think that the instructor communicated the subject matter effectively.**

Overall, participants thought it was a good idea to focus on the student experience of instruction and write the questions so they are student-centred. Yet many participants said that adding “I think” to the sentence does not make it student-centred, and some students indicated that it actually made them feel as if their feedback they provided to instructors on the evaluations were less important. In addition, the term “subject matter” was interpreted as being too broad, making participants unsure about how to answer the question. Some participants interpreted “subject matter” as referring to the course content, while others suggested it could include the field of study, which would imply more than the course content. As a result, many participants suggested using the term “course material” to make it specific to the actual course. There was also further ambiguity with the word “communicated” in this question. Some participants were not sure if this was referring to communication in terms of the announcements, emails, discussions, communication about course activities in Canvas, or if it referred to the communication style of the instructor. Some worried that if students interpreted the question to be

asking about the communication style of the instructor, ratings could be possibly biased against instructors with an accent, or for instructors for whom English is not their first language.

As a result of the feedback, the proposed new question wording for the pilot survey is:

*Q3. The instructor presented the course material in a way that I could understand.*

**Q4. I have received feedback that supported my learning.**

Across all focus-group sessions, participants thought that this question should include an adjective to describe the quality or timeliness of the feedback provided. They suggested that sometimes feedback could be given, but not necessarily in a way that informed them what they needed to do to improve in the course. Others provided examples of when they had received feedback too late in the term, when they did not have time to improve or prepare sufficiently for their next assignment/exam, or even when the course was almost over. As they read the question, some participants were not sure if they would interpret “feedback” as referring to grades, written/email communications, oral feedback given during class, out-of-class questions, or written feedback (e.g., from quizzes and exams). Also, some student participants indicated that they do not actively ask for feedback, or take advantage of instructor office time to ask for feedback, so they were unsure about how to respond to this question. Many participants also discussed how class size could influence how a student might respond to this question, and that instructors teaching large classes might not be able to provide feedback to students in the same manner that they would if it were a smaller class.

As a result of the feedback, the proposed new question wording for the pilot survey is:

*Q4. Considering the type of class (e.g., large lecture, seminar, studio, etc.), the instructor provided constructive and timely feedback that helped me understand how my learning progressed during this course<sup>1</sup>.*

**Q5. I think that the instructor showed concern for student learning.**

For many participants, the word “concern” had a negative connotation to it and could be interpreted as “worried,” “apprehensive,” or “fearful”. As such, it was mentioned that this could be quite confusing for certain students for whom English is not their first language. Participants also thought the word “concern” could be associated with an emotional reaction and could result in biased responses based on instructor personality or gender identity. Other students thought that it was a good question and that

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<sup>1</sup> Results from the pilot survey indicated that further refinement of this question was needed, so the final recommended question is: *Considering the type of class (e.g., large lecture, seminar, studio, etc.), the instructor provided **useful** feedback that helped me understand how my learning progressed during this course.* This is discussed further in the report.

showing concern for student learning, and how well they progressed during the course, was a positive characteristic for an instructor and in alignment with quality instruction. Nonetheless, many participants thought this question needed to be more specific and should provide examples of what specific actions they were being asked to associate with an instructor who shows concern for student learning.

As a result of the feedback, the proposed new question wording for the pilot survey is:

*Q5. The instructor showed genuine interest in supporting my learning throughout this course.*

**Q6. Overall, this instructor was effective in helping me learn.**

Most participants agreed that this was a good closing question, either to summarize what was already asked or to cover additional aspects that were not evaluated in the previous questions. There were participants who said the question was both too vague and not as specific as the other questions in the survey, or they felt that the question was too similar to other questions, making it difficult to answer as a unique question. They suggested that further refinement of this question was warranted to make it more specific and to provide clarity on the criteria being used to determine the term “effective”, or they recommended that the word be excluded from the question altogether. Many respondents commented on how similar questions 5 and 6 were and recommended making more of a differentiation between the two items.

As a result of the feedback, the proposed new question wording for the pilot survey is:

*Q6. I learned a great deal from this instructor.<sup>2</sup>*

### 3.2 QUANTITATIVE ANALYSIS

A total of 333 completed student responses to the pilot survey were received. Tables 1.a and 1.b provide a breakdown of some student demographics and course attributes of participants in the pilot survey. There were fairly balanced representations from students who had previously participated in a focus group or interview for the SEI project, and those who did not participate, as well as across program year level, class size, and whether the course was required or an elective. A larger number of students who participated in the survey indicated they were enrolled in a program at the Okanagan campus (76% of the sample) compared with students from the Vancouver campus (24%). A large majority, 76%, of the respondents were female.<sup>3</sup> Not all participating students answered all six UMI questions, resulting in 13

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<sup>2</sup> Results from the pilot survey indicated that further distinction of this question compared with UMI 5 was needed so the final recommended question is: ***Overall, I learned a great deal from this instructor.*** This is discussed further in the report.

<sup>3</sup> Student gender is based on administrative records, which are currently recorded as a binary variable, Male or Female.

observations with partially missing data. Most of these analyses cannot be conducted on missing data, and so for two of the three methods described further in this document, a reduced sample of 320 responses was used in the final analysis<sup>4</sup>.

In addition to the pilot survey data, and for comparative purposes, a sample of equal size was randomly drawn from the 2020/21 Winter (Term 2) SEoT data to see how the newly revised questions compared with the existing questions.

**Table 1.a Distribution of Pilot Survey Responses by Student Demographics**

<u>Focus group participant</u>	<u>Number of responses</u>		
Yes	156		
No	177		
 <u>Gender</u>	 <u>Number of responses</u>		
Female	232		
Male	73		
 <u>Campus</u>	 <u>Number of responses</u>		
Okanagan	244		
Vancouver	79		
 <u>Residency</u>	<u>Graduate</u>	<u>Undergraduate</u>	<u>Total</u>
Domestic	19	254	273
International	17	32	49
Total	36	286	322

<sup>4</sup> The Winsteps implementation of the Mantel-Haenszel is slightly different than usual Mantel-Haenszel computations in that cases with missing data are stratified at an estimated measure and so it does not delete cases with missing data (Linacre, n.d.). The Winsteps method was used in this project, so all 333 cases were analysed.

**Table 1.b Distribution of Pilot Survey Responses by Year Level, Class Size and Course Requirement**

<u>Year level</u>	<u>Number of responses</u>
1 <sup>st</sup>	44
2 <sup>nd</sup>	86
3 <sup>rd</sup>	92
4 <sup>th</sup>	80
5 <sup>th</sup>	21

<u>Self-reported Class size</u>	<u>Number of responses</u>
1 – 49	85
20 – 99	70
100 – 199	98
200+	80

<u>Course</u>	<u>Number of responses</u>
A requirement	209
An elective	124

We used IRT to analyse the questions in the pilot survey. There are several assumptions of the data that need to be met before conducting and interpreting this IRT analysis: 1) unidimensionality of the measured trait; 2) local independence of the survey items; 3) monotonicity; and 4) item invariance. Unidimensionality means that all items on the survey are measuring just one underlying construct (e.g., quality of instruction) and that one main factor should explain most of the variance in the survey responses (Hambleton et al., 1991). When items on the survey have local independence, it means that the response to one item is independent of the other questions on the survey, except for the fact that they measure the same underlying construct. Monotonicity occurs when the probability of positively endorsing an item continuously increases as an individual's attitude/perception level increases. Finally, item invariance means that the estimated item parameters do not differ across different groups (e.g. domestic vs. international students), due to misunderstanding or misinterpretation of the questions. These assumptions were met for this analysis and therefore we were able to continue with interpreting the results.

Three methods were used to determine DIF and to see if the results corresponded across the different methods: 1) Mantel-Haenszel, 2) logistic regression, and 3) the cumulative logit approach. Rather than determining sample size requirements alone, researchers suggest that a combination of sample size and the number of questions on the survey should be considered together to determine if item parameters are estimated accurately in IRT models. Şahin & Anil (2017) concluded that a sample size of 250 with 30

items is viable for a 2-parameter model. Zumbo (1999) suggested that 20 test items can be successfully used to run a DIF analysis and have enough information to be able to match individuals on ability level and form meaningful groups. Due to the small number of items on the SEI survey (only six UMIs) and small sample size ( $N=333$ ), we conducted further analysis to determine if our sample size in this analysis was adequate. We drew random sample sizes of 150, 250 and 300 from the pilot data and used each sample to estimate item parameters in a 2-parameter IRT model. For the 2020/21 Winter data, we used sample sizes of 320 and 500, 1000 and 2000. The model parameter estimates were examined as the sample size increased to gauge the stability of the model and parameter estimates and to ensure that a sample of 320 suffices to estimate model parameters. Additionally, for the Mantel-Haenszel method, the computation used (from the software program, Winsteps) relied on both the Mantel-Haenszel and Rasch procedures (e.g., 1-parameter model). For these types of procedures, researchers have suggested having at least 30 responses (Linacre, 1994), with valid findings demonstrated using short tests (4 to 39 items) and small sample conditions (100-300 responses) (Paek and Wilson, 2011). Based on these additional analyses, we felt that we satisfied the sample size assumptions to continue with the IRT and DIF analyses.

Factor analysis was used to test if all six UMI questions represented a single underlying construct measuring quality of instruction from the student perspective (unidimensional assumption). The results of the factor analysis showed that all six UMI items had high factor loadings, i.e. all six UMI questions represent one underlying construct. The Scree and Variance plots in Figure 2 summarize the results of the factor analysis. The elbow in the Scree plot in Figure 2 indicates minimal contributions from subsequent factors. The first factor explained more than 75% of the variation. These findings support the unidimensionality assumption for the IRT analysis.

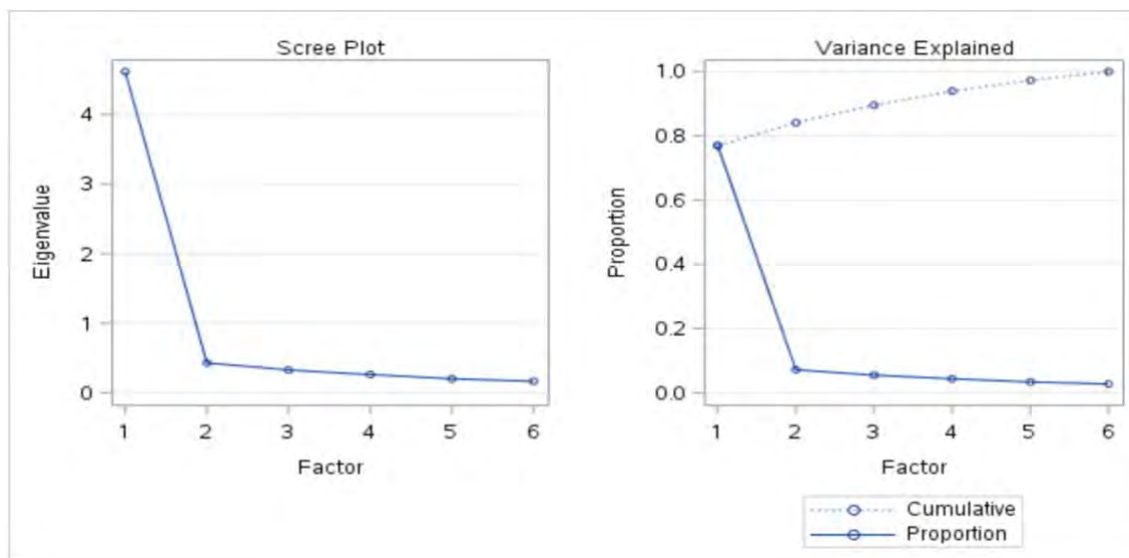


Figure 2. Scree and Variance Plots (UMI Pilot Survey)

Using DIF, we also examined whether students responded differently across groups, such as focus group participation, required vs. elective courses, class size, campus, year level, and student gender. The results of the DIF analysis will flag an item if it functions differently across participant groups, will indicate the direction of the DIF, and will also indicate if an item has uniform or non-uniform DIF. Uniform DIF occurs when DIF is the same for all attitude levels across the two groups, whereas non-uniform DIF occurs when there is an interaction between attitude levels and group membership.

The Mantel-Haenszel procedure is a commonly-used approach for detecting DIF. The Mantel-Haenszel method was run using the software program, Winsteps, which stratifies the sample by total survey scores to determine appropriate “attitudinal” groupings (Linacre, n.d.). To interpret the magnitude of DIF, we followed the criteria as defined by Zwick et al. (1999):

- a) none or negligible DIF was detected if the absolute value logits were less than 0.43;
- b) slight to moderate DIF was detected with absolute value logits between 0.43 to 0.64, and  $p \leq 0.05$ ; and
- c) moderate to large DIF was detected if the absolute value logits were larger than 0.64 and  $p \leq 0.05$ .

We used SAS statistical software to run the logistic regression model approach (Proc Logistic) and the generalized linear model procedure (Proc Genmod) for the cumulative logit method. In the logistic regression model, DIF is detected if individuals matched on attitude/perception have significantly different probabilities responding to a survey question and therefore will have differing logistic regression curves. We followed a three-model approach for the logistic regression method. The first model used a binary approach for the dependent variable (e.g., UMI survey item), where responses on the Likert scale of 4 “agree” and 5 “strongly agree” were combined and coded together as “favourable.” A logistic regression model was fit to the binary data as a function of “attitude/perception” as measured by the overall survey score. The second model includes both “attitude/perception” and a variable representing the reference and focal groups of interest, such as gender. Finally, the third model included the variables in the second model and an interaction term (e.g. attitude/perception\*gender).

$$\text{Model 1: } \text{Logit}(P) = \beta_0 + \beta_1\theta$$

$$\text{Model 2: } \text{Logit}(P) = \beta_0 + \beta_1\theta + \beta_2Z$$

$$\text{Model 3: } \text{Logit}(P) = \beta_0 + \beta_1\theta + \beta_2Z + \beta_3\theta Z$$

Where: Logit(P) is the logit of the probability of respondent’s endorsement;

$\beta_0, \beta_1, \beta_2$  and  $\beta_3$  are model parameters;

$\theta$  denotes the value of the responder attitude/perception as measured by total score; and

Z denotes group membership (e.g. gender or focus group)

The cumulative logit-model method applies a similar three-model approach, except that the dependent variable uses the ordinal response scale values (Likert scale strongly agree “5” – strongly disagree “1”) of the dependent variable (e.g., UMI survey item) and fits a cumulative logit function. For both approaches, a significant difference in fit statistics between models 1 and 2 i.e. a significant  $\beta_2$  would indicate uniform DIF, whereas a significant  $\beta_3$  in model 3 would indicate non-uniform DIF.

The results of the DIF analysis between different groups of student demographics and course attributes are summarized in Table 2 below.

Table 2: Differential Item Functioning (DIF) between different student groups and course attributes

Test Method	Grouping						
	Focus group Participation (Yes vs. No)	Course (Required vs. elective)	Class size (< 100 vs. > 100)	Class Size (1-49 vs 200+)	Campus	Year level 1 <sup>st</sup> & 2 <sup>nd</sup> vs. 3 <sup>rd</sup> & 4 <sup>th</sup>	Student Gender**
Mantel-Haenszel Procedure	None	None	<b>UMI 3</b>	<b>UMI 1</b>	None	None	<b>UMI 6</b>
Logistic Regression Models*	None	None	<b>UMI 1</b> <b>UMI 3</b>	<b>UMI 1</b>	None	None	None
Cumulative Logit Models*	None	None	None	<b>UMI 1</b>	None	<b>UMI 1</b>	<b>UMI 6</b>

\*DIF significance based on p-values < 0.05; \*\*Student gender is based on administrative records, which are currently recorded as a binary variable, Male or Female.

Results reported in Table 2 indicate that DIF was not detected, or was negligible for most of the groupings. DIF was detected for both class-size categories, year level and gender. Across all three methods, UMI question 1 showed moderate DIF between the smallest and largest class sizes (enrolments of 1-49 compared with classes with 200+ enrolments), with more positive responses given to the largest class size over the smallest (DIF, 0.67 and p-values of 0.006, 0.001 and 0.003 for the 3 methods, respectively). UMI 1 also exhibited non-uniform DIF between the lowest and highest year levels using the cumulative logit model (p=0.03), where 1<sup>st</sup> and 2<sup>nd</sup> year students provided more positive responses compared with students in their 3<sup>rd</sup> and 4<sup>th</sup> year, but did not show DIF using the other approaches. There



was slight DIF detected (DIF 0.43 and p-values of 0.03 and 0.01 for methods 1 and 2, respectively) for question UMI 3 comparing class sizes over 100 to those below 100 (again favoring the larger class sizes), and in UMI 6 (DIF, 0.46 and p-value of 0.03 for both method 1 and 3) for student gender; female students were more positive in their responses to this item. The UMI 3 and UMI 6 DIF results were not consistent across the different testing methods; therefore, these results were inconclusive. Fit statistics for DIF analysis using logistic and cumulative logit models are shown in Appendix 2. It is also worth noting that class size was self-reported by students and there was some inconsistency in the reported class size information with the same course names, which may be influencing the results of the DIF analyses.

There were fewer graduate and international student participants in the pilot survey; nonetheless, there was no differential functioning between graduate and undergraduate nor between domestic and international students. There was no DIF in all UMI questions between students who participated in the focus group discussions and those who did not participate, and no DIF based on whether the course was a requirement for their program of study or a chosen elective.

Finally, a two-parameter IRT model (graded response model, using Marginal Maximum Likelihood estimation method) was used to assess item response characteristics, item information and overall information functions, and to evaluate whether similar profiles were found between the pilot data and a comparable random sample from the 2020/21 version of the survey. A two-parameter IRT model estimates the difficulty and discrimination parameters of the survey items along the attitudinal scale of respondents. Random samples of size 150, 250 and 300 were drawn from the pilot data, and used to estimate the 2-parameter IRT model. Also for the 2020 winter data, model estimates were compared for the sample sizes of 320, 500, 1000 and 2000. The results showed that changes in parameter estimates were negligible as the sample size is increased. This indicates that the model is stable and that a sample of 320 can be used to estimate item parameters in the 2-parameter, unidimensional, IRT model.

The item difficulty parameter, or location parameter, which is perhaps a more appropriate term for this analysis, provides information on how difficult it is to achieve a 50% probability of a correct response for a specific item given the respondent's level on the underlying attitudinal scale. For example, if a student responds to UMI question 6, "I learned a great deal from this instructor," by answering with the most positive response option available, "strongly agree," this item would be located to the right or higher end on the attitudinal scale. A student who was very positive about the quality of instruction within the course would be more likely to have a 50% probability of endorsing the most positive response options for the UMI questions than a student with a more negative attitude about the quality of instruction within the course.

The item difficulty or location parameter also provides information on how the different response options (i.e., Likert scale options) function within each item. Although the UMI questions have essentially the same response options, with the exception of UMI 4 that has a "not applicable" option, the respondents

may not use the scale in the same equivalent manner across the questions. The item difficulty parameter estimates can provide information to the survey developers about the allocation of appropriate item and response-option weightings. Item difficulty parameter estimates (thresholds) were fairly consistent across response options for the six UMI questions (see Appendix 2 for IRT model parameter estimates), which indicates that the 5-point Likert scale options function similarly within each of the six new UMI questions. Reliability estimates were consistent across approaches; Cronbach's Alpha of 0.89 suggests a high survey reliability. Person and item reliability estimates were also generated for the Mantel-Haenszel procedure, ranging from 0.80 to 0.81 and from 0.84 to 0.85, respectively. The person reliability value suggests that the test discriminates the sample into enough levels while the item reliability value suggests that the sample is big enough for the analysis. The reliability estimate (Cronbach's Alpha) for the existing UMI questions from the 2020/21 sample was 0.94.

The item discrimination parameter indicates the strength of the relationship between an item and the measured construct, i.e., quality of instruction. It determines the rate at which the probability of positively endorsing an item changes given the individual attitude/perception levels (Thorpe & Favia, 2012). The higher the discrimination parameter, the steeper the slope will be on the item characteristic curve, indicating a stronger ability to detect differences in the attitude/perception of respondents compared with less steep slopes. The item discrimination parameter estimates (slopes) for the two-parameter IRT model are given in Table 3 for both the new UMI pilot survey questions and the random sample from the 2020/21 Winter (Term 2) version of the survey (the UMI questions currently in use). Typically, the larger the discrimination parameter, the steeper the slope, which implies that the item is more effective at discriminating among different attitudes along the continuum. Thus, for a given level of endorsement, an item with a discrimination parameter of 8.5 would have more than 10 times the contribution to the survey information compared to an item with a discrimination parameter of 2.5. Yet a discrimination parameter of 8.5 is quite high, which is an indication that the survey question is not working properly. Reeve and Fayers (2005) suggest the useful range of discrimination values is from 0.5 to 2.5. Following their recommendation, the only item with a discrimination parameter value in that range for the existing questions is UMI 4, and for the pilot survey all items except UMI 2 fall within that range.

Table 3: Item Discrimination Parameter Estimates

Data Source	Parameter Estimates					
	UMI 1	UMI 2	UMI 3	UMI 4	UMI 5	UMI 6
Sample from 2020/21 W2	3.62	5.38	4.15	2.02	3.28	8.67
UMI Pilot Survey	2.45	3.28	2.62	1.84	2.47	2.58

UMI question 4 has the least relative discrimination in the existing question that asks if *the evaluation of student learning was fair* (2.02) and the new UMI question asking about *timely and constructive feedback* (1.84), indicating that this item does not discriminate as much as the other items, among different attitude/perception levels. A low discrimination estimate may imply that the item is too complex for respondents to answer. Overall, the parameter estimates in the new UMI questions have been reduced from those reported for the sample from Winter 2020/21 (Term 2), and they are now more consistent across the items and fall closer within the range of useful parameter values of 0.5 to 2.5.

Figures 3 and 4 display the Item Information Curves (IIC) for each of the new UMI questions, and for the existing UMI questions from the 2020/21 sample, respectively. The IICs measure the statistical information an individual item contributes to the overall survey. The x-axis is the individual's level of endorsement; a person with an endorsement level of 2 has a more positive attitude regarding the course than someone with a level of -0.2. The y-axis indicates the magnitude of the information provided by each of the survey items. Higher information signifies higher precision (or reliability) in differentiating among respondents (Reeve & Fayers, 2005). In addition, items should be well spaced across the continuum (x-axis).

There are notable differences evident when comparing the item information curves in Figure 3 and 4. Figure 3 indicates improvement in the relative contributions of UMI questions 1, 2, 3 and 5 to the overall survey information compared with the 2020/21 sample. There was also some slight improvement in the contribution of UMI question 4. The newly worded UMI items shown in Figure 3 appear to differentiate across a broader range on the x-axis than existing UMI items shown in Figure 4. The y-axis scales differ between Figures 3 and 4 as a result of the disproportionately large UMI 6 discrimination parameter (8.67) in Figure 4. Although UMI 6 has a relatively large discrimination parameter estimate in the existing UMI question, it appears to discriminate across a very narrow range on the x-axis and displays sharp peaks on the information curve, which implies that the item is not functioning well.

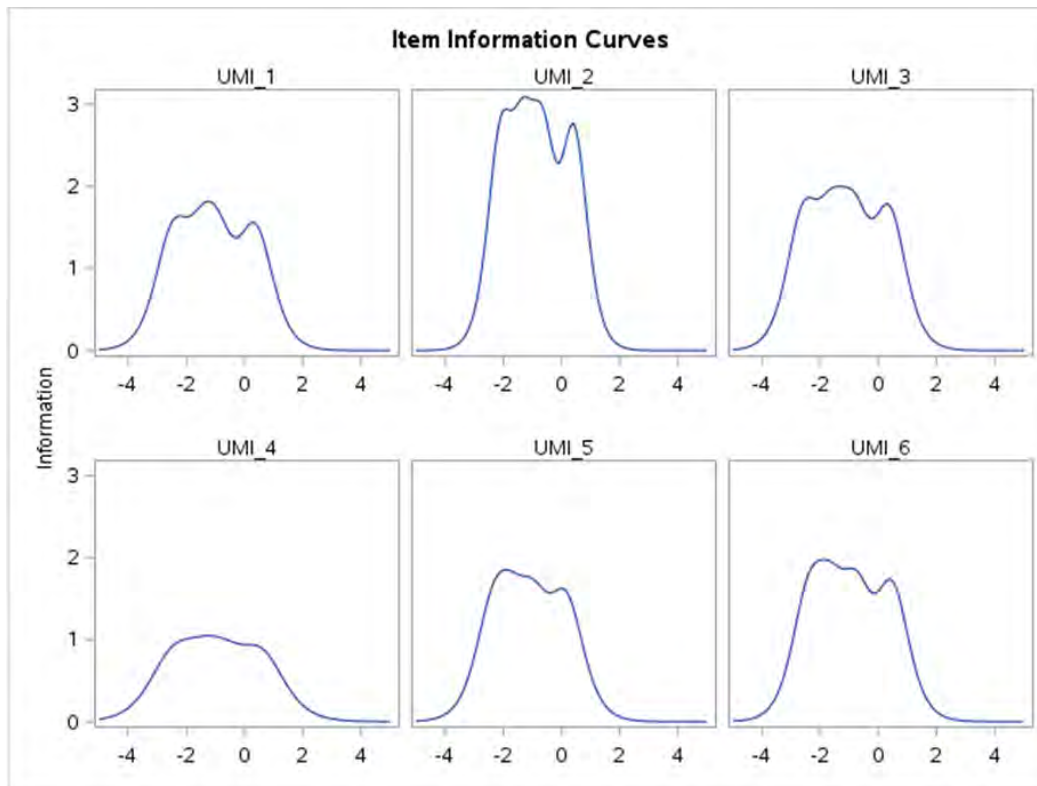


Figure 3: Item Information Curves for New UMI questions (UMI Pilot Survey)

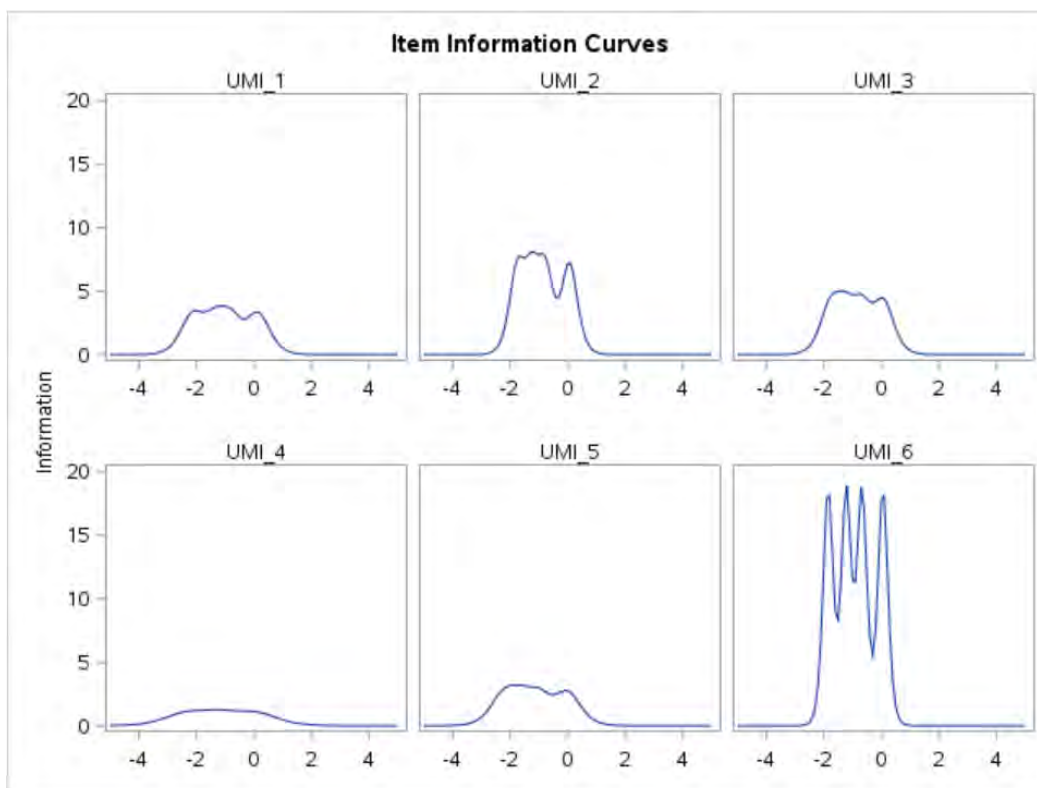


Figure 4: Item Information Curves for existing UMI questions (2020/21 W2 sample)

Looking at Figure 4, the IICs for existing UMI questions in the 2020/21 sample show that UMI 6 disproportionately contributes to the overall survey information; however, for the new set of UMI questions, the contribution of each item seems to be more consistent. Overall, the proposed changes to the UMI questions appear to have improved their relative discrimination among students with varying levels of endorsements for most items. While most of the newly worded UMI questions showed no DIF among different student groups, UMI 1 exhibited moderate DIF, and UMI 3 exhibited slight DIF between different class sizes. Slight DIF between genders was also detected for UMI 6, with female students positively endorsing that question more than male students (recall that only binary data are currently available for gender).

During the pilot survey, students were also asked to provide their feedback on the wording of the questions using an open-text field on the survey. Although most participants supported the changes to the questions, a few students indicated that UMI 4 may be asking about two different things: constructive *or* timely feedback. Some students also suggested that UMI 5 and UMI 6 still read as very similar questions, and they recommended further refinement to distinguish these questions from each other. Based on this additional feedback, and the results from the IRT and DIF analyses, questions 4 and 6 have been further refined. For UMI 4, we have removed the terms “constructive and timely” and replaced them with “useful” to simplify the question. UMI 6 has been revised to include the word “Overall” at the start of the sentence to capture more appropriately the comprehensive nature of that question and to further differentiate it from UMI 5.

## 4.0 Conclusion

Overall, the feedback from participants indicated support for a more student-centred questionnaire to be used for the end-of-term course evaluations. Participants from the Okanagan campus were overwhelmingly in support of the shorter core set of questions and for alignment across UBC campuses. Upon the recommendation of the SEoT Working Group, the six UMI questions were tested using a mixed-methods approach. Based on participant feedback during the focus-group sessions and the think-aloud interviews, further refinement of the proposed questions was warranted due to multiple interpretations of questions, and to the use of terms or words that could lead to potentially biased responses. The thematic analysis of the qualitative data provided information to refine the questions with the aim to reduce the potential ambiguity and multiple meanings that could be inferred from certain statements or words. Further, the qualitative data helped to articulate clearly the intention behind each of the questions and how each is related to the student learning experience and feedback on instruction, as well as being student-centred.

The results from the quantitative analyses indicated that the revised statements seem to function better than the existing questions. In the existing version, UMI question 6 provides most of the statistical information for the overall survey, but does not differentiate broadly among the respondents; sharp peaks in the item information curve indicate the item is not functioning well. The IIC results from the pilot test data provide preliminary evidence that the revised questions are much more consistent in their contribution to the overall survey, and are more widespread across the attitudinal continuum (x-axis). Although moderate DIF was detected in class size for UMI 1 and UMI 3 in the pilot survey, the class size variable was self-reported, and closer inspection of the data identified discrepancies on how the class size was reported, which could be falsely detecting DIF. In addition, the DIF results were not consistent across test methods and thus were not conclusive. The results did detect slight DIF for UMI 6, with respect to student gender, which suggests that further examination is needed to see how the newly worded questions function across demographic variables for students and instructors.

Based on these results, we recommend that the following new questions be adopted for implementation at UBC for the upcoming 2021/22 Winter Term and onwards.

*Note: for the reader's reference, the previously proposed questions from the SEoT Working Group in May 2020 are included in grey italicized font below each of the newly recommended questions.*

1. Throughout the term, the instructor explained course requirements so it was clear to me what I was expected to learn.  
*The instructor made it clear what I was expected to learn.*
2. The instructor conducted this course in such a way that I was motivated to learn.  
*The instructor engaged me in the subject matter.*
3. The instructor presented the course material in a way that I could understand.  
*I think that the instructor communicated the subject matter effectively.*
4. Considering the type of class (e.g., large lecture, seminar, studio, etc.), the instructor provided useful feedback that helped me understand how my learning progressed during this course.  
*I have received feedback that supported my learning.*
5. The instructor showed genuine interest in supporting my learning throughout this course.  
*I think that the instructor showed concern for student learning.*
6. Overall, I learned a great deal from this instructor.  
*Overall, this instructor was effective in helping me learn.*

Response options for all questions above: *strongly agree, agree, neutral, disagree, and strongly disagree.*

We also recommend that three common open-ended questions be included on all SEI surveys across both campuses to collect text comments:

7. Please identify what you consider to be the strengths of this course.
8. Please provide suggestions on how this course might be improved.
9. Do you have any suggestions for what the instructor could have done differently to further support your learning?

## 5.0 Limitations and Further Analysis

The scope of this project was restricted to reviewing the six core UMI questions proposed by the SEoT Working Group in May 2020. There are other questions that faculties, departments, or instructors may be using to collect additional information from students. Those questions were not included in this analysis.

The quantitative results of the analyses in this report were based on a small sample size (N=320) and only six UMI questions. Further analysis will be conducted on a larger data set collected during the fall deployment of the SEI to test the accuracy of item-parameter estimates and the detection of DIF for the newly worded survey questions. Additional work is required to determine how to support instructors interpreting responses to their SEI results between the new version of the UMI questions and the existing questions. Analyses regarding bias need to be conducted using both faculty and student demographic data. Currently, the demographic data required to conduct such an analysis were not available. The UBC Employment Equity Survey is used to gather demographic data from faculty and staff, but due to low response rates and non-random missing data they are not usable for these analyses. A revised Employment Equity Survey will be available to all employees starting in early Fall 2021, and a campaign to promote the completion of this new survey will begin at the same time, which should increase the number of responses and thus provide a more complete data set that will allow for a bias analysis. In addition, a student demographic project has been launched that will focus on collecting a broader range of student demographic data, similar to the questions asked in the Employment Equity Survey.



## References

- Columbia University Mailman School of Public Health (2019). "Item Response Theory." <https://www.publichealth.columbia.edu/research/population-health-methods/item-response-theory>.
- Hambleton, R.K., Swaminathan, H, & Rogers HJ. Fundamentals of Item Response Theory. Thousand Oaks: Sage Publications; 1991.
- Li, Zhusahn (2015). "A Power Formula for the Mantel-Haenszel Test for Differential Item Functioning." *Applied Psychological Measurement*, 39(5), 373–388.
- Linacre, J.M. "Mantel & Mantel-Haenszel DIF statistics."(n.d.). [http://www.winsteps.com/winman/mantel\\_and\\_mantel-haenszel\\_dif.htm](http://www.winsteps.com/winman/mantel_and_mantel-haenszel_dif.htm)
- Linacre, J.M. (1994). "Sample Size and Item Calibration Stability." *Rasch Measurement Transactions*, 7(4), 328.
- Paek, I. & Wilson, M. (2011). "Formulating the Rasch Differential Item Functioning Model Under the Marginal Maximum Likelihood Estimation Context and Its Comparison With Mantel– Haenszel Procedure in Short Test and Small Sample Conditions." *Educational and Psychological Measurement*, 71(6), 1023-1046.
- Reeve, B., & Fayers, P.M. (2005). Applying item response theory modelling for evaluating questionnaire item and scale properties. In *In: Assessing Quality of Life in Clinical Trials: Methods and Practice, 2nd edn* (ed Fayers, P.M.; Hays, R.D.), Oxford University Press, Oxford (pp. 55-73).
- Ryan, K., Gannon-Slater, N. & Culbertson, M.J. (2012). Improving Survey Methods With Cognitive Interviews in Small- and Medium-Scale Evaluations. *American Journal of Evaluation*, 33, 3, 414-430.
- Şahin, A. & Anil, D. (2017). The Effects of Test Length and Sample Size on Item Parameters in Item Response Theory. *Educational Sciences: Theory & Practice*, 17, 1, 321-335.
- Thorpe, G.L. & Favia, A. (2012). Data Analysis Using Item Response Theory Methodology: An Introduction to Selected Programs and Applications. *Psychology Faculty Scholarship*, 20. [https://digitalcommons.library.umaine.edu/psy\\_facpub/20](https://digitalcommons.library.umaine.edu/psy_facpub/20)

Trenor, J.M., Miller, M.K., & Gipson, K.G. (2011). Utilization of a Think-Aloud Protocol to Cognitively Validate a Survey Instrument Identifying Social Capital Resources of Engineering Undergraduates. Paper presented at 2011 ASEE Annual Conference & Exposition, Vancouver, BC.

Zumbo, B. (1999). A Handbook on the Theory and Methods of Differential Item Functioning (DIF): Logistic Regression Modeling as a Unitary Framework for Binary and Likert-Type (Ordinal) Item Scores. Ottawa, ON: Directorate of Human Resources Research and Evaluation, Department of National Defense.

Zwick, R., Thayer, D.T., & Lewis, C. (1999) An Empirical Bayes Approach to Mantel-Haenszel DIF Analysis. *Journal of Educational Measurement*, 36, 1, 1-28.

## Appendix 1

### Current and Proposed Changes to the University Module Items

#### CURRENT VANCOUVER CAMPUS CORE UMI QUESTIONS

1. The instructor made it clear what students were expected to learn.
2. The instructor helped inspire interest in learning the subject matter.
3. The instructor communicated the subject matter effectively.
4. Overall, evaluation of student learning (through exams, essays, presentations, etc.) was fair.\*
5. The instructor showed concern for student learning.
6. Overall, the instructor was an effective teacher.

Response options: *strongly agree, agree, neutral, disagree, strongly disagree*

\*UMI 4 includes *not applicable* as a response option

Open-ended questions differ amongst faculty and departments in Vancouver.

#### CURRENT OKANAGAN CAMPUS QUESTIONS

1. The instructor set high expectations for students.
2. The instructor showed enthusiasm for the subject matter.
3. The instructor encouraged student participation in class.
4. The instructor fostered my interest in the subject matter.
5. The instructor effectively communicated the course content.
6. The instructor responded effectively to students' questions.
7. The instructor provided effective feedback.
8. Given the size of the class, assignments and tests were returned within a reasonable time.
9. The instructor was available to students outside class.
10. The instructor used class time effectively.
11. The instructor demonstrated a broad knowledge of the subject.
12. Students were treated respectfully.
13. Where appropriate, the instructor integrated research into the course material.
14. The evaluation procedures were fair.
15. I would rate this instructor as very good.
16. The textbook and/or assigned readings contributed strongly to this course.
17. I found the course content challenging.
18. I consider this course an important part of my academic experience.

19. I would rate this course as very good.

Open ended Questions:

- What were the strengths of the course?
- What were the weaknesses?
- What did you most enjoy about it?

#### PROPOSED SEI QUESTIONS BY SEOT WORKING GROUP IN MAY 2020

Note: words in red font and italics below indicate wording changes proposed by the SEoT Working Group in May 2020 compared with the current Vancouver version of the UMI questions.

1. The instructor made it clear what *I* was expected to learn.
2. The instructor *engaged me in the* subject matter.
3. I *think* that the instructor *communicated the subject matter effectively*.
4. *I have received feedback that supported my learning*.
5. *I think that* the instructor showed concern for student learning.
6. Overall, this instructor was *effective in helping me learn*.

## Appendix 2

### Additional Model Statistics

#### Summary of DIF Analysis using Logistic Regression Models

**Table A2.1 Logistic Regression Models: Class Size (1-49 vs. 200+)**

	-2log L	$\beta_1$		$\beta_2$		$\beta_3$		DIF
		Estimate	p-value	Estimate	p-value	Estimate	p-value	
UMI 1								Uniform
Model 1	136.193	-1.2572	<0.0001					
Model 2	73.193			2.414	<b>0.0012</b>			
Model 3	73.192					0.0157	0.9716	
UMI 2								None
Model 1	167.910	-1.2845	<0.0001					
Model 2	89.848			0.0364	0.9473			
Model 3	89.801					-0.0767	0.8294	
UMI 3								None
Model 1	151.276	-1.2272	<0.0001					
Model 2	87.250			-1.0936	0.0628			
Model 3	87.142					0.1148	0.7430	
UMI 4								None
Model 1	198.037	-1.1275	<0.0001					
Model 2	95.091			-0.7986	0.1452			
Model 3	94.958					-0.1291	0.7172	
UMI 5								None
Model 1	173.304	-1.0146	<0.0001					
Model 2	68.227			-1.2411	0.0667			
Model 3	66.650					-0.6554	0.2561	
UMI 6								None
Model 1	166.096	-1.2322	<0.0001					
Model 2	88.230			0.2190	0.6948			
Model 3	88.107					0.1339	0.7268	

*Note: Using logistic regression models to examine class size (1-49 vs. 200+), UMI question 1 exhibited uniform moderate DIF. This finding implies that students who self-reported in the survey that they were enrolled in larger classes (200+) provided more positive responses compared with students in self-reported smaller classes (1-49). Uniform DIF is the simplest type of DIF where the item exhibits differences in the location parameter but equally discriminates at all levels of the attitudinal scale.*

**Table A2.2 Logistic Regression Models: Class Size (<100 vs. 100+)**

	-2 Log L	$\beta_1$		$\beta_2$		$\beta_3$		DIF
		Estimate	p-value	Estimate	p-value	Estimate	p-value	
UMI 1								Uniform
Model 1	136.193	-1.2572	<.0001					
Model 2	131.405			1.0429	0.0344			
Model 3	131.369					-0.0585	0.8484	
UMI 2								None
Model 1	167.910	-1.2845	<.0001					
Model 2	167.285			0.3279	0.4315			
Model 3	167.281					0.0191	0.9467	
UMI 3								Uniform
Model 1	151.276	-1.2272	<0.0001					
Model 2	143.600			-1.2753	0.0085			
Model 3	143.600					-0.00158	0.9956	
UMI 4								None
Model 1	198.037	-1.1275	<.0001					
Model 2	197.410			-0.2984	0.4298			
Model 3	197.408					0.00873	0.9710	
UMI 5								None
Model 1	173.304	-1.0146	<.0001					
Model 2	173.303			0.0103	0.9796			
Model 3	173.261					0.0454	0.8370	
UMI 6								None
Model 1	166.096	-1.2322	<.0001					
Model 2	165.932			0.1686	0.6857			
Model 3	165.474					-0.1860	0.5045	

*Note: Using logistic regression models to examine class size (<100 vs. 100+), UMI question 1 exhibited significant uniform DIF as did UMI question 3, again favouring the larger class sizes. These findings imply that students who self-reported in the survey that they were enrolled in larger classes (100+) provided more positive responses compared with students in self-reported smaller classes (<100). Uniform DIF is the simplest type of DIF where the item exhibits differences in the location parameter but equally discriminates at all levels of the attitudinal scale.*

## Summary of DIF Analysis using Cumulative Logit Models

Table A2.3 Cumulative Logit Models: Class Size (1-49 vs. 200+)

	Full log L	$\beta_1$		$\beta_2$		$\beta_3$		DIF
		Estimate	p-value	Estimate	p-value	Estimate	p-value	
UMI 1								Non-Uniform
Model 1	-296.844	-1.0401	<.0001					
Model 2	-153.942			0.7422	0.0200			
Model 3	-149.161					-0.5113	<b>0.0027</b>	
UMI 2								None
Model 1	-304.164	-1.1758	<.0001					
Model 2	-154.989			0.1217	0.6980			
Model 3	-154.976					0.0248	0.8725	
UMI 3								None
Model 1	-299.394	-1.0364	<.0001					
Model 2	-154.641			-0.3007	0.3344			
Model 3	-153.747					0.2136	0.1838	
UMI 4								None
Model 1	-343.483	-0.9096	<.0001					
Model 2	-164.801			-0.4536	0.1431			
Model 3	-164.494					-0.1216	0.4339	
UMI 5								None
Model 1	-291.248	-0.9807	<.0001					
Model 2	-136.884			-0.2831	0.3999			
Model 3	-136.647					0.1127	0.4921	
UMI 6								None
Model 1	-296.263	-1.1261	<.0001					
Model 2	-153.569			0.2681	0.3909			
Model 3	-153.523					-0.0471	0.7610	

Note: Using cumulative logit models to examine class size (1-49 vs. 200+), UMI question 1 exhibited significant non-uniform DIF. This finding implies that students who self-reported in the survey that they were enrolled in larger classes (200+) provided more positive responses compared with students in self-reported smaller classes (1-49). Non-uniform DIF is more complicated than uniform DIF, where the item exhibits differences in the location parameter and differences across levels of the attitudinal scale.



**Table A2.4 Cumulative Logit Models: Year Level (1<sup>st</sup> & 2<sup>nd</sup> years vs. 3<sup>rd</sup> & 4<sup>th</sup> years)**

	Full Log L	$\beta_1$		$\beta_2$		$\beta_3$		DIF
		Estimate	p-value	Estimate	p-value	Estimate	p-value	
UMI 1								Non-Uniform
Model 1	-296.844	-1.0401	<0.0001					
Model 2	-230.868			-0.5958	0.0216			
Model 3	-228.507					0.2835	<b>0.0314</b>	
UMI 2								None
Model 1	-304.164	-1.1758	<0.0001					
Model 2	-241.712			0.0572	0.8194			
Model 3	-241.638					-0.0490	0.7013	
UMI 3								None
Model 1	-299.394	-1.0364	<0.0001					
Model 2	-236.728			-0.3228	0.2070			
Model 3	-236.630					0.0561	0.6577	
UMI 4								None
Model 1	-343.483	-0.9096	<.0001					
Model 2	-270.912			-0.3307	0.1774			
Model 3	-269.709					-0.1904	0.1229	
UMI 5								None
Model 1	-291.248	-0.9807	<.0001					
Model 2	-229.298			-0.0169	0.9483			
Model 3	-228.449					-0.1665	0.1952	
UMI 6								None
Model 1	-296.263	-1.1261	<.0001					
Model 2	-237.678			-0.2823	0.2623			
Model 3	-237.667					-0.0184	0.8821	

*Note: Using cumulative logit models to examine year level (1<sup>st</sup> & 2<sup>nd</sup> years vs. 3<sup>rd</sup> & 4<sup>th</sup> years), UMI question 1 exhibited significant non-uniform DIF. This finding implies that students who self-reported in the survey that they were in the 1<sup>st</sup> and 2<sup>nd</sup> year of their program provided more positive responses compared with students in 3<sup>rd</sup> and 4<sup>th</sup> year of their program. Non-uniform DIF is more complicated than uniform DIF, where the item exhibits differences in the location parameter and differences across levels of the attitudinal scale.*

**Table A2.5 Cumulative Logit Models: Gender (Male vs. Female)**

	Full Log L	$\beta_1$		$\beta_2$		$\beta_3$		DIF
		Estimate	p-value	Estimate	p-value	Estimate	p-value	
UMI 1								None
Model 1	-296.844	-1.0401	<.0001					
Model 2	-277.463			0.0631	0.8183			
Model 3	-276.868					0.1496	0.2745	
UMI 2								None
Model 1	-304.164	-1.1758	<.0001					
Model 2	-288.528			-0.2315	0.3895			
Model 3	-287.891					0.1487	0.2592	
UMI 3								None
Model 1	-299.394	-1.0364	<.0001					
Model 2	-286.928			-0.0474	0.8583			
Model 3	-284.817					0.2718	0.0411	
UMI 4								None
Model 1	-343.483	-0.9096	<.0001					
Model 2	-321.731			0.0385	0.8838			
Model 3	-320.904					-0.1814	0.2070	
UMI 5								None
Model 1	-291.248	-0.9807	<.0001					
Model 2	-275.617			0.4094	0.1341			
Model 3	-274.661					0.1853	0.1644	
UMI 6								Uniform
Model 1	-296.263	-1.1261	<.0001					
Model 2	-282.775			0.5675	<b>0.0311</b>			
Model 3	-282.324					-0.1290	0.3459	

*Note: Using cumulative logit models to examine gender, based on binary administrative data available, UMI question 6 exhibited slight uniform DIF. This finding implies that female students answered more positively to this item than male students in the pilot survey. The majority of respondents were female (76%) which may have influenced the findings. Uniform DIF is the simplest type of DIF where the item exhibits differences in the location parameter but equally discriminates at all levels of the attitudinal scale.*

## **IRT Model Parameter Estimates and Associate Statistics**

**Table A2.6 The IRT Procedure: Pilot UMI Questions**

Item Parameter Estimates				
Item	Parameter	Estimate	Standard Error	Pr >  t
UMI_1	Threshold 1	-2.39771	0.26767	<.0001
	Threshold 2	-1.50133	0.16862	<.0001
	Threshold 3	-1.09966	0.14039	<.0001
	Threshold 4	0.35646	0.11028	0.0006
	Slope	2.19052	0.28182	<.0001
UMI_2	Threshold 1	-2.05169	0.20537	<.0001
	Threshold 2	-1.31050	0.13837	<.0001
	Threshold 3	-0.64382	0.10446	<.0001
	Threshold 4	0.44359	0.10032	<.0001
	Slope	3.14382	0.41281	<.0001
UMI_3	Threshold 1	-2.52349	0.27780	<.0001
	Threshold 2	-1.57872	0.15881	<.0001
	Threshold 3	-0.86133	0.11487	<.0001
	Threshold 4	0.35722	0.09930	0.0002
	Slope	3.02993	0.40007	<.0001
UMI_4	Threshold 1	-2.56614	0.30786	<.0001
	Threshold 2	-1.50355	0.18223	<.0001
	Threshold 3	-0.76689	0.13341	<.0001
	Threshold 4	0.46683	0.12355	<.0001
	Slope	1.84834	0.24299	<.0001
UMI_5	Threshold 1	-2.15778	0.22601	<.0001
	Threshold 2	-1.59566	0.16526	<.0001
	Threshold 3	-0.86355	0.11711	<.0001
	Threshold 4	0.10887	0.09789	0.1330
	Slope	2.81557	0.37124	<.0001
UMI_6	Threshold 1	-2.40848	0.26671	<.0001
	Threshold 2	-1.70015	0.17895	<.0001
	Threshold 3	-0.69357	0.11413	<.0001
	Threshold 4	0.42394	0.10711	<.0001
	Slope	2.48822	0.31326	<.0001

**Table A2.7 The IRT Procedure: 2020/21 Winter 2 Sample**

Item Parameter Estimates				
Item	Parameter	Estimate	Standard Error	Pr >  t
UMI_1	Threshold 1	-2.12152	0.17804	<.0001
	Threshold 2	-1.34732	0.11453	<.0001
	Threshold 3	-0.82825	0.08764	<.0001
	Threshold 4	0.14158	0.07877	0.0361
	Slope	3.61894	0.36565	<.0001
UMI_2	Threshold 1	-1.73431	0.13671	<.0001
	Threshold 2	-1.24201	0.09961	<.0001
	Threshold 3	-0.78375	0.08049	<.0001
	Threshold 4	0.06511	0.07379	0.1888
	Slope	5.38393	0.60850	<.0001
UMI_3	Threshold 1	-1.74377	0.14140	<.0001
	Threshold 2	-1.26538	0.10528	<.0001
	Threshold 3	-0.68511	0.08113	<.0001
	Threshold 4	0.06301	0.07617	0.2040
	Slope	4.14696	0.43046	<.0001
UMI_4	Threshold 1	-2.36069	0.22743	<.0001
	Threshold 2	-1.47748	0.14753	<.0001
	Threshold 3	-0.98293	0.11563	<.0001
	Threshold 4	0.08154	0.09161	0.1867
	Slope	2.01884	0.21183	<.0001
UMI_5	Threshold 1	-2.19906	0.18933	<.0001
	Threshold 2	-1.65832	0.13868	<.0001
	Threshold 3	-1.01607	0.09908	<.0001
	Threshold 4	-0.01400	0.07888	0.4295
	Slope	3.27754	0.33456	<.0001
UMI_6	Threshold 1	-1.84873	0.14098	<.0001
	Threshold 2	-1.21931	0.09336	<.0001
	Threshold 3	-0.67438	0.07437	<.0001
	Threshold 4	0.05644	0.07082	0.2128
	Slope	8.66758	1.46121	<.0001

## Appendix 3

### Steering and Implementation Committees

### Memberships and Consultations

The Steering committee and Implementation Group began work in the Fall 2020, and smaller groups also worked on specific items. Additional information can be found on the website [seoi.ubc.ca](https://seoi.ubc.ca).

#### Steering Committee, 2020-2021

Support: Debbie Hart, Senior Manager, Strategic Projects

<b>Simon Bates</b>	Associate Provost, Teaching and Learning, UBCV (Co-chair)
<b>Moura Quayle</b>	Vice Provost, Associate Vice-President Academic Affairs, UBCV, (Co-chair)
<b>Stefania Burk</b>	Associate Dean Academic, Faculty of Arts, UBCV
<b>Sage Cannon</b>	Students Union Okanagan - Faculty of Creative & Critical Studies Representative, UBCO
<b>Julia Mitchell</b>	Director, Communications & Marketing, Office of the Provost & Vice-President Academic, UBCV
<b>Karen Ragoonaden</b>	Chair, Senate Learning and Research Committee, UBCO
<b>Rehan Sadiq</b>	Professor and Executive Associate Dean, School of Engineering, UBCO
<b>Naznin Virji-Babul</b>	Assistant Professor, Physical Therapy Senior Advisor to the Provost on Women and Gender-Diverse Faculty, UBCV
<b>Georgia Yee</b>	Vice-President Academic and University Affairs, UBCV

#### Implementation Committee, 2020-2021

Support: Debbie Hart, Senior Manager, Strategic Projects

<b>Christina Hendricks</b>	Academic Director, CTLT, Professor of Teaching, Philosophy, UBCV (Chair)
<b>Vanessa Auld</b>	Professor / Head, Research Group Co-leader - Cellular Mechanisms of Development and Disease, UBCV
<b>Breeonne Baxter</b>	Communications Manager, VPA Communications, UBCV
<b>Brendan D'Souza</b>	Lecturer, Department of Biology, UBCO
<b>Tanya Forneris</b>	Interim Academic Lead, CTL, Associate Professor of Teaching, School of Health & Exercise Sciences, UBCO
<b>Mark Lam</b>	Lecturer, Department of Psychology, UBCV
<b>Stephanie McKeown</b>	Chief Institutional Research Officer (PAIR)

<b>Marianne Schroeder</b>	Sr. Associate Director, Teaching and Learning Technologies, CTLT, UBCV (Sept. 2020-Feb. 2021)
<b>Abdel-Azim Zumrawi</b>	Statistician, PAIR, UBCV (Feb. 2021 onwards)

#### **Advisory group on changes to UMI**

<b>Christina Hendricks</b>	Academic Director, CTLT, Professor of Teaching, Philosophy, UBCV
<b>Stephanie McKeown</b>	Chief Institutional Research Officer (PAIR)
<b>Catherine Rawn</b>	Professor of Teaching, Psychology, UBCV
<b>Bruno Zumbo</b>	Professor, Canada Research Chair in Psychometrics and Measurement, Tier 1; & Paragon UBC Professor of Psychometrics and Measurement Educational and Counselling Psychology, and Special Education, UBCV
<b>Abdel-Azim Zumrawi</b>	Statistician, PAIR, UBCV

Starting in the Fall of 2020, the Implementation Committee consulted with several groups, which have informed and provided feedback on the work of implementing the recommendations.

In addition to the work detailed above to test the new UMI, discussions were held with and feedback was collected from:

- UBC Vancouver:
  - Senate Teaching & Learning Committee
  - Associate Deans Academic, Students, and Faculty
  - Heads & Directors (at a Provost's Heads & Directors meeting)
- UBC Okanagan:
  - Senate Learning & Research Committee
  - Deans Council
  - Student Academic Success Committee
- Across both campuses:
  - Senior Appointments Committee
  - Open forum March 10, 2021 (over 100 faculty, staff and students joined)



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**SUBJECT** CLIMATE ACTION PLAN 2030 (CAP2030): UBC VANCOUVER & OKANAGAN

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**SUBMITTED TO** Senate

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**MEETING DATE** October 20, 2021

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**SESSION CLASSIFICATION** OPEN

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**REQUEST** For Information

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## APPENDICES

Appendix A: Climate Action Plan 2030 – UBC Vancouver

Appendix B: Climate Action Plan 2030 – UBC Okanagan

## PRESENTATIONS

Climate Action Plan 2030 - UBC Vancouver & Okanagan

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## SUMMARY

The latest [Report](#) from the Intergovernmental Panel on Climate Change (IPCC) concluded that climate change is widespread, rapid, and intensifying and the UN Secretary-General has declared a ‘*Code Red*’ for humanity. It is imperative that we address and adapt to climate change, to avoid the worst impacts of the climate crisis. There is a renewed urgency given the severe impacts that we experienced this summer in BC, with the climate change induced heat wave and associated wildfires, causing significant harm to the people and unique biodiversity within our region.

UBC’s 2019 [Climate Emergency Declaration](#) recognized the severity, complexity, disproportionate impacts of, and responsibilities for, the climate crisis. It committed UBC to develop a collective response that embeds climate justice throughout its activities and priorities. With endorsement in principle of the Climate Emergency Task Force [Report and Recommendations](#), the UBC Board of Governors emphasized that climate action continues to be a top strategic priority for the University, providing direction for UBC staff to update plans to address the climate crisis with the urgency it requires.

The Climate Emergency Declaration and subsequent Climate Emergency Community Engagement process reaffirmed UBC’s commitment to accelerate emissions reductions in alignment with the [Paris Agreement](#) of limiting global warming to 1.5°C. Reaching the 1.5°C Paris Target requires a global GHG reduction of 45% from 2010 to 2030 and reaching net zero around 2050. Three objectives for CAP 2030 are reflected in UBC’s Climate Emergency Declaration mandate:

1. Setting new targets that accelerate UBC’s path toward achieving the net zero emissions target prior to 2050;
2. Applying a climate justice lens to the policies and actions developed in CAP 2030;



3. Expanding CAP scope to include areas of influence extending beyond UBC's operations, such as commuting, air travel, food systems, materials and waste.

## CAP 2030

CAP 2030 addresses and accelerates GHG reductions in operational emissions (buildings, energy supply and fleet), and extended emissions (commuting, food, business air travel, embodied carbon, waste and materials) that are considerably larger and are now being included to align with the intent of UBC's Climate Emergency Declaration.

This Plan outlines an ambitious path of deep GHG emission reductions for each campus, with bold actions including district energy decarbonization and building retrofits, while also providing opportunities for teaching, learning and research through Campus as a Living Lab initiatives that address the climate imperative.

CAP 2030 will decarbonize the institution while considering the inequitable impacts of climate change and subsequent responses on marginalized communities, including an understanding that the ability to partake in sustainable actions can be constrained by a lack of privilege and inequality.

## UBC VANCOUVER CAP 2030 TARGETS

Building on two previous Climate Action Plans, (CAP 2010 and CAP 2020) and the significant GHG reductions already achieved (a peak operational GHG reduction of 38% in 2018 versus the 2007 baseline), UBC Vancouver's CAP 2030 sets a bold vision and accelerated pathway for a broader scope of emission reductions in response to UBC's Climate Emergency Declaration – the key targets and emissions categories are summarized below:

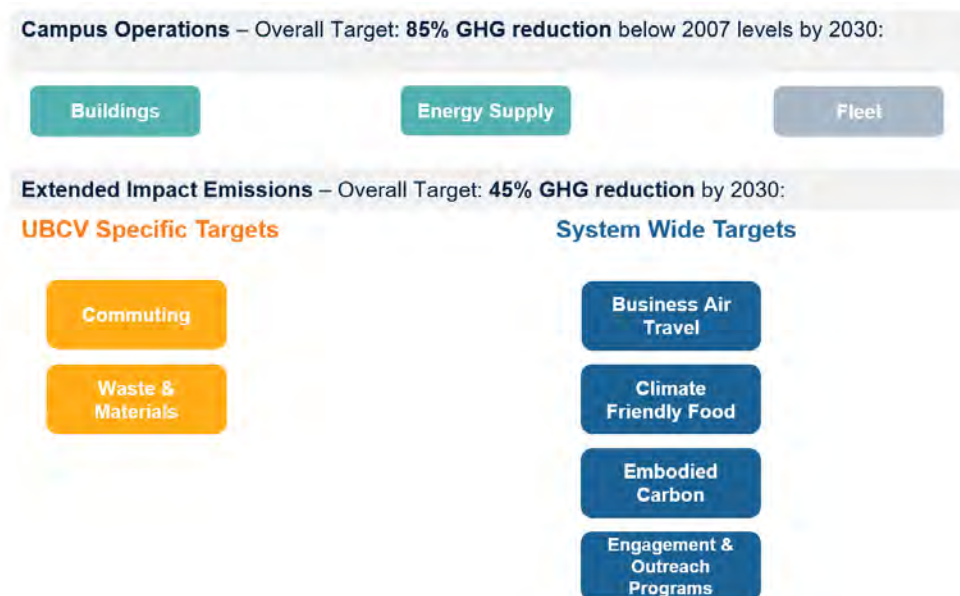


Figure 1 – UBC Vancouver CAP 2030 Targets & Emissions Categories

## UBC OKANAGAN CAP 2030 TARGETS

CAP 2030 is UBC Okanagan's first Climate Action Plan and sets a bold vision and decarbonization pathway for a broad scope of emission reductions in response to UBC's Climate Emergency Declaration. This Plan

builds upon the significant success at operational GHG reduction despite a rapidly expanding campus – the key targets and emissions categories are summarized below:

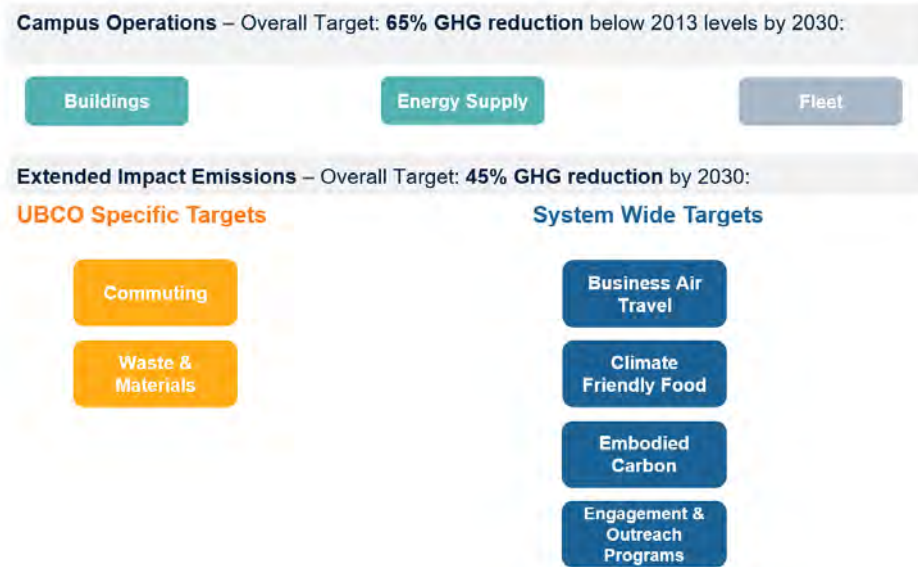


Figure 2 – UBC Okanagan CAP 2030 Targets & Emissions Categories

## RISK MITIGATION

Achieving the CAP 2030 targets will mitigate a number of key institutional risks:

- **Financial risk:** Investments in decarbonizing UBC's energy supply and buildings will mitigate risks from increasing external carbon pricing legislation.
- **Reputational risk:** UBC's sustainability leadership attracts top students, faculty, staff and research – without setting and achieving CAP 2030 targets, UBC risks losing this leadership position and the many associated benefits.
- **Operational risk:** Investments in future-proofing buildings will enable UBC to maintain increased operational resiliency during climate event's, such as heat waves and wildfires.

## CARBON PRICING

UBC currently pays overall carbon liabilities of around \$3m per year from the application of carbon taxes on fossil fuel purchases (primarily natural gas) and the carbon offset associated with BC's Climate Change Accountability Act. This carbon liability will increase in the future if UBC does not continue to decrease carbon emissions. UBC's expected future carbon liability is estimated to accumulate to over \$100m in the next 20 years<sup>1</sup> if no further actions are taken to reduce carbon emissions. Without UBC's past GHG reduction successes across both campuses, this liability would have been more than double this amount.

## RESOURCING & BUDGETING

CAP 2030 represents a significant UBC-wide effort across both the Vancouver and Okanagan campuses. The CAP 2030 team engaged UBC's Strategic Decision Support to advise on the development of a

<sup>1</sup> Estimate based on multiplying UBC's remaining emissions by the Federal Governments proposal of an [escalating carbon price](#), increasing by \$15/year from 2023 and reaching \$170/tonne in 2030.

resourcing strategy. The implementation horizon is 10 years and will require sustained leadership, increased resourcing, and cross-campus engagement with the academy and collaboration from many units across both campuses. Partnership opportunities will be pursued with utilities, industry and government to leverage funding and investments in low carbon solutions. Financial mechanisms and price signals will continue to be identified that support behavioral change while helping to fund emission reductions.

## NEXT STEPS

- Staff will advance CAP 2030 for Board of Governors endorsement for the upcoming session scheduled in November, 2021.
- Pending Board endorsement of CAP 2030, staff will continue to advance detailed capital project and operating program requirements for reducing GHGs in operational and extended emission areas.



**The University of British Columbia Vancouver Campus**

# **Climate Action Plan 2030**

## Acknowledgements

*We begin by acknowledging that UBC's Vancouver-Point Grey campus is located on the traditional, ancestral and unceded territories of the xʷməθkʷəy̓əm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam, who for millennia have passed on their culture, history, and traditions from one generation to the next on this site.*

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## Executive Summary

Building on two previous Climate Action Plans and significant GHG reductions already achieved, UBC Vancouver's CAP 2030 sets a bold vision and accelerated pathway for a broader scope of emission reductions in response to UBC's 2019 Declaration on the Climate Emergency:

*CAP 2030 will position UBC as a model of how universities can mobilize to address the climate emergency and Paris targets through bold, impactful actions to accelerate and deepen GHG reductions across operations, and expanded action to reduce extended emissions.*

UBC's Climate Emergency Declaration recognizes the severity, complexity, disproportionate impacts of, and responsibilities for, the climate crisis. It commits UBC to develop a collective response that embeds climate justice throughout its activities and priorities. With this endorsement, the UBC Board of Governor's emphasized that climate action continues to be a top strategic priority for the University. Specifically, the Declaration gives impetus for UBC to update plans to address the climate crisis with the urgency it requires.

The Climate Emergency Declaration and Climate Emergency Community Engagement process reaffirmed UBC's commitment to accelerate emissions reductions in alignment with the Paris Agreement of limiting global warming to 1.5°C. Meeting the 1.5°C Paris Target (IPCC pathway) requires a global net anthropogenic GHG reduction of 45% from 2010 to 2030 and reaching net zero around 2050.

This Plan sets targets that will accelerate and broaden UBC's climate action with a 2030 GHG reduction target of 85% on operational emissions (2007 baseline year) and 45% on extended emissions (2010 baseline year), in addition to advancing UBC's target for net-zero operational emissions to 2035—15 years ahead of the original 2050 target. This Plan helps to advance many facets of UBC's strategic plan goals by creating platforms for climate informed teaching, learning and research, and leverages multiple Campus as a Living Laboratory opportunities to maintain UBC's reputation and leadership position in climate action and sustainability.

CAP 2030 addresses operational emissions (buildings, energy and fleet), which are within existing CAP reduction targets, and extended emissions (commuting, food, business air travel, embodied carbon, waste and materials, and paper), which are considerably larger and are now being included to align with the intent of UBC's Declaration on the Climate Emergency.

Without further commitment to accelerate action across all areas, UBC's GHG emissions will continue to increase substantially, risking UBC's reputation and the many associated benefits, and exposing the institution to considerable energy and carbon liabilities in the future.



In 2022, UBC will pay a carbon price of \$75 for each tonne of carbon dioxide (tCO<sub>2e</sub>) emitted (\$50/tCO<sub>2e</sub> for BC Carbon Tax and \$25/tCO<sub>2e</sub> for public sector offset requirements). UBC Vancouver currently pays overall carbon costs of around \$3 million per year. This will increase in the future if UBC does not continue to decrease scope 1 and 2 carbon emissions, and as carbon pricing escalates as part of government climate policy. Given that equipment and infrastructure exist for many years, UBC's expected future carbon liability would accumulate to approximately \$100 million over the next 20 years if no further actions are taken to reduce carbon emissions. Without UBC's past action, this liability would have been more than double this amount.

Over 130 staff, faculty and students from across both campuses were engaged to develop CAP 2030 targets, actions and implementation pathways across all goal areas. Through an online survey and virtual public engagement events, we heard from 764 participants from the Vancouver Campus about the emerging CAP 2030, and the barriers and opportunities for climate action on campus. This Plan puts forward UBC Vancouver-led and system-wide actions that, if all actions, strategies and plans articulated in this Plan are implemented will achieve the 2030 GHG targets.

CAP 2030 is a UBC-wide effort across both the Vancouver and Okanagan campuses, and will require continued leadership, increased resourcing, and cross-campus engagement with the academy and collaboration from many units across both campuses. The CAP is accompanied by an accountability framework that outlines responsibilities for implementation, monitoring progress, and governance for decision making over time.

# 1 Introduction

## 1.1 A Call to Urgent Action

UBC has established a clear Vision Statement for climate action that guides accelerated action in the Climate Action Plan 2030 (CAP 2030) for both the Vancouver and Okanagan campus:

*CAP 2030 will position UBC as a model of how universities can mobilize to address the climate emergency and Paris targets through bold, impactful actions to accelerate and deepen GHG reductions across operations, and expanded action to reduce extended emissions.*

Three objectives for the UBC Vancouver Climate Action Plan are reflected in UBC's Climate Emergency Declaration mandate.

1. Setting new targets that accelerate UBC's path toward achieving net zero emissions target prior to 2050;
2. Applying a climate justice lens to the policies and actions developed in CAP2030;
3. Expanding CAP scope to include areas of influence extending beyond UBC's operations, such as commuting, air travel, food systems, materials and waste.

These objectives provide direction to help achieve the Vision while considering the inequitable impacts (i.e. human and nature's justice) of climate change and subsequent responses on marginalized communities, including an understanding that the ability to partake in sustainable actions may be constrained by lack of privilege and inequality.

### **Infobox: UBC's Climate Emergency Declaration**

The UBC Climate Emergency Declaration was prompted by a student-mobilized open letter signed by over 1,600 students, staff, faculty and campus organizations and participation of over 5,000 UBC students, faculty and staff in the September 27th, 2019 Global Climate Strike.

UBC's Board of Governors unanimously endorsed a [Declaration on the Climate Emergency in December 2019](#), joining over 1,700 jurisdictions around the world making similar declarations around this time.

In February 2020, UBC launched a climate emergency community engagement process, overseen by a task force of students, staff and faculty, with support and input from the UBC Climate Hub. This process resulted in the UBC Climate Emergency Engagement Final Report and Recommendations identifying nine overarching strategic priorities to advance climate action, including "supporting the forthcoming

recommendations and new interim emissions targets emerging from the Climate Action Plan 2030 process”.

The Climate Emergency Declaration and Climate Emergency Community Engagement process reaffirm UBC’s commitment to accelerate emissions reductions in alignment with the Paris Agreement of limiting global warming to 1.5°C<sup>1</sup>. Meeting the 1.5°C Paris Target (IPCC pathway) requires a global net anthropogenic GHG reduction of 45% from 2010 to 2030 and reaching net zero around 2050.

UBC’s declaration recognizes the severity, complexity, disproportionate impacts of, and responsibilities for, the climate crisis. It commits UBC to develop a collective response that embeds climate justice throughout its activities and priorities. With endorsement in principle of the [Report and Recommendations](#) from UBC’s Climate Emergency Task Force, the UBC Board of Governors emphasized that climate action continues to be a top strategic priority for the University, providing direction for UBC staff to update plans to address the climate crisis with the urgency it requires..

CAP2030 represents a significant step as the third CAP for the Vancouver Campus, building on existing climate achievements guided by CAP 2010 and CAP 2020. Informed by the Vision Statement and Objectives, this Plan provides UBC Vancouver-specific greenhouse gas (GHG) emission reduction targets and actions, as well as cross-campus (Vancouver and Okanagan) actions that support UBC system-wide GHG emission reduction targets across all action areas.

## 1.2 Purpose of the UBC CAP 2030

This Plan provides the overarching campus climate policy direction to make informed and strategic policy decisions to reduce GHG emissions, to increase climate adaptation, which is the process of adjustment to actual or expected climate and its effects to live with and minimize destruction and suffering, and increase climate resiliency, which can generally be thought of as an ongoing process of diverse, interconnected relationships and processes that activate and build up resilience-enhancing capacities within and across a community.

Implementing the Plan will reduce medium to longer term operational costs associated with increased carbon pricing, increase the future resiliency of the campus to withstand the impacts of acute climate shocks and events resulting from climate change, and to

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<sup>1</sup> <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>, accessed 13<sup>th</sup> August 2021

continue to demonstrate UBC's commitment and leadership to address climate change through a climate justice lens.

Some actions in this Plan are already underway, or set to begin, while others will require further study to advance. Through strategic investment decisions in high impact climate action areas over the next 10 years, UBC Vancouver is setting a course to leverage institutional, operational and intellectual capacities to chart a leadership path for other similar post-secondary institutions to emulate. These investments will help support research, attract and retain faculty, staff and students, and be a role model for other universities to follow.

Further, the anticipated advancement in campus de-carbonization and energy efficient technologies will provide a platform to enhance teaching, learning, and research, by partnering with faculty researchers devoted to help advance innovation in these areas and promote Campus as a Living Laboratory, positioning the University as a testbed of innovation.

### **1.3 Climate Action: A Long Running Priority for UBC**

Climate action has been a priority for UBC for the past two decades, especially with regards to operational emissions (scope 1 and 2). UBC achieved its Kyoto Protocol targets for academic buildings five years ahead of schedule through major energy efficiency upgrades, including the ECOTrek project, which formed part of UBC's first Sustainability Strategy.

UBC's first Climate Action Plan in 2010 set a decarbonization pathway to a 100% GHG reduction by 2050 (net zero), with interim targets for a 33% GHG reductions for 2015 and 67% for 2020. These targets guided multiple new projects and initiatives including the introduction of bio-energy, energy conservation and advancing high performance green buildings. For example, the Bio-energy Research and Demonstration Facility (BRDF), represented one of the major projects that helped UBC achieve operational GHG savings of over 35% from 2007. The forthcoming completion of the BRDF expansion project in late 2021 will help achieve a total reduction in campus operational emissions of approximately 60% compared to 2007. This represents a major achievement and will move UBC significantly closer to its target of a 67% reduction in GHG emissions.

UBC has built a strong global reputation on climate action; in 2019, Times Higher Education ranked UBC as the top university globally in addressing the climate crisis. UBC has also played an important role in elevating this issue across the global university network, including through the University Climate Change Coalition (UC3), the University Alliance for Sustainability (UAS), the International Sustainable Campus Network (ISCN) and the U7+ Alliance that help ensure higher learning institutions across the globe are effective agents of change.

## 1.4 Key Drivers for this Plan

In 2018, the Intergovernmental Panel on Climate Change (IPCC) released a special report on the impacts of global warming. It determined the impacts of climate change would likely be worse than previously expected, and the previously assumed safe limit of a 2°C increase would result in irreparable damages, and an increased chance of runaway climate change. The Report found that limiting warming to 1.5°C would help protect against the worst changes. It is commonly understood that the 1.5°C limit should be seen as the maximum safe level. Limiting climate change to this level will require global net anthropogenic GHG reductions of 45% by 2030 (below a 2010 baseline), and to net zero by 2050. Global climate models are warning of an alarming 3-4°C increase in temperatures by the end of the century.

### Infobox: 2021 IPCC Report

With the latest IPCC Report (Climate Change 2021: The Physical Science Basis<sup>2</sup>) comes a renewed urgency to act to limit severe climate change. Based on this report, **“only rapid and drastic reductions in greenhouse gases in this decade can prevent such climate breakdown, with every fraction of a degree of further heating likely to compound the accelerating effects.”**

Key highlights from the IPCC Report include:

- A3—Increased extremes in heatwaves, heavy precipitation, droughts, tropical cyclones, and their connection to human influence, has strengthened.
- B1—Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions CO<sub>2</sub> and other greenhouse gas emissions occur in the coming decades.
- D1—Limiting human-induced global warming to a specific level requires limiting cumulative CO<sub>2</sub> emissions and rapid and sustained reductions in CH<sub>4</sub> emissions to limit the warming effect and improve air quality.

In September 2019, millions of people around the world participated in peaceful marches in the lead up to the United Nations Climate Summit. The marches, initiated by the youth-led climate movement Fridays For Future, built on the environmental activism of Indigenous Peoples, who have historically and continue to be on the front lines of both the impacts of climate change and the activism required to progress towards a more sustainable and just future for generations to come.

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<sup>2</sup> <https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/>, accessed 13<sup>th</sup> August 2021





*Figure 1: UBC Climate Strike, September 2019<sup>3</sup>*

A purpose of these student led marches and strikes was to raise awareness of the disproportionate impact climate change is having and will continue to have on the future of today's youth. Expanded through student activism to include allies of all ages, the September 2019 climate marches became some of the largest protest movements in the world, and were a catalyst for a series of Climate Emergency Declarations to be made globally, including by UBC.

#### **Infobox: Summer 2021 Heat Wave**

The heat wave and subsequent wild fires experienced in Summer 2021 provided a renewed focus on the urgency of climate action, through mitigation, adaptation and resiliency lenses. Climate scientists<sup>4</sup> noted that the

**“extreme heat was virtually impossible without human-caused climate change”.**

Similarly, wildfires driven by the hotter climate are becoming more and more common in our province, releasing huge quantities of GHG emissions and smoke pollution, impacting our unique biodiversity, displacing communities and magnifying mental health and wellbeing risks across BC and beyond.

This has presented significant challenges to human health and the biodiverse ecosystems that sustain us. Critical impacts include the unprecedented displacement of people and wildlife, and hazardous air-quality and heat waves across BC and beyond, leading to health complications and deaths, and affecting the ability for thousands of people to work and live comfortably across the province. Severe and increasingly common events such as these represent an opportunity to leverage nature-based solutions for heat stress, through the

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<sup>3</sup> Photo credit: Joachim Zens

<sup>4</sup> <https://www.worldweatherattribution.org/western-north-american-extreme-heat-virtually-impossible-without-human-caused-climate-change/>, accessed 13<sup>th</sup> August 2021

shading provided by the urban tree canopy and rainwater management provided by vegetation and green spaces.

### 1.4.1 Internal Policy Drivers

CAP 2030 is informed by and supports the implementation of several important UBC Plans, including [UBC's Strategic Plan: Shaping UBC's Next Century](#), which asserts UBC's climate leadership as a key priority. It states,

*"The challenges around climate change are high. We need to intensify our academic and operational efforts on our campuses, in affiliated communities around the world. We must go beyond minimizing harm to becoming net contributors to human and ecological health."*

The UBC CAP 2030 will help define how sustainability and climate change will support UBC's efforts to shape the next century. CAP 2030 also helps to advance two of the nine strategic priority areas identified by UBC's Climate Emergency Task Force Report that was endorsed in principle by the UBC Board of Governors. These include accelerating UBC's emissions reductions in response to the Climate Emergency and supporting community wellbeing in the face of the climate crisis.

CAP 2030 additionally aligns with the values and visions set forth in many of UBC's existing plans and initiatives, including the [Inclusion Action Plan](#), the [Indigenous Strategic Plan](#) the [Wellbeing Strategic Framework](#); wellbeing also represents a guiding priority with multiple co-benefits across many of the emissions themes contained within CAP 2030, particularly those related to extended emissions.



## 1.4.2 External Policy Drivers

Many rapidly-changing external policy drivers have influenced the direction of CAP 2030, and will continue to inform this Plan's direction as it is implemented.

<b>Transportation &amp; land use</b>	<ol style="list-style-type: none"> <li>1. BC Government's <i>Zero-Emission Vehicle Act</i>: 100% of new vehicle sales to be zero-emission vehicles by 2040, including 10% by 2025 and 30% by 2030</li> <li>2. BC Government's <i>Renewable &amp; Low Carbon Fuel Requirements Regulation</i>: reduce lifecycle carbon intensity of fuel by 20% by 2030</li> </ol>
<b>Buildings</b>	<ol style="list-style-type: none"> <li>3. BC Building Step Code: 20% more energy efficient by 2022 and 80% more efficient by 2032 (net zero energy ready standard)</li> <li>4. Federal Government's escalation of carbon price on fuels to \$170 tCO<sub>2e</sub> by 2030. Public sector offset requirements add an additional \$25.00 / tCO<sub>2e</sub> to this cost<sup>5</sup></li> <li>5. <a href="#">BC Government's amendment</a> for increased supply of clean fuel sources to support transition to renewable fuel economy</li> <li>6. BC Government's updated GHG emission intensity factors for electricity use in BC integrated grid-connected entities</li> <li>7. BC Government's requirement for post-secondary capital project submissions to reduce GHG emissions by 50% (relative to LEED Gold)</li> </ol>
<b>Waste</b>	<ol style="list-style-type: none"> <li>8. BC Government organic waste: 95% of organic waste diverted from landfills and turned into other products by 2030</li> </ol>

As the provincial and federal governments continue to increase the carbon tax associated with fossil fuel purchases, and with the continued mandate to purchase carbon offsets to maintain a carbon neutral public sector in BC, UBC's carbon liability will continue to grow over time without further climate action.

In 2022, UBC will pay a carbon price of \$75/tCO<sub>2e</sub> emitted (\$50/tCO<sub>2e</sub> for BC Carbon Tax and \$25/tCO<sub>2e</sub> for public sector offset requirements). UBC Vancouver currently pays overall carbon costs of around \$3 million per year. This will increase in the future if UBC does not continue to decrease scope 1 and 2 carbon emissions, and as carbon pricing escalates as part of government climate policy. Given that equipment and infrastructure exist for many years, UBC's expected future carbon liability would accumulate to approximately \$100 million over the next 20 years if no further actions

<sup>5</sup> To support these reductions by discouraging pollution-intensive investments and increasing affordability of cleaner options, the federal government is also proposing to increase the carbon price by \$15/ tCO<sub>2e</sub> per year, starting in 2023, rising to \$170 per tonne of carbon pollution in 2030. Existing carbon offsets as part of BC's Climate Change Accountability Act add another \$25/ tCO<sub>2e</sub> to this price. The CleanBC Renewable Gas Mandate is estimated to add an additional \$45/ tCO<sub>2e</sub> to this price by 2030.

are taken to reduce carbon emissions. Without UBC's past action, this liability would have been more than double this amount.

## 2 CAP 2030 Approach

### 2.1 Beyond Mitigation: Increasing Adaptation and Resiliency

While this Plan focuses on the development of mitigation strategies to reduce fossil fuel impacts, responding to climate change will also require the development of just, equitable and accessible adaptation strategies to reduce the impacts associated with the increasing frequency and severity of climate change events. Foundational climate adaptation and resiliency strategies have already been integrated into a number of campus plans and guidelines. Specific examples include the [Integrated Stormwater Management Plan](#) (ISMP), [Water Action Plan](#) (WAP), and the [Green Building Action Plan](#) (GBAP); these adaptation and resiliency strategies will also be integrated into future planning, including the upcoming Campus Vision 2050 Plan. A future Climate Adaptation Resiliency and Biodiversity Strategy will act as a hub for this work and link to other existing and future plans, policies, and initiatives across UBC.

Given the severity and increased frequency of climate change events, UBC is integrating a number of adaptive responses as part of our mitigation efforts now - e.g. assessing cooling capacities, nature based solutions, and access to address increased heat wave events, the GBAP is updating the Climate Ready Building Requirements that advance implementation of adaptive responses immediately, and introducing new criteria for building retrofits that also consider passive and active cooling measures such as those used in the UBC Macleod Building.

### 2.2 An Integrated University Initiative

Realizing the vision and ambition of CAP 2030 will require UBC to activate all institutional, intellectual, operational and community capacities. Some of the most innovative research into demonstratable climate solutions is happening right here at UBC. The CAP 2030 process is an opportunity for the University's operations and research communities to work together through applied research to solve our climate challenges (i.e. projects such as UBC's new \$23m [Renewable Energy Hub](#) will be a testbed for low carbon innovation). UBC's Campus as a Living Laboratory programs are driven by the University's operational and sustainability commitments, and have a well-established track record of success to develop, pilot and scale innovative processes and solutions. Key examples focusing on innovative low carbon solutions, include the BRDF and its current expansion.

The [SEEDS Sustainability Program](#) creates applied student-led research and interdisciplinary collaborations that utilize the Campus as Living Laboratory. Examples

include creating robust interdisciplinary partnerships and research clusters between UBC's students, staff and faculty. These Campus as a Living Laboratory programs were key to informing the development and implementation of the original CAP 2010 and the CAP 2020, and will continue to be leveraged for the CAP 2030. Collaboration is ongoing to determine the next breakthrough clean energy and climate solutions at UBC. Continuing to leverage this strength in the future will be key to meeting UBC's aggressive climate targets and to accelerate the uptake of UBC-created solutions beyond our campus.

In addition to institution-level change, successful delivery of UBC's climate action will require the full breadth of the UBC community to be engaged and participate to achieve collective impact. This is especially true for addressing UBC's extended impact emissions sources, such as commuting, air travel, food and waste. Supported by UBC's existing and emerging policies, programs, infrastructure, tools and resources, UBC students, faculty and staff, through choices and as a community, have an opportunity to take relevant actions and contribute to these emissions reduction areas.



*Figure 2: UBC operations and research collaboration at the Bioenergy Research Demonstration Facility (BRDF)*

*Note:* The BRDF is a collaboration between UBC Energy and Water Services and UBC Applied Science.

## 2.3 Lessons from the COVID-19 Pandemic

The Plan was initiated during the COVID-19 pandemic and racial justice protests of 2020. The impacts of COVID-19 heightened public awareness of the historical and ongoing systemic, structural and institutional inequities and racism against Indigenous, Black, and People of Colour communities. These events deeply shaped what was heard from the community, and have been articulated in the recommendations. This work recognizes that climate justice must be advanced in conjunction with institutional responses to today's multiple intersecting crises - the pandemic, an opioid crisis, intense racial injustice and an economic recession/affordability crisis - which compound inequalities faced by marginalized populations. Some reflections triggering further policy development include leveraging learning from remote working and online class delivery, ensuring flexibility and accommodations remain in place to support student, staff, and faculty well-being, and optimizing the use of space to reduce energy, GHG emissions, and associated costs. Specific lessons and actions emerging from the COVID-19 pandemic are referenced in the relevant sections below.

With classes moved online and a significant reduction in on-campus activities during 2020 and 2021, the pandemic also had an impact on UBC's operational and extended emissions. Despite this, the pandemic has had little impact on the analysis presented in this plan as most findings are based on the data collected in pre-pandemic periods. Moving forward, the impacts of the COVID-19 pandemic on campus travel patterns, air travel, and the other issues and opportunities it presents for the near future will be monitored through the CAP 2030 implementation process.

## 2.4 A Climate Justice Lens

The application of a climate justice lens will ensure equity, inclusion, diversity, and accountability are upheld and advanced while accelerating climate action as marginalized and vulnerable populations are often disproportionately impacted by climate change.

### **Infobox: Climate Justice**

Climate change and environmental harms are known to disproportionately affect the marginalized and the underprivileged, and to compound and magnify those existing inequalities; 'climate justice' addresses this by tying social justice lenses into a climate action approach. Climate justice frameworks have evolved out of past and ongoing activism driven by Indigenous peoples, Black communities, people of colour, gender inequity, and grassroots movements mobilizing to resist persistent impacts of environmental racism and systemic oppression. Climate justice also addresses preventable health and wellbeing impacts, and protecting human rights. It does so through acting on distributive justice, procedural justice, and restorative justice, in order to form a more holistic approach to recognizing and addressing the ways in which underprivileged populations are differently affected by climate change and its consequences.

A climate justice lens recognizes responsibility and accountability for causes of climate change, the inequitable burdens of climate change impacts and an awareness of intersecting vulnerabilities, systemic and structural injustices. Climate justice might generally be thought of as advocating for what is right, fair, appropriate or deserved in relation to climate change drivers and impacts.

Throughout the development of the CAP 2030 actions, working groups have reflected on how to advance climate action in a way that considers the needs of those with fewer resources and those who use too many. Engaging principles of climate justice are particularly relevant when developing climate actions related to food systems, commuting and business air travel. This Plan's actions are designed to align with embedding wellbeing, community resilience, equity and diversity across university systems and structures – foundational to the UBC Wellbeing Strategic Framework, Inclusion Action Plan and Indigenous Strategic Plan. This approach is ongoing and achieves significant co-benefits across many of this Plan's emission themes, particularly those related to extended emissions.

## 2.5 Co-benefits to Climate Action and Risk Management

Taking strong action on climate change is critical to improving UBC's contribution to reducing globally harmful GHG emissions, however, this is far from the only benefit. Advancing an ambitious CAP 2030 will further many other UBC interests, including:

- Protecting UBC against the increasing costs of carbon taxes and pricing at the provincial and federal level;
- Mitigating UBC's exposure to future volatility in conventional energy costs and supply chains;
- Increasing resiliency, capacity, and diversification of UBC's energy infrastructure and green infrastructure in the face of climate change;
- Future-proofing UBC's buildings to the impacts of climate change, through the use of a passive measures first approach, while integrating whole systems infrastructure considerations regarding active cooling strategies;
- Leveraging student and faculty-led applied research to utilize the Campus as Living Laboratory;
- Sharing and amplifying UBC's place-based climate research and solutions that help accelerate climate action at a local, regional and global scale;
- Leveraging technology innovation, research, and development at UBC with Industry and utility partners;
- Leveraging external funding and partnerships to advance key research and innovation priorities by UBC;
- Pursuing external funding and investments into University infrastructure priorities;
- Supporting sustainability challenges within the institution and capitalizing on teaching, learning, and research opportunities;
- Bolstering UBC's internationally recognized reputation and leadership in climate action and sustainability in operations and research;



- Strengthening the UBC community's resilience and sense of individual and collective agency by equipping/supporting community members to take action on climate change; and
- Increasing UBC's overall community resilience, mental health and wellbeing.

These co-benefits will be considered alongside technical and financial risks, and other criteria when assessing future investments in CAP 2030 priorities.

## 3 Plan Development

### 3.1 Planning Process

In April 2020, the Board of Governors endorsed climate action as a key sustainability focus area for UBC campuses. Following this leadership endorsement, the CAP 2030 process launched in May 2020. The process was led by Campus and Community Planning, with strategic oversight and direction provided by the Operational Sustainability Steering Committee with representation from faculty and administrative leadership.

The CAP 2030 planning process built upon the significant success that UBC has had to date for campus operations. It also leveraged recommendations from the climate emergency engagement process as well as expertise across UBC through topic-based working groups and technical committees.

UBC working groups were established to develop targets and actions for all CAP topic areas. Actions in areas that apply to both Vancouver and Okanagan campuses, such as business air travel, food systems, and embodied carbon, were identified. Targeted staff, faculty, students, and external subject matter experts were engaged to develop the CAP recommendations based on the following themes:

- Energy Supply and Buildings
- Fleet
- Commuting
- Business Air Travel
- Embodied Carbon
- Food Systems
- Engagement and Outreach Programs
- Waste, Materials and Paper
- Financial Tools

Emerging directions and draft targets for CAP 2030 – Vancouver and Okanagan Campuses - were presented to the Board of Governors in February 2021. The CAP

2030 process, Figure 3, illustrates the overall timeline and key stages in the planning process.

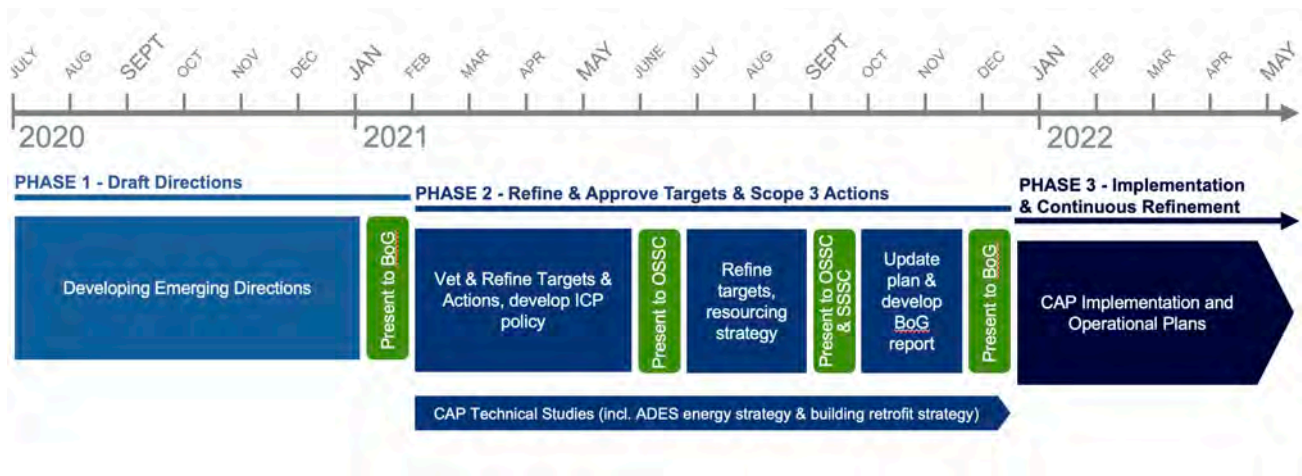


Figure 3: CAP 2030 Process Overview

CAP 2030 working group members were instructed to consider key elements from the Climate Emergency Declaration, with a specific focus on including a climate justice lens to help evaluate priority actions. Engagement and vetting of working group actions was conducted at the director's level for many units across UBC to define ownership, alignment, support and responsibility for actions as part of an overall CAP Accountability Framework (Appendix B) through a distributed approach to CAP implementation.

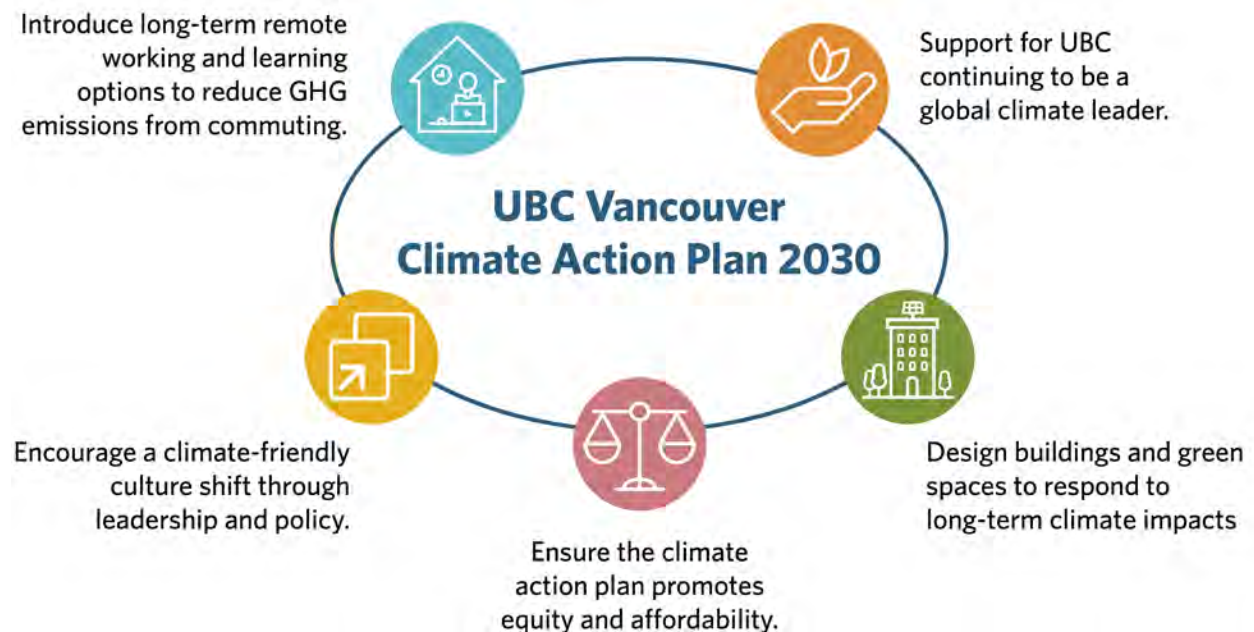
As actions were developed and refined, targeted stakeholder meetings were held with key staff from the units responsible for leading or supporting specific campus actions. The intent of these meetings was to gather support for implementation, identify resources currently being mobilized, identify where additional resources are needed, and to confirm roles and responsibilities moving forward.



### 3.2 Public Engagement Process

From March 29 to April 16, 2021, the Campus and Community Planning team led an engagement process for the entire university community. This was an opportunity for staff, students and faculty to learn about the emerging CAP 2030 themes, ask questions, and share perspectives.

Through an online survey and virtual events, we heard from 764 participants from the Vancouver Campus about the emerging CAP 2030, and the barriers and opportunities for climate action on campus. Figure 4 presents a snapshot of the main themes that we heard from the UBC community during the public engagement period.



*Figure 4: CAP 2030 Public Engagement - Key Messages Received*

Further information on the main themes heard during the UBC CAP 2030 public engagement process can be found in the Engagement Summary Report (Appendix D).

## 4 Addressing Climate Change

### 4.1 UBC GHG Emission Sources

The GHG emissions for UBC's Vancouver campus are generated from various sources, as illustrated in Figure 5 below.



*Figure 5: UBC's Operational and Extended Emissions*

*Note:* Extended emissions are estimated and less accurate than campus operations GHG values which are reported more rigorously as part of UBC's annual carbon reporting under BC's Climate Change Accountability Act. For the Waste and Materials category, emissions shown only include those from disposal and do not include life cycle emissions, which are much larger.

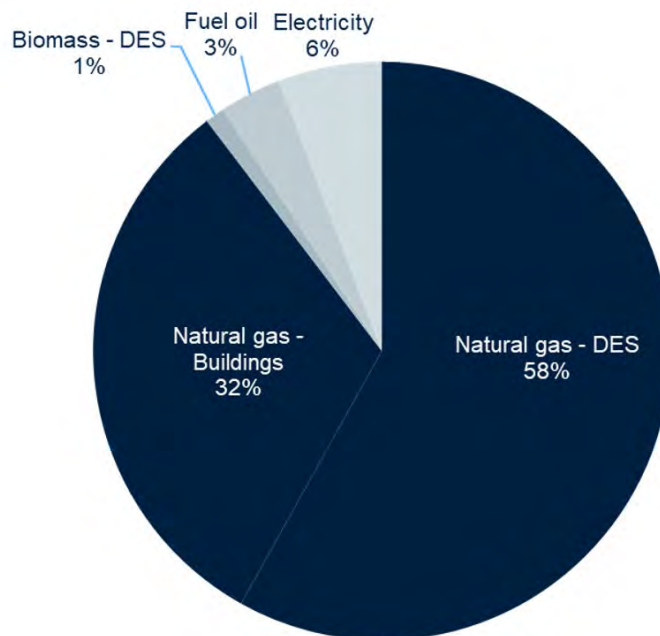
#### 4.1.1 Campus Operations (Scope 1 and 2)

Campus operations emissions are those over which UBC has direct control and on which UBC pays carbon offset taxes through the provincial carbon neutral legislative requirements for public sector organizations in BC. Sources include emissions from buildings, campus energy facilities, and fleet vehicles. Reducing these emissions requires infrastructure change and capital investments. To date, these emissions have been successfully reduced by enhancing the energy performance of buildings and district energy supply.

Heating and operating buildings account for approximately 97% of UBC total campus operations emissions, and the vast majority of these come from burning natural gas

(86%), as this fossil fuel (mostly composed of methane, CH<sub>4</sub>) has significantly higher GHG emissions than BC's clean electricity (primarily sourced from clean and renewable hydropower). Emissions generated through campus operations are defined as emissions from sources directly controlled and operated by UBC, including combustion of natural gas on campus (scope 1), and from upstream emissions from electricity consumed on campus (scope 2).

Figure 6 illustrates the dominant role of natural gas in UBC's buildings and District Energy System (DES) emissions. Electricity emissions only accounted for 6% of total Campus Operations emissions in 2019. However, the relative importance of these emissions will increase in the future as electricity use increases to help displace fossil fuel use to meet climate targets.



*Figure 6: UBC Campus Operations Emissions by Energy Source (2019)*

GHG emissions from electricity are calculated using electricity emissions factors for BC have become somewhat volatile due to a change in emissions factor approach. Analysis for CAP 2030 targets and actions has been based on recent provider-based electricity emissions factors and this area will be monitored as these factors continue to evolve in the future.

The University is on track to reduce operational emissions by approximately 60% below 2007 levels, with the first full year of the bio-energy expansion project operating in 2022, outperforming the Paris Agreement 1.5°C target of 45% reduction. However, even more aggressive targets are required to maintain UBC's sustainability and climate action

leadership position and meet the intent of UBC's Climate Emergency Declaration. The CAP targets address emissions from institutional buildings including core infrastructure, academic, and student housing; excluded are off campus buildings and UBC's neighborhood developments. Neighbourhood emissions will be addressed by a future update to the Community Energy and Emissions Plan (CEEP), the Residential Environmental Assessment Program (REAP) and the Neighbourhood Low Carbon Energy Strategy.

#### **4.1.2 Extended Impact emissions (Scope 3)**

Extended impact emissions occur from activities that are not always fully controlled by UBC, but that the institution impacts and influences through purchasing decisions, plans, policies, guidelines, behavioral change programs, and others. These emissions are generally referred to as scope 3 emissions and include sources such as commuting to and from campus, business air travel, food consumed on campus, waste, and the embodied carbon associated with the construction of new buildings and retrofits. While UBC has influence on these emissions the University is not currently responsible for carbon offset payments associated with them under the provincial carbon neutral legislation. These extended impact emissions are almost 2.5 times larger than campus operations emissions as illustrated in Figure 5. CAP 2030 is the first time UBC has made an explicit mandate to set reduction targets for extended impact emissions.

### **4.2 CAP 2030 Plan – Targets**

The global climate crisis is accelerating, and strong collective action must be taken to avoid the worst impacts. With CAP 2030, UBC is committing to build upon past successes to achieve deep carbon reductions for campus operations and extended impacts emissions by 2030, with a future goal to go beyond net zero (see Figure 7). Through strategic investments in climate action, UBC will be leveraging its institutional, operational and intellectual capacities to chart a leadership path for other post-secondary institutions to follow.



# CAP2030 PAST SUCCESSES & FUTURE MILESTONES

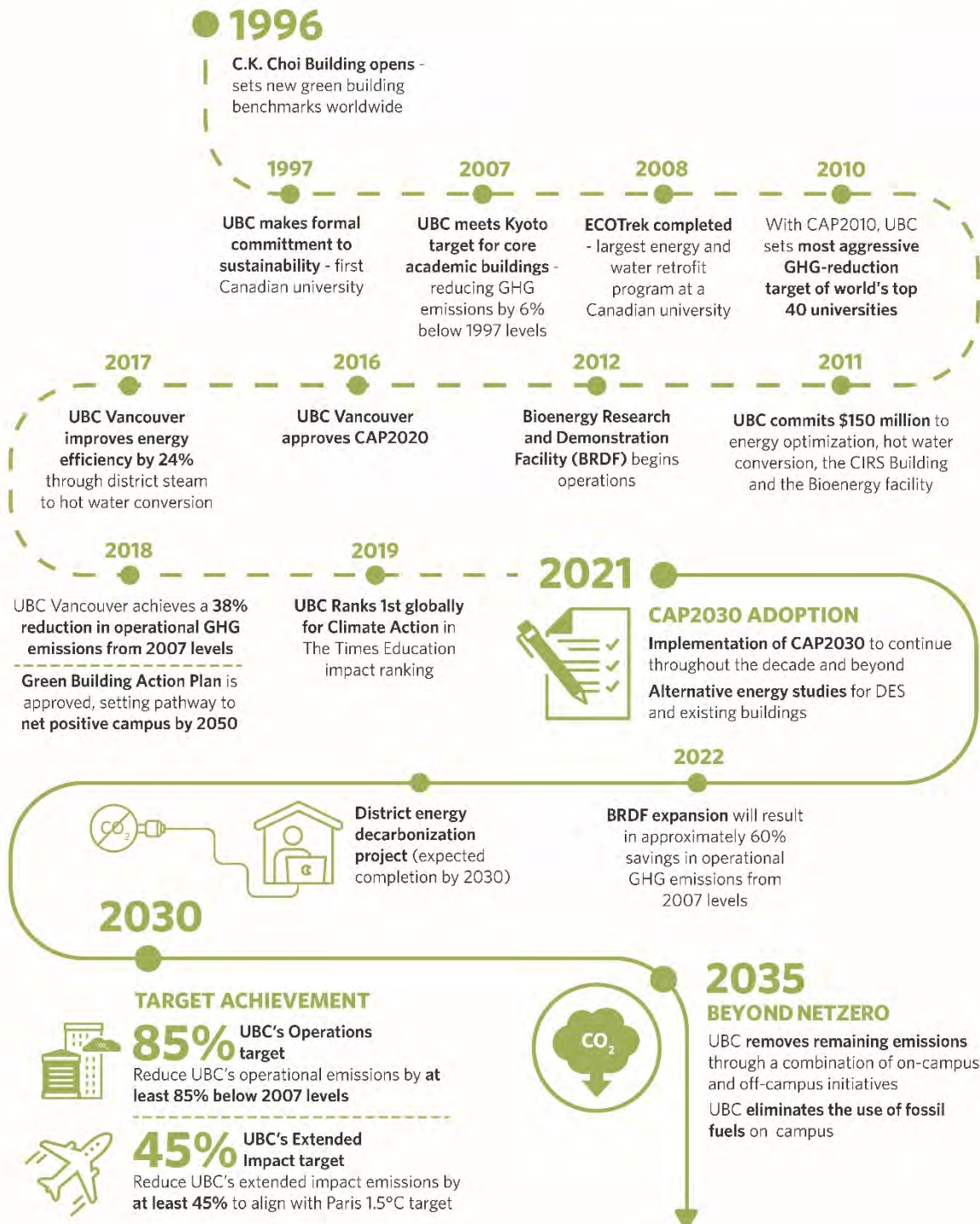


Figure 7: UBC's Climate Action – Past Successes and Future Milestones

### 4.2.1 Reduce Campus Operations Emissions by 85% by 2030

The existing CAP 2020 target for operations was for a 67% GHG reduction by 2020, and UBC will be close to achieving this reduction with the BRDF expansion. With CAP 2030, UBC is setting a target of 85% GHG emission reduction below 2007, significantly exceeding the 1.5°C Paris Agreement emissions targets. Reducing emissions by 85% translates to eliminating virtually all conventional fossil fuel<sup>6</sup> use from campus operations.

### 4.2.2 Net Zero Campus Operations Emissions by 2035

The previous campus operations net zero target, or 100% GHG reduction, was set at 2050. CAP 2030 sets a new accelerated target of net zero by 2035, which will address the remaining emissions from low carbon energy that remain after most fossil fuels are eliminated. The technology solutions for this, such as carbon capture, are still emerging and have not been proven at a wide scale, which will provide an opportunity for partnering with faculty researchers who are advancing innovation in this area. Figure 8 shows the historical operations emissions, plus the impact of actions that can cumulatively reduce emissions by 100%, or net zero.

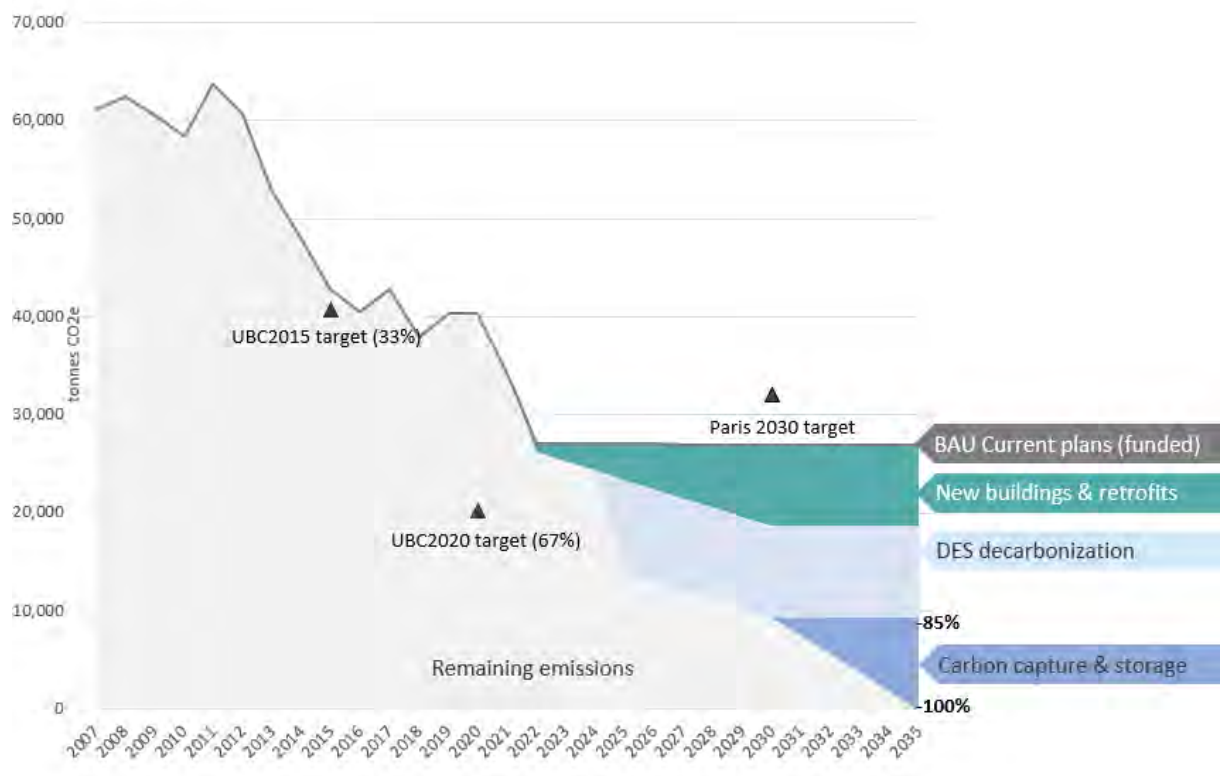
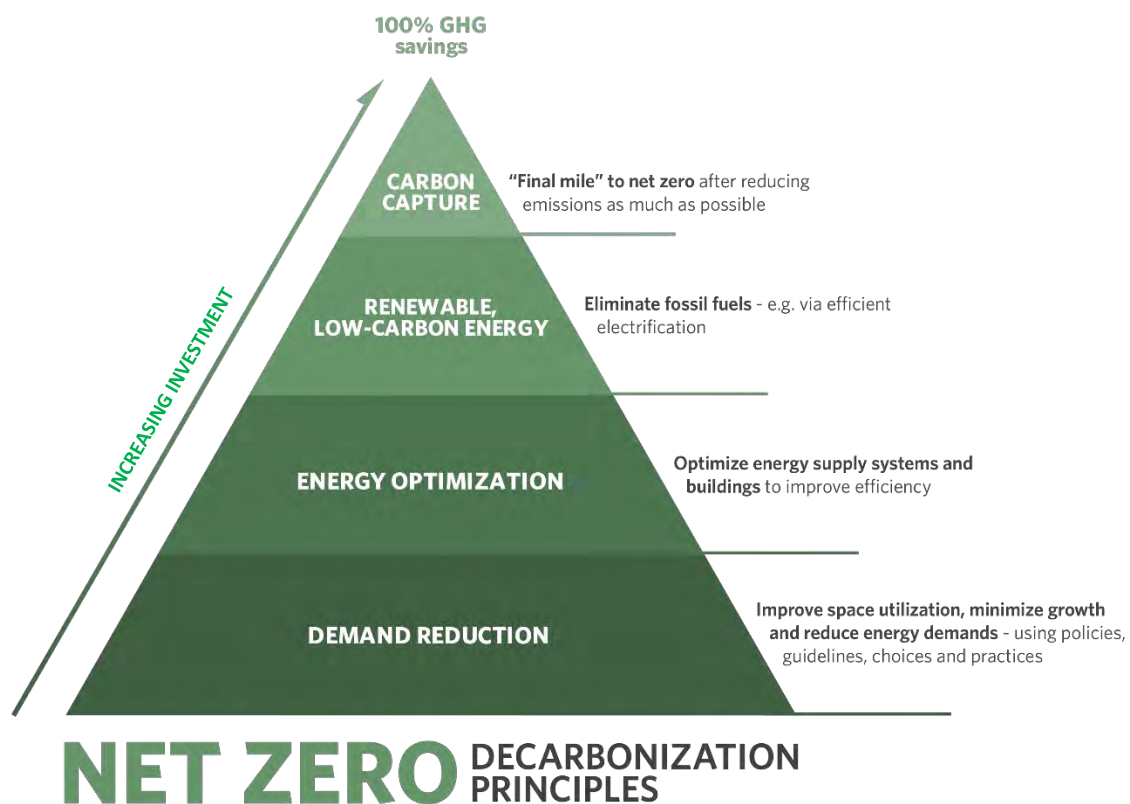


Figure 8: UBC Campus Operations Emissions Reductions Targets

<sup>6</sup> Some fossil fuels may still be required for specialized purposes or uses that don't have viable alternatives.

UBC is well-positioned to achieve deep carbon reductions and accelerate decarbonization of its core operations to meet targets. A combination of factors including UBC's history of successfully reducing emissions, accelerating technology innovation, and increasing community support for action will help to advance UBC's climate ambition. Given the size of UBC's Vancouver Campus, this can serve as an invaluable demonstration for how other campuses and neighbourhoods could achieve decarbonized energy use. A hierarchy of decarbonization principles has been developed to create a clear pathway for UBC to achieve net zero operational emissions, as shown in Figure 9 below.



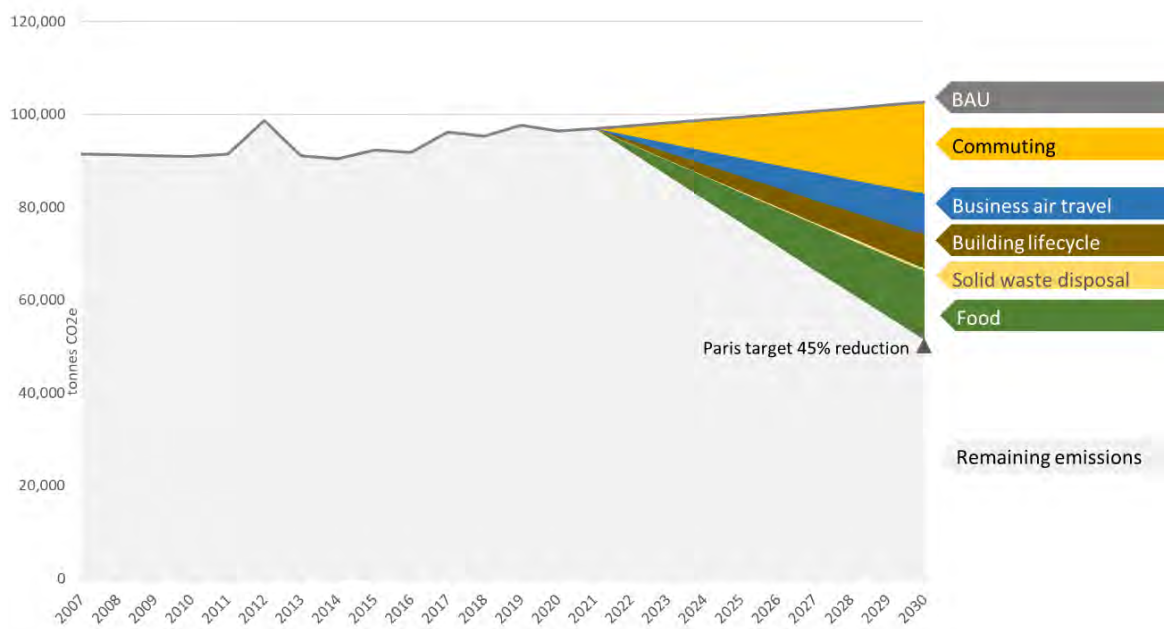
*Figure 9: Net Zero Decarbonization Principles*



### 4.2.3 Reduce Extended Impact Emissions by 45% by 2030

For the first time, UBC is creating reduction targets for extended impacts emissions; CAP 2030 sets a target for a 45% reduction from 2010 levels, reaching the Paris Agreement 1.5°C target by 2030 as shown in Figure 10. This is in line with the mandate given by UBC's Climate Emergency Declaration.

Achieving this target will require institutional leadership in addition to strong buy-in and support from UBC's students, staff and faculty, who through their own choices and activities have a strong influence over these emissions.



*Figure 10: UBC Extended Emissions and Target*

*Note:* the waste emissions shown above only include those from disposal and do not include life cycle emissions, which are much larger.

## 5 CAP 2030 Plan Targets, Strategies and Actions

This section contains a high-level summary of key actions identified in the CAP 2030 working group process, broken down across all action areas. It is intended to provide an overview of areas of focus, specific targets, key actions, and the overall level of ambition of CAP 2030.

## 5.1 Campus Operations

### 5.1.1 Academic District Energy System

**Target:** By 2030, 100% of the energy used by the Academic District Energy System will come from low carbon sources<sup>7</sup>.

**Rationale:** The Academic District Energy System (ADES) provides the major source of heat to campus buildings via a network of hot water pipes under campus. Heat for the ADES is provided by renewable biomass from the BRDF and fossil fuel based natural gas from the Campus Energy Centre (CEC). This district energy system has also been the single largest source of UBC's GHG reductions, with district energy specific emissions declining from approximately 50,000 tCO<sub>2</sub>e in 2007 to 24,400 tCO<sub>2</sub>e in 2019, in large part due to the steam to hot water conversion and the use of biomass to reduce natural gas consumption.



*Figure 11: UBC Campus Energy Centre<sup>8</sup>*

<sup>7</sup> Low carbon energy sources include renewable energy such as BC Hydro grid, locally generated electricity (e.g., solar, biomass, renewable natural gas (RNG), etc.)

<sup>8</sup> Photo Source: <https://www.naturallywood.com/project/ubc-campus-energy-centre/>, accessed 13<sup>th</sup> August 2021

The bio-energy expansion that is nearing completion and will be operating this fall will achieve a 75% reduction in ADES emissions, with 70% of the energy coming from low carbon biomass and Renewable Natural Gas (RNG), while also expanding heating services to new buildings. Figure 9 illustrates how low carbon biomass energy and RNG (significant use as Cogen fuel) will meet the majority of baseload requirements, with natural gas predominantly used for shoulder and peak times during fall and winter.

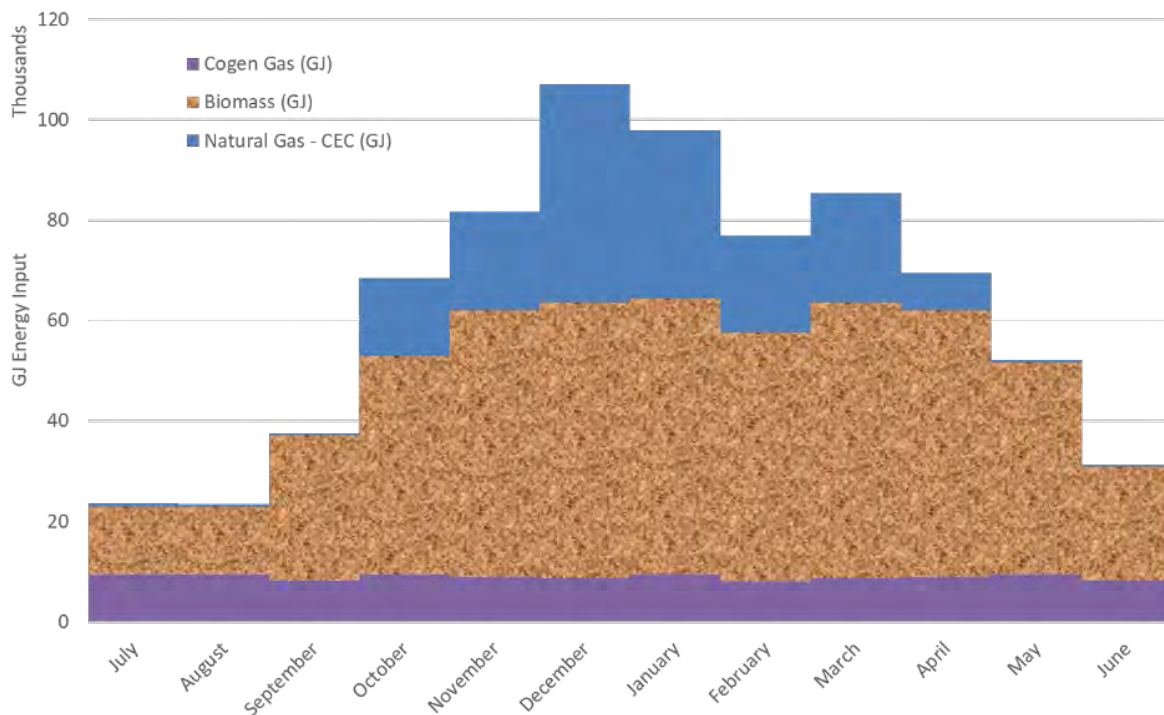


Figure 12: ADES Fuel Sources (Summer 2021 - Summer 2022)

#### 5.1.1.1 Actions - Immediate (Start F2021-22)

- Undertake a comprehensive technical and financial feasibility analysis to identify the most promising low carbon energy supply option(s) for the UBCV ADES – this study is already underway and will be completed in 2022, a number of technologies are being investigated through a detailed evaluation process against a number of key criteria – see Resourcing Strategy in Appendix A.
- Continue to prioritize energy demand side management efforts to offset all energy increases due to campus growth.
- Develop a UBC Vancouver campus energy strategy, including developing key guiding principles, to inform UBC's transition to clean energy and net zero emissions.

### 5.1.1.2 Short Term - By 2024

- Collaborate and explore strategic partnership opportunities with BC's major utilities to increase UBC's access to a diversity of low carbon energy supplies.

### 5.1.1.3 Medium Term - By 2030

- Implement low carbon ADES supply and demand solutions. Begin with initial projects by 2025, with a goal of achieving 100% low carbon energy by 2030.
- Explore and evaluate potential solutions to reach and accelerate UBC's net zero target, such as carbon capture, to address the remaining emissions from low carbon energy sources and hard to abate applications.

## 5.1.2 Buildings

**Target:** By 2030, new buildings and building renewals will target near zero operational emissions<sup>9</sup>, and existing building emissions will be reduced to reach a target developed as part of the Existing Building Decarbonization Plan.

**Rationale:** Heating and operating UBC's buildings represents 97% of total Campus Operations emissions<sup>10</sup>, and this energy currently accounts for about \$22 million in annual energy costs. Direct natural gas consumption by buildings (i.e., buildings that are not connected to the ADES) represent about 30% of the total. Ensuring new buildings are built to high performance, existing buildings are strategically retrofitted, and that energy supplied to buildings becomes increasingly low-carbon is imperative for UBC to achieve its bold GHG emission reduction ambitions, minimize energy consumption and reduce escalating carbon costs.

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<sup>9</sup> Near zero operational emissions assumes that building level, future energy and GHG intensity targets are being met and all energy supply is from low carbon ADES, BC Hydro electricity, and/or renewable natural gas.

<sup>10</sup> UBC's buildings include a lot of energy intensive laboratory space. Due to equipment such as fume hoods and steam and humidification systems, energy consumption of these buildings is materially larger than for traditional buildings, which tend to be dominated by space and water heating.





*Figure 13: UBC Nest Building with roof top garden*

#### **5.1.2.1 Actions - Immediate (Start F2021-22)**

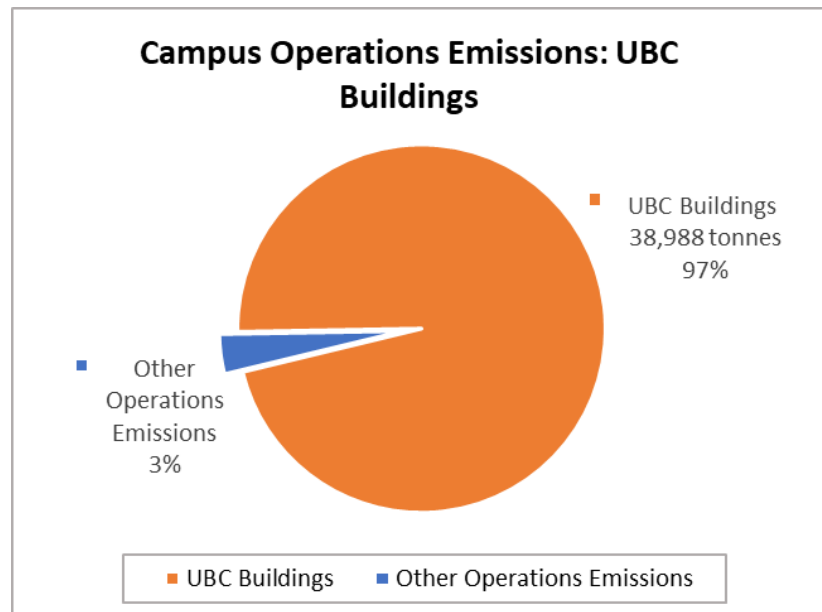
- Eliminate fossil fuel equipment installation in new and existing buildings, unless sufficient amounts of RNG are secured for the lifetime of the equipment<sup>11</sup>.
- Develop an Existing Building Decarbonization Plan that integrates with maintenance and renewal programs, and a resourcing strategy to support incremental costs.
- Develop GHG targets and an action plan for the buildings in the UBC Properties Trust building portfolio that align with the CAP 2030 scope.

#### **5.1.2.2 Short Term – By 2024 and Medium Term - By 2030**

- All buildings on campus will connect to the ADES. If the project does not connect to the ADES it should apply for a variance. If projects cannot connect into the ADES they are required to achieve net zero carbon certification (design and operation).
- Develop and implement new building and renewal project GHG intensity targets by building type, incorporating more energy efficient designs and low carbon energy sources, and creating a life cycle costing process that deals with capital budgets to meet low carbon design requirements.

<sup>11</sup> As a low-carbon non-fossil fuel, renewable natural gas (RNG) can replace natural gas in buildings that are not connected to the district energy system. However, historically the available supply of RNG has been limited.

- Implement building retrofits strategically as per the above plan (Existing Building Decarbonization Plan) and funding.
- Research and track building space utilization and changes due to remote activity, and explore opportunities for energy reductions through space utilization and mitigating growth of new floor space.
- Develop a process to reduce emissions from refrigerants used in buildings.



*Figure 14: Campus Operations Emissions: UBC Campus Buildings*

*Note:* This graphic includes all emissions at the building level, and includes direct natural gas use by buildings as well as by the ADES described above.

#### **Infobox: Marine Drive Residence heat pump project study**

Electrification of building HVAC equipment is a key opportunity to reduce UBC's GHG emissions. UBC Student Housing and Community Services (SHCS) commissioned a study to assess replacement of natural gas fired make up air units (MUA), which provide heating and ventilation, with air source heat pumps (ASHP) at the Marine Drive student residence.

Heat pumps work by using electricity to transfer heat from the outside environment to inside the building. As such, they can be extraordinarily efficient, with the units assessed for Marine Drive about four times more efficient than existing equipment. When considering available incentives and energy savings over the project lifespan, ASHP lifecycle costs are competitive and help to significantly reduce GHG emissions.

### 5.1.3 Fleet

**Target:** UBC will only procure new vehicles and equipment that are zero emissions where feasible solutions exist.

**Rationale:** While UBC's fleet of vehicles and motorized equipment has a relatively small impact on overall GHG emissions, vehicles are a highly visible part of UBC's operations.

Between 2007 and 2018, UBC Building Operations reduced UBC fleet GHG emissions by 52% and achieved the only E3 Fleet Platinum rating in Canada. Transitioning to Zero Emissions Vehicles (ZEV) and enabling vehicle sharing among departments can realize significant co-benefits in addition to improving community wellbeing through reduced community harming GHG emissions, including greater overall financial performance and improved quality of fleet services for end users.



*Figure 15: UBC Electric Vehicle and Charging Station*

#### 5.1.3.1 Actions – immediate (Start F2021-22)

- Explore the expansion of fleet management programs across all UBC vehicles, including additional funding, in order to continue to pursue fleet optimization and increased efficiency.



- Develop a comprehensive ZEV Charging, Fueling, and Maintenance Strategy to guide ZEV transitions on campus.

#### 5.1.3.2 Short – by 2023

- Incorporate a Zero Emissions Vehicle and Equipment First (ZEV First) requirement into existing fleet policy for all new vehicles and equipment, where feasible operational solutions exist.

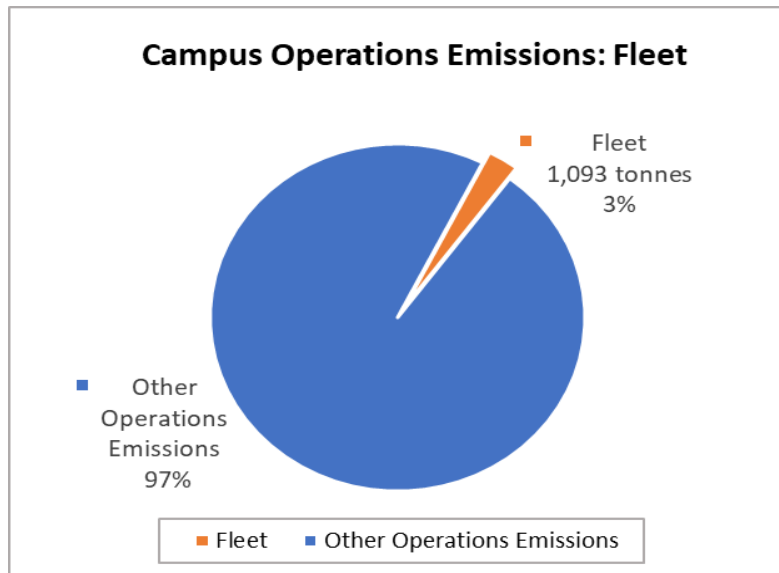


Figure 16: Campus Operations Emissions - Fleet

#### 5.1.4 Financial Mechanisms: Internal Carbon Pricing

**Target:** Implement an internal carbon price to better align financial decision-making criteria with UBC's climate goals.

**Rationale:** Carbon pricing is seen as a key policy tool and a financial mechanism to address climate change. It works by incorporating the true costs of carbon pollution into the decision-making process. So far, external climate policy has lagged behind providing an actual representation of the costs of damages associated with climate change. To address these challenges, CAP 2030 proposes the introduction of an Internal Carbon Price (ICP) to better align financial decision-making criteria with UBC's climate goals and provide certainty, predictability, consistency and rigor for decision making. Unlike a carbon charge, the internal carbon price does not result in the exchange of money; it is simply used to inform decisions. The application of an internal carbon price can result in more money being invested initially in climate-friendly

systems that reduce carbon dioxide emissions; however, it often saves money when factoring in the life cycle cost-benefits of the solution.

UBC's internal carbon price represents an overall price ceiling, inclusive of all external pricing instruments, such as carbon offsets and fuel taxes. With the introduction of an internal carbon price, UBC will join the City of Vancouver and Metro Vancouver to create a local cluster of global leadership on carbon pricing. Refer to Appendix C for UBC's Internal Carbon Pricing Policy Guideline .

#### **5.1.4.1 Actions - Immediate (Start F2021-22)**

- An internal carbon price level of \$250/tCO<sub>2</sub>e has been selected based upon carbon price escalation seen at the provincial and federal levels, which will reduce risks by ensuring that carbon costs are fully accounted for during decision making.
- Pilot the internal carbon price approach in lifecycle cost analysis for several energy supply, equipment renewal and energy conservation projects.

#### **5.1.4.2 Short Term - By 2024**

- Implement the internal carbon price and use life cycle cost analysis to inform decision-making for energy projects (energy supply, energy equipment, energy conservation projects), as well as to fleet purchases and programs.
- Pilot and implement the internal carbon price and use life cycle cost analysis to inform decision-making on capital and infrastructure planning.

## **5.2 Extended Impacts Emissions**

### **5.2.1 Commuting**

**Target:** By 2030, achieve a 45% reduction in commuting emissions from 2010 levels.

**Rationale:** Accounting for approximately 36,000 tCO<sub>2</sub>e emissions per year, commuting by students, faculty and staff to the Vancouver campus is the highest extended impact emissions category accounting for nearly the same GHG emissions of buildings and energy supply combined. UBC has been very successful at increasing the transit mode share from 18% in 1997 to 54% in 2019 as a result of the introduction of the U-Pass program for students in 2003. However, substantial growth in the transit mode share is constrained until there is a rapid transit connection to UBC, which isn't anticipated until around 2030. This risks an increase to the single occupant vehicle mode share above the current 32% and therefore an increase in commuting emissions and public health impacts. There are opportunities for significant emissions reductions by decreasing commuting trips, shifting choices of transportation modes and vehicle types, and increasing transit capacity in the longer term. Climate justice factors into the

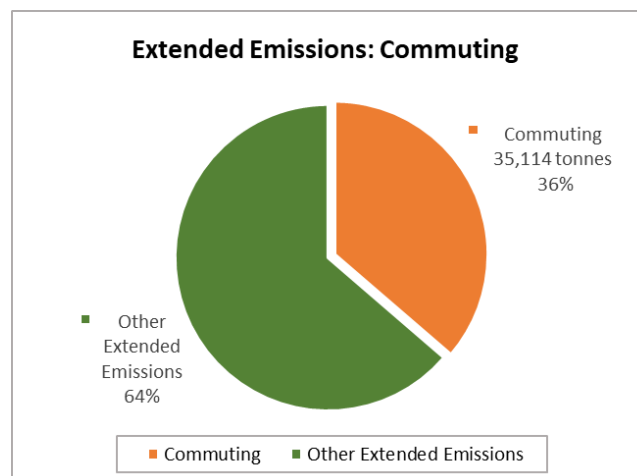
development of transportation policies and programs to ensure that equity across the UBC community is considered.

#### **5.2.1.1 Actions – Immediate (Start F2021-22)**

- Develop policies, targets and tools that enable and support departments in incorporating remote work / teleworking, flex days and online learning on an ongoing basis.
- Explore funding via a “Sustainable Transportation Levy” as part of parking permit fees (e.g., \$0.25 / trip) to fund sustainable transportation initiatives, including a Sustainable Transportation Program, that will support increased use of sustainable modes of transportation and reductions in commuting emissions.
- Establish an ongoing Sustainable Transportation Program to deliver infrastructure, programs and initiatives that enable sustainable transportation choices and drive behavioural change to reduce commuting emissions.
- Continue to pursue a SkyTrain connection to campus by 2032 (existing action).
- Identify a suite of improvements including infrastructure, procedural, and policy changes to improve the Electric Vehicle (EV) charging user experience and increase capacity to support transition towards electrical vehicle ownership in the UBC community.

#### **5.2.1.2 Short Term - By 2024**

- Transition parking permit fee structure to daily permits only (eliminating monthly, term, and annual permits), and offer a discount/subsidy for monthly transit passes for all staff and faculty.
- Improve cycling experience to support increased cycling trips to and from campus, such as improved secure bike storage, working with government partners to provide dedicated bike lanes to/from campus and an integrated e-bike and bike share program with the City of Vancouver.



*Figure 17: Extended Emissions - Commuting*

## 5.2.2 Business Air Travel

**Target:** By 2030, reduce business air travel emissions by 50% from 2019 pre-COVID-19 levels.

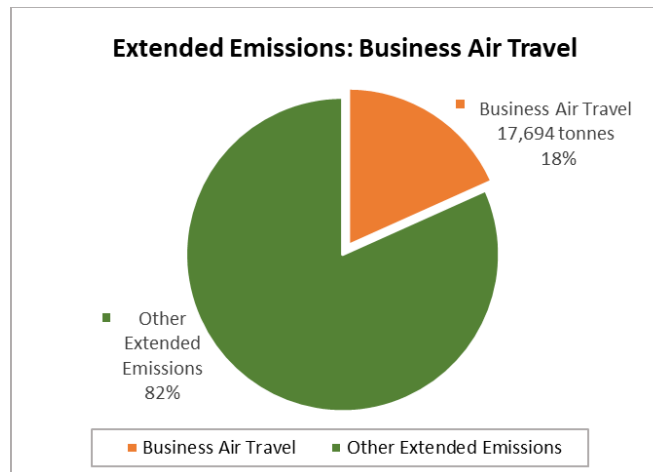
**Rationale:** Business air travel is a significant source of extended impact emissions, accounting for approximately 17,500 tCO<sub>2</sub>e/yr. This is equivalent to about 50% of total campus operations emissions. Much of this travel is undertaken by UBC faculty and staff to attend academic and professional conferences. By leveraging the availability of better communication technology solutions, greater social awareness, and recent learnings from the COVID-19 pandemic, air travel and associated emissions can be reduced while providing an opportunity to maintain or improve UBC's education and research objectives, and is a key opportunity to increase access to educational opportunities for students and departments lacking means for engaging in extensive travel. This acknowledges the dependence upon air travel for researchers to carry out certain types of research and scholarly projects. Generally speaking the UBC Okanagan Campus often bears a somewhat disproportionate amount of "UBC system" travel. Identification and removal of barriers to choosing travel alternatives will be integral to shifting cultural norms, while ensuring an equitable approach

### 5.2.2.1 Actions – Immediate (Start F2021-22)

- Initiate a Sustainable Travel Program to develop behavioural change programming and awareness campaigns that shift behavior and create awareness around travel impacts and the increasing number of virtual alternatives available.
- Implement a study across both campuses to understand inter-campus air travel patterns, barriers and opportunities to reduce inter air-travel emissions. This action will enable UBC to better understand travel between the two campuses and how our travel behaviours should ideally shift as we start to emerge from Covid-19 travel restrictions.

### 5.2.2.2 Short Term - By 2024

- Track and report GHG emissions and other key parameters for all UBC business air travel.
- Lead a coordinated approach to reduce air travel across the University ecosystem by leveraging UBC's leadership role across peer networks (e.g., UC3, U7+).



*Figure 18: Extended Emissions – Business Air Travel*

### 5.2.3 Food Systems

**Target:** By 2030, achieve a 50% GHG emission reduction of food systems.

**Rationale:** UBC campus food systems account for over 29,000 tCO<sub>2</sub>e per year and is the second highest category in extended impact emissions after commuting. From a global perspective, food systems are an enormous driver of climate change and contribute between 21 - 50% of global GHG emissions. After commuting, food is the second highest emissions category in the extended impact emissions area.

Over 60% of food produced, equivalent to 35 million tonnes of food are wasted in Canada each year, generating about 56.5 million tonnes of CO<sub>2</sub>-equivalent emissions. Approximately 32% – equaling 11.2 million metric tonnes of lost food – is avoidable and is edible food that could be redirected to support people in our communities<sup>12</sup>.

UBC is well positioned to lead an integrated approach in creating a just and resilient campus-wide food system – access to sustainable, safe, affordable, healthy foods increases mental health, physical health, and sense of wellbeing benefits. Through partnerships with communities both on and off campus, a Climate-Friendly Food System at UBC will use science-based targets to reduce food system-related GHG emissions. The creation of a campus-wide food system strategy will address all components of UBC's food system, including food production, procurement, provision, consumption to waste and recovery.

<sup>12</sup> <https://secondharvest.ca/research/the-avoidable-crisis-of-food-waste/>, accessed 13<sup>th</sup> August 2021



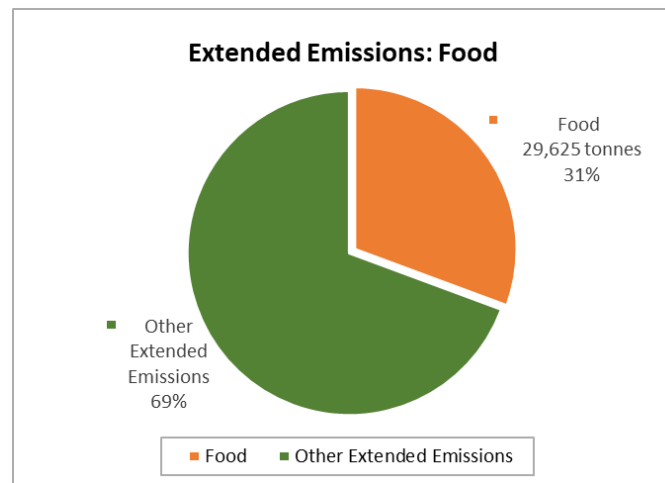
*Figure 19: UBC Farm Centre for Sustainable Food Systems*

#### **5.2.3.1 Actions – Short Term – by 2024**

- Develop campus-wide Climate-Friendly Food System (CFFS) definition, mandatory CFFS labelling, and a toolkit to increase sustainable dietary choices and habits.
- Develop and implement mandatory campus-wide Climate-Friendly Food System Procurement Guidelines applicable to all food providers. Develop a Food Waste Reduction and Recovery Strategy (including food-related waste).
- Amend the UBC Supplier Code of Conduct to reflect UBC's climate commitments.
- Develop a Food System Resilience and Climate Action Strategy that holistically advances climate-friendly foods at UBC including climate mitigation and adaptation.
- Leverage and expand established interdisciplinary research initiatives, student and faculty-led research to advance climate-friendly food systems, spanning climate mitigation and adaptation.

### 5.2.3.2 5.2.3.2 Actions - Medium Term — 2024-2030

- Enhance the measurement and reporting of the campus food system's environmental footprint, and coordinate with other food sustainability tracking priorities.



*Figure 20: Extended Emissions - Food*



## 5.2.4 Waste and Materials

**Target:** By 2030, UBC will apply a circular economy lens<sup>13</sup> to enable a 50% reduction in waste, progressing toward a zero-waste community.

**Rationale:** While UBC's reported GHG emissions from waste disposal are a very small fraction of overall emissions, waste-related emissions are much higher when considering life cycle emissions that include production of goods and materials – analogous to what is included in embodied carbon calculations for construction. In 2019, the Ellen MacArthur Foundation reported that 45% of 2050 global emissions reductions will need to address production of goods and materials, and circular economy strategies could eliminate almost half of these emissions.

A Zero Waste Action Plan update planned for 2022 will more strongly prioritize emissions reductions opportunities such as reuse, apply a circular economy lens, and address barriers that have limited progress toward UBC's zero waste goals to date.

### 5.2.4.1 Actions – Immediate (Start F2021-22)

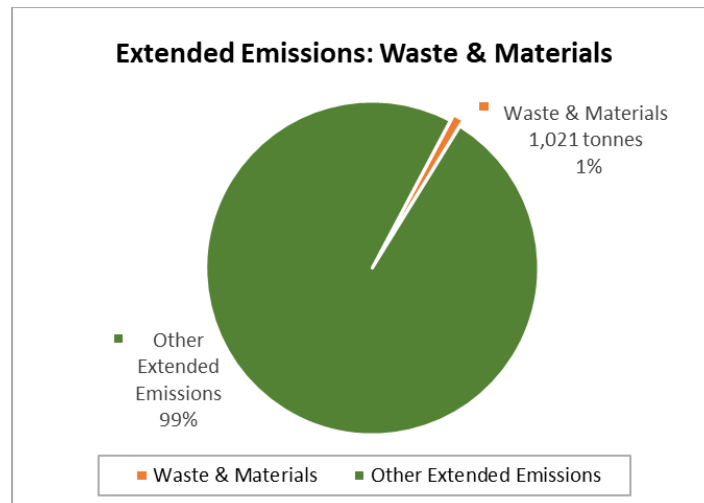
- Initiate a process for updating the Zero Waste Action Plan, which will include refining and integrating the actions below.
- Complete the planning and resourcing for launch of a scalable reuse program that includes furniture, residence items, and scientific equipment.

### 5.2.4.2 Short Term – by 2024

- Fund, develop, and implement the Waste Operations Strategy (implemented through Building Operations), which will provide critical waste management infrastructure and business process updates needed to reach our zero waste goals.
- Scope and develop a central sustainable procurement program that could include vendor and product sustainability criteria, packaging requirements, updated procurement guidelines and processes, and integration with the Integrated Renewal Plan (UBC's enterprise level IT systems upgrade).

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<sup>13</sup> In contrast to a conventional linear economy ("take, make and dispose"), a circular economy lens increases the focus on reuse and recycling of goods and materials back into the economy to avoid and eliminate waste and generate economic value.



*Figure 21: Extended Emissions – Waste and Materials*

*Note:* Waste emissions shown only include those from disposal and do not include life cycle emissions, which are much larger.

## 5.2.5 Engagement and Outreach Programs

**Target:** By 2030, three quarters (75%) of UBC faculty, staff and students will be aware of UBC's climate action goals and participating in UBC's evolving and expanding culture of sustainability.

**Rationale:** UBC's climate-related engagement and outreach programs have demonstrated successes in reducing energy and emissions from UBC operations through energy conservation initiatives and campaigns delivered by programs including Green Labs, Sustainability Coordinators and Sustainability in Residence. With the inclusion of extended emissions targets in CAP 2030, new and expanded communications and engagement capacity will be critical to underpin the community climate action and behaviour and social changes needed to reach the Paris Agreement target-aligned goals for business air travel, commuting, food, and waste.

### 5.2.5.1 Actions – Immediate (Start F2021-22)

- Create a comprehensive plan to track, support, and (where needed) coordinate the implementation of CAP-related engagement and outreach communications, campaigns, and programming, in alignment with institutional action on the Climate Emergency Task Force priorities, Sustainability & Climate Action Integrated Communications & Engagement (ICE) Plan, and CAP 2030 scope 1, 2 and 3 emissions reduction actions.

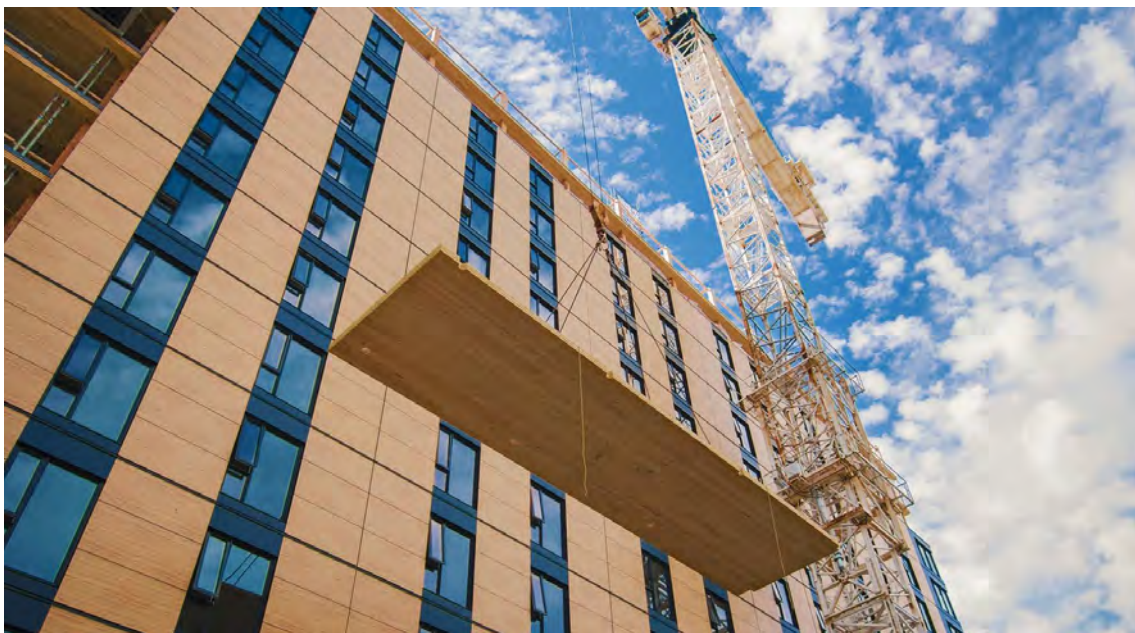
### 5.2.5.2 Short Term – by 2024

- Establish a climate action communications, engagement and outreach model (supporting awareness-building and education as well as social and behavioural change) for both targeted and campus-wide audiences.
- Develop new and expanded sustainability engagement and outreach programs, tools and resources, ensuring adequate and ongoing resourcing to amplify engagement on climate action.
- Standardize a university-wide process for portfolios, faculties and/or departments to track, measure and report out on UBC CAP participation and progress.

### 5.2.6 Embodied Carbon

**Target:** By 2030, establish an embodied carbon baseline and align new building and renewal designs with a 50% reduction target.

**Rationale:** As UBC continues to drive down operational emissions from buildings, it is becoming more important take a life cycle approach and address embodied emissions that arise from materials used to construct these buildings, in addition to the energy emissions from operating the building. Even when averaged over the life of the building, these emissions represent a significant share of all UBC's extended impact emissions, hence limiting new construction as far as possible represents the first step in limiting GHG emissions. The embodied energy of new buildings can be reduced by using materials which use less energy to produce and are made from natural materials and recycled materials.



*Figure 22: UBC's Tallwood Building*

There has been significant progress made in initial research and scoping of this area; UBC is already a recognized innovator and leader in building projects that use low carbon materials and innovative construction techniques, as demonstrated by UBC's Brock Commons Tallwood Project (Figure 22), which was world's tallest contemporary wood building at the time of completion. Research will need to continue into developing more accurate and streamlined assessment methods for embodied carbon, reliable regional supply chains for low carbon materials, as well as design and construction strategies to further reduce embodied carbon across the campus.

#### **5.2.6.1 Actions – Immediate (Start F2021-22)**

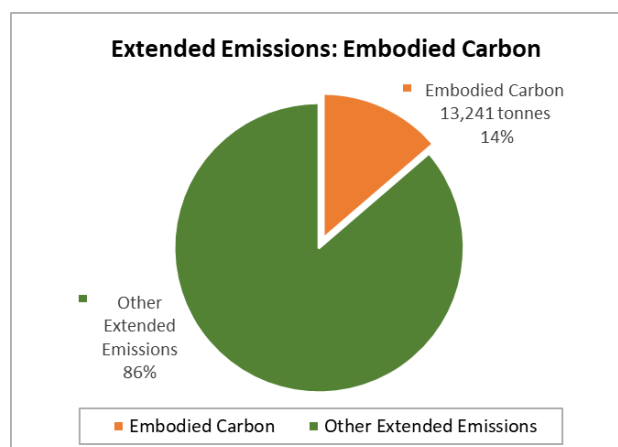
- Develop clear guidance for embodied carbon Life Cycle Assessment (LCA) studies for new buildings and renewals, and introduce a pilot target of 20% reduction over a baseline building.
- Develop guidance for reducing embodied carbon in buildings to discourage, reduce or potentially eliminate materials with the highest embodied carbon impacts
- Update the method for campus level reporting on embodied carbon emissions in UBC's GHG inventory and carbon reporting.

#### **5.2.6.2 Short Term – by 2024**

- Create an operational and academic research collaboration or hub for UBC building performance/embodied carbon.
- Develop embodied carbon reduction targets for UBC buildings by type and for campus as a whole, for application on projects in 2025-2030.

#### **5.2.6.3 Medium/Long Term – by 2031+**

- In addition to embodied carbon, consider healthy and equitably-sourced materials as part of a holistic approach to building material choices.



*Figure 23: Extended Emissions – Embodied Carbon*

## 5.3 Complementary Action Areas

The following actions are tied to other planning initiatives that are not specifically part of CAP 2030, but contribute to important CAP 2030 objectives.

### 5.3.1 Adaptation, Resilience and Biodiversity

CAP 2030 is focused on the mitigation of greenhouse gas emissions to meet UBC's and Paris Agreement targets. However, adaptation and resiliency in the face of a changing climate, notably that our biodiversity and ecosystems are a key issue as evidence of a changing climate.

British Columbia is already experiencing the impacts of climate change on our population and unique biodiversity. Average temperatures are increasing, sea levels are rising, and more variable and extreme weather is becoming more frequent, including increased rainfall and extreme rainfall events. It is also important to note, that though all of BC faces challenging climate change impacts, Indigenous communities continue to experience a disproportionate share of historical and magnifying climate impacts. These impacts directly affect the province and require government and public sector organizations to re-think how they will deal with their own infrastructure and operational needs, and their ability to provide services to the public. Failing to adequately consider and manage risks from climate change will cost significantly more than implementing proactive management of these risks. In response, the Province of BC is drafting a Climate Readiness and Adaptation Strategy that UBC has helped inform. The Province is also developing Minimum Climate Resilient Design standards and guidelines that will influence our future actions.

In recent years, the Province has required public sector organizations including UBC to complete an Annual Climate Risk Survey to understand current public sector capacity to report on climate risk management. In the near future UBC will be required to report and track progress against key climate risk categories, in the same way we report on and offset carbon emissions and mitigation actions. Increasingly UBC will need to incorporate climate resiliency and adaptation considerations into campus planning and operations. For example, designing stormwater management systems that can accommodate more intense rainfall events, modelled for future climate conditions.

Addressing climate and ecological crises simultaneously is critical in developing a resilient campus. In addition, natural assets are also part of a holistic suite of solutions that can contribute to mitigating GHG emissions - e.g., urban forests and shading buildings to reduce cooling energy loads, using green space to mitigate heat island effects, and carbon sequestration via trees and vegetation.

Given the devastating local impacts of climate change, there will be a continued immediate campus response to recent heat wave and climate fires with a focus on building retrofits, addressing indoor air quality measures for wildfire smoke, and exploring ways to enhance the UBC Vancouver Climate Ready Building Requirements for new construction. The campus will be developing an Adaptation, Resiliency and Biodiversity Strategy as a subsequent CAP 2030 planning phase.

#### **5.3.1.1 Actions – Immediate (Start F2021-22)**

- Increase understanding of the biodiverse ecosystems on campus and the climate adaptation benefits they provide by developing foundational research around biodiversity and climate resilience on the UBC campus. This will include:
  - A community-driven process to develop a set of campus biodiversity and climate principles to advance climate change mitigation and adaptation, ecological health, and human health and wellbeing.
  - A campus natural asset baseline that quantifies the contributions of UBC's natural assets to the range of ecological and socio-cultural services.
- Continue UBC's immediate response to recent heat wave and climate fires with a focus on building retrofits, addressing indoor air quality measures for wildfire smoke, and updating and expanding the UBC Vancouver Climate Ready Building Requirements for new construction.
- Provide technical and advisory contributions to the drafting Provincial Climate Preparedness and Adaptation Strategy.
- Develop procedures and protocols for building occupants and facility managers – i.e. UBC to take proactive steps to introduce new maintenance and operation protocols to improve air quality through ventilation systems by implementing MERV 13 filters.

#### **5.3.1.2 Short Term – by 2024**

- Develop a Climate Adaptation, Resiliency and Biodiversity Strategy that is an "umbrella" strategy that incorporates other UBC plans, policies and initiatives, with specific actions to maintain and enhance urban biodiversity as a tool for climate action through nature-based solutions.
- Adopt biodiversity metrics as a key indicator of climate resilience on campus.
- Leverage and expand established interdisciplinary research initiatives, student and faculty-led research to advance climate mitigation, adaptation and biodiversity solutions, in service of community health and wellbeing (e.g. reducing climate anxiety, addressing health impacts from forest fire smoke, etc.).



### **5.3.1.3 Medium Term – by 2030**

- Incorporate and codify UBC biodiversity enhancements as a strategy to advance towards the target of 85% GHG emission reductions by 2050.

## **5.3.2 Housing at UBC**

A strategy supporting affordable housing at or near UBC for students, faculty and staff to reduce commuting emissions was identified as an important issue, while it is important to simultaneously recognize that significant embodied carbon emissions arise before and during new construction that have major climate impacts and will take many decades to balance with reduced commuting emissions.

### **5.3.2.1 Actions - (Immediate to Medium Term):**

- Continue to implement UBC's Housing Action Plan to address housing affordability challenges for UBC faculty, staff, and students by increasing housing opportunities on campus.
- Explore additional opportunities for affordable on-campus housing through the upcoming Campus Vision 2050 land use process.
- Conduct a study to model the impacts on commuting emissions and embodied carbon emissions for various on-campus housing scenarios to help inform future land use planning and Campus Vision 2050.

# **6 Plan Implementation**

## **6.1 Distributed Leadership Approach**

The CAP 2030 is a UBC wide effort across both the Vancouver and the Okanagan campuses, and will require leadership and resourcing from many units across both campuses. The breadth and scope of the Plan necessitates that it reaches every corner of the institution, requiring a distributed approach to implementation. A CAP Accountability framework has been developed that outlines responsibilities for implementation of actions, monitoring progress, governance over decisions and processes – See Appendix B.

The distributed leadership model integrates concurrent work into this Plan, enhances mobilized resources across campuses, and embeds ownership and accountability for delivering on this Plan across the organization. This approach builds the cross-organizational capacity required for systems change. UBC Campus and Community

Planning will serve as a support and/or lead for several discrete actions, and support the monitoring and reporting on progress led by units over time, ensuring all units are held accountable and recognized for advancing their respective actions. The distributed leadership approach will continue through implementation to ensure successful execution of this Plan.

## **6.2 Resourcing CAP 2030**

### **6.2.1 Approach and Resourcing – Campus Operations**

CAP 2030 has identified bold targets and key actions that can accelerate UBC towards its net zero target for Campus Operations. Technically there are solutions that can support deep emission reductions through more aggressive performance requirements at building and site scales, as well as low carbon energy at the campus scale. However, the final decarbonization approach for UBC's current context requires further development. Therefore, a top priority is to continue key studies to identify the best approach to decarbonize UBC's core operations, progressively refine the costing, and ensure that limited resources are spent in the most effective manner to reduce GHG emissions.

As UBC advances towards deeper GHG reductions, increasing levels of capital investment will be required in the short term, to help reduce UBC's carbon liability in the medium and longer term. While it is too early to provide a detailed estimate of investment needed for achieving the overall GHG reductions identified by CAP 2030, a sense of the scale of investment can be given when considering future carbon liabilities. Translating the recent update of the federal carbon price to UBC's remaining carbon emissions gives carbon liabilities of approximately \$100 million over a 20 year project period (provincial offset requirements and implicit carbon costs from regulations will further add to this)<sup>14</sup>. Investments in clean solutions will be needed to avoid having to pay this liability.

The timing of investments will vary widely. Generally, building scale decarbonization projects will be ongoing throughout the decade to 2030. Investments in district energy decarbonization projects are forecasted to commence earlier following detailed studies and analysis.

### **6.2.2 Approach and Resourcing – Extended Impacts**

In contrast to campus operations emissions which are generally addressed through capital investments, reductions in extended impact areas will be driven by policy, procedures, processes, and programs aimed at achieving behaviour change across the

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<sup>14</sup> Estimate based on multiplying UBC's remaining emissions by the announced federal carbon price (\$170/t CO<sub>2</sub>e) and by an assumed average project life of 20 years.

UBC community. This, in combination with the fact that many emission reduction opportunities of ‘low-hanging fruit’ are still available in the extended impact categories, means that relative to campus operations emissions, its resourcing needs are lower and will be in the form of human resources, administrative, or program funding. Addressing extended impact emissions is something the University can commence quickly, to drive action and to show leadership and commitment to the Climate Emergency Declaration.

### 6.2.3 Short-term Resourcing Priorities

There are several short-term priorities that will require immediate resourcing to ensure that the CAP 2030 process continues to advance.

- **Academic District Energy System and building decarbonization plans:** these technical and financial studies currently underway will continue into 2022 and lead to the recommended technical solutions and projects that will provide the “heavy lift” emissions reductions for campus operations.
- **Low carbon equipment replacements:** There are several hundred pieces of fossil fuel (natural gas) equipment in buildings, responsible for about half of Campus Operations emissions. This equipment periodically needs to be replaced, with new equipment often staying in operation for 15-20 years. Avoiding locking in of new fossil fuel equipment is critical to achieve the CAP 2030 targets. It will require extra funds to cover the higher upfront capital costs of low carbon alternatives (many of which will have lifecycle savings when including the cost of energy and carbon). Importantly, this will protect against the risk of having to replace gas-using equipment well before its end of life at a later date, which would come at considerable extra cost.
- **Low carbon design for new and renewal green buildings:** Similar to equipment replacements, it is critical to avoid locking in new fossil fuel equipment going forward wherever possible. As new and renewal buildings are designed, low carbon features may necessitate incremental capital costs. UBC must find ways to address these costs in budgeting and funding.
- **Extended impacts program development and implementation:** Quick-start actions have been initiated to reduce emissions from food systems and business air travel. These programs and others will need to continue and expand to support achievement of our aggressive 2030 targets.

This short-term resourcing will help build the foundations for success of CAP 2030, ensure that the long-term costs of climate action are minimized, and demonstrate early leadership on priorities identified in the Climate Emergency Declaration.

## 6.2.4 Resourcing Strategy

Resourcing and funding of the CAP 2030 will help achieve multiple objectives across the institution, including avoiding future costs and reducing UBC's carbon liability. CAP 2030 will help position UBC at the vanguard of climate action leadership and will help to advance a core pillar of UBC's Strategic Plan. CAP 2030 will continue to elevate UBC's brand and reputation on sustainability. UBC's investment in CAP 2030 is not just an investment in improving operational excellence through higher performance buildings, low carbon infrastructure and behavioral change programs and community climate action. Resourcing CAP 2030 will also provide innovative platforms for Campus as a Living Laboratory projects whereby the operational and academic communities of students and faculty partner together to foster innovation, ingenuity and position UBC as a progressive change-agent that advances applied research to demonstrate climate action(s), practices and policies.

The CAP 2030 project management team collaborated with UBC's Strategy and Decision Support (SDS) to develop an overall Resourcing Strategy for CAP 2030 (Appendix A), which identifies opportunities, efficiencies and innovative resourcing approaches for the many actions and the resulting future projects and programs identified in the Plan. It also defines the selection process for major projects, with project implementation considerations, financial planning considerations, and a preliminary overview of the types of funding needs and opportunities to support CAP 2030 actions.

Realizing the bold vision and aggressive GHG reduction targets in CAP 2030 will require significant effort from across the university, and significant investments in innovative low carbon projects, student and faculty-led research and programs. These necessary investments will challenge UBC's current resourcing abilities. Innovative solutions will be needed not only in technology, but also in processes for planning and resourcing projects and programs.

Achieving our emissions targets will not only help protect the climate, our biodiversity, and public health and wellbeing, but will also mitigate UBC's carbon liability, while maintaining UBC's sustainability leadership role at this critical time for our planet.



*Figure 24: UBC Climate Strike in front of Musqueam Welcome Post, Sept 2019<sup>15</sup>*

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<sup>15</sup> Photo credit: Joachim Zens



## 7 Glossary

**Academic District Energy System (ADES):** UBC's district energy systems that produces hot water and distributes it to buildings to provide space and water heating. UBC's ADES is the main source of heating to campus buildings.

**Air Source Heat Pump (ASHP):** An air source heat pump is a system that transfers heat from outside the building to inside the building for heating (or vice versa for cooling). As it transfers heat and doesn't create heat, ASHPs can be extraordinarily energy efficient, with heat generated up to 400% of the initial electrical energy input.

**Alliance of World Universities (U7+):** An international alliance of university presidents to engage in discussions and concrete action and commitments to address the most pressing global challenges in a multilateral context.

**Biodiversity:** A characteristic of an ecosystem that describes the diversity of life it contains, and directly correlates to the function and resilience of that ecosystem. Biodiversity is manifested at all levels of the organization and functioning of biological life, from the micro to the macro level, including genetic diversity, diversity of species, ecosystems and biomes, and cultural diversity

**Bioenergy Research and Demonstration Facility (BRDF):** UBC's plant that produces heat and electricity from biomass fuel, renewable natural gas, and conventional natural gas. The biomass fuel is gasified to create syngas that is burned to produce steam. The heat produced by the BRDF is distributed by the ADES to buildings in the form of hot water.

**Business As Usual (BAU):** Refers to a situational context or scenario that does not undergo any change; a scenario where no climate action is taken.

**Campus Operations Emissions:** Emissions generated through campus operations are defined as emissions from sources directly controlled and operated by UBC, including combustion of natural gas on campus (scope 1), and from upstream emissions from electricity consumed on campus (scope 2).

**Carbon Dioxide (CO<sub>2</sub>):** A naturally occurring gas that is also a by-product of the combustion of fossil fuels and biomass, land-use changes, and other industrial processes. It is the principal anthropogenic greenhouse gas. It is the reference gas against which other greenhouse gases are measured and therefore has a Global Warming Potential (GWP) of 1.

**CleanBC:** A plan developed by the British Columbia provincial government that sets 2030 climate goals through energy and industry emission reduction innovations and initiatives.



**Climate Action Plan (CAP):** A framework that provides a pathway to net zero emissions for the Vancouver campus. This was first initiated in 2010, and has been subsequently updated for 2020, and now 2030.

**Climate Adaptation:** An approach aimed to mitigate the suffering and destruction of climate change through adapting ecological, social, economic and physical environments to withstand threats such as rising sea levels, severe storms, higher temperatures and changes in rainfall patterns.

**Climate Justice:** A holistic approach to climate action that acknowledges the ways in which climate change and its consequences differently affect underprivileged and marginalized populations, compounding and exacerbating the existing inequalities they experience.

**Climate Justice Lens:** Recognizes responsibility and accountability for causes of climate change, the inequitable burdens of climate change impacts and an awareness of intersecting vulnerabilities, systemic and structural injustices. Climate justice might generally be thought of as advocating for what is right, fair, appropriate or deserved in relation to climate change drivers and impacts, including thinking about climate justice as forms and processes of distributive justice, procedural justice and restorative justice.

**Climate Mitigation:** A human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs).

**Climate Resilience:** The degree to which a socio-ecological system can withstand and adapt to the adverse effects of a changing climate.

**E3 Fleet Rating (E3):** A unique made-in-Canada rating program that evaluates and recognizes excellence in the green performance of vehicle fleets.

**Extended Impact Emissions:** Emissions occurring from activities that are not always fully controlled by UBC, but that the institution impacts and influences through purchasing decisions, plans, policies, guidelines, behavioral change programs, and others. These emissions are generally referred to as scope 3 emissions and include sources such as commuting to and from campus, business air travel, food consumed on campus, waste, and the embodied carbon associated with the construction of new buildings and retrofits.

**Global Warming Potential (GWP):** GWPs are particularly important within the context of emissions reporting since international protocols require the reporting of both individual GHGs and their carbon dioxide equivalents (CO<sub>2</sub>e). For this reason, the calculation of GHG emissions generally involves multiplying the emission factor for a GHG by an appropriate measure of consumption (activity) to produce the corresponding emissions for that GHG and then multiplying those emissions by its GWP to produce the corresponding CO<sub>2</sub>e emissions.

**Greenhouse Gas (GHG) Emissions:** Gases emitted from fuel combustion and other sources, that contribute to the greenhouse effect and global warming. This includes carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons.

**Heating, Ventilation and Air Conditioning (HVAC):** The system and technology of heating and cooling of buildings through heating, ventilation and air conditioning.

**International Sustainable Campus Network (ISCN):** An International forum that support higher education institutions in the exchange of information, ideas, and best practices for achieving sustainable campus operations and integrating sustainability into research and teaching.

**Renewable Natural Gas (RNG):** A biogas (or biomethane) that results from bacteria breaking down organic waste from sources such as landfills, agriculture and wastewater treatment facilities, and is upgraded to a quality similar to fossil natural gas. Because of its biological source, it is considered a carbon neutral energy source.

**Resilience:** An ongoing process of diverse, interconnected relationships and processes that activate and build up resilience-enhancing capacities within and across a community for short, medium and long term sustainability and wellbeing.

**Tonnes of Carbon Dioxide Equivalent (tCO<sub>2e</sub>):** The universal unit of measurement to indicate the global warming potential (GWP) of each of the six greenhouse gases, expressed in terms of the GWP of one unit of carbon dioxide. Expressing all GHGs in terms of tonnes of CO<sub>2e</sub> allows the different gases to be aggregated. The GWP of CO<sub>2</sub> equals one. Methane or CH<sub>4</sub> has a GWP of 25, indicating that its radiative forcing is 25 times that of CO<sub>2</sub>. In other words, releasing one tonne of CH<sub>4</sub> will have the same warming impact as releasing 25 tonnes of CO<sub>2</sub>. This impact is often expressed using the concept of carbon dioxide equivalent, or CO<sub>2e</sub>: that is, one tonne of CH<sub>4</sub> can also be expressed as 25 tonnes of CO<sub>2e</sub>.

**University Alliance for Sustainability (UAS):** An alliance between Freie Universität Berlin, the Hebrew University of Jerusalem (Israel), the Peking University (China), St. Petersburg State University (Russia), and UBC to focus on sustainability as a comprehensive topic for collaborating in research, teaching, and campus management.

**University Climate Change Coalition (UC3):** A coalition of North American research universities committed to climate action and cross-sector collaboration to accelerate local climate solutions and build community resilience.

**Zero Emissions Vehicle (ZEV):** A vehicle that has the potential to produce no tailpipe emissions. These can still have conventional internal combustion engines but must be able to operate without it. Some types of ZEVs are battery-electric, plug-in hybrid electric, and hydrogen fuel cell.

## Appendix

## Appendix A – CAP 2030 Resourcing Strategy

### Purpose and Objectives

The Resourcing Strategy will help enable implementation of CAP 2030, by providing an overall strategy and approach for resourcing the many actions and the resulting future projects and programs identified in the Plan.

It also defines the selection process for major projects, with project implementation considerations, financial planning considerations, and a preliminary overview of the types of funding needs and opportunities to support implementation of CAP 2030 actions.

Implementation planning and implementation of “quick start” actions is already underway, therefore this Resourcing Strategy can be utilized immediately. However, it is not static – CAP 2030 actions and projects will be developed, refined, and implemented over time; and the resourcing needs and opportunities will also evolve over time.

### Resourcing CAP 2030 is Critical

Realizing the bold vision and aggressive GHG reduction targets in CAP 2030 will require significant effort from across the university, and significant investments in innovative low carbon projects and programs. These necessary investments will challenge UBC’s current resourcing abilities. Innovative solutions will be needed not only in technology, but also in processes for planning and resourcing projects and programs.

Recently announced federal and provincial climate policy dramatically increases the cost of carbon pollution, exposing UBC to future carbon liabilities from its current operations to well over \$100 million<sup>1</sup>. Achieving our emission reduction targets will not only help protect the climate, but will also mitigate this carbon liability. Conversely, without continued aggressive action and investment, UBC will lose its leadership role on climate action, and forego the research and reputational benefits this brings.

### Guiding Principles and Approach

Moving forward, the guiding principles and approach outlined below should be utilized by UBC CAP 2030 stakeholders involved in planning and resourcing actions, projects and programs.

### Planning & Developing CAP 2030 Projects & Programs

- **Strategic priorities:** Alignment of CAP 2030 to advance UBC’s Strategic Priorities including: Strategic Plan: Shaping UBC’s Next Century (Operational Excellence), 20 Year Sustainability Strategy, Climate Emergency Declaration and Climate Emergency Task Force Report, Wellbeing Strategic Framework, Campus Plan, Green Building Action Plan, Zero Waste Action Plan, Transportation Plan, etc.

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<sup>1</sup> Estimate based on multiplying UBC’s remaining emissions by the Federal Governments proposal of an [escalating carbon price](#), increasing by \$15/year from 2023 and reaching \$170/tonne in 2030.

- **Achieve multiple objectives:** CAP 2030 projects should seek to strategically advance multiple objectives at the same time wherever possible, such as research into clean technology solutions, coordination with existing infrastructure updates, and enhancing campus climate adaptation, resiliency, health and wellbeing and the biodiversity of campus ecosystems.
- **Prioritize and phase projects strategically:** Recognizing that UBC has many competing priorities for resourcing, focus primarily on projects that achieve significant GHG reductions and other co-benefits relative to level of effort and resourcing, applying a rigorous review process. Resourcing can be distributed over time by strategically phasing projects and initiatives, building on incremental successes.
- **Leverage capacity across UBC:** To minimize incremental costs and new funding needs, plan projects and programs to leverage existing human and financial resources wherever possible, building capacity and integrating CAP 2030 priorities into mainstream activities. Use a decentralized approach to allow units that are best positioned to take the lead and implement specific CAP projects and programs, and play a leading role to identify resourcing needs and seek funding opportunities. Pursue opportunities that leverage UBC's intellectual resource assets in ways that integrate applied research opportunities for students and faculty to advance CAP priorities (e.g. SEEDS).
- **Position UBC and CAP 2030 projects for funding and partnership opportunities:** Identify and scope a pipeline of high impact projects to set UBC up in a strong position for funding and grant opportunities as they emerge. Additionally, projects will consider how UBC can help achieve the objectives of governments and other funding entities, e.g., help demonstrate new decarbonization solutions to help advance objectives of CleanBC and federal climate priorities.
- **Prioritize funding needs:** Prioritize identification and sequencing of CAP 2030 funding needs that are high visibility/demonstratable, low administration, high impact/GHG reduction, and high engagement (students & community).

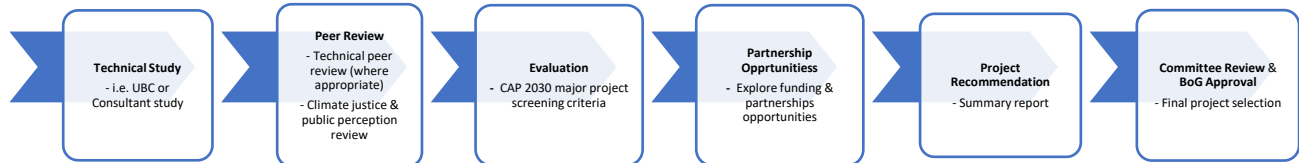
### Major Project Review & Selection Process

Before selecting projects and pursuing resourcing, major CAP 2030 projects (i.e. major decarbonization projects above \$5 million) will be reviewed against a set of assessment criteria to ensure projects align with CAP 2030/climate emergency declaration goals, maintain institutional reputation and mitigate financial/operational risks.

- Screening criteria include:
  - GHG emissions reduction
  - Reputation, brand and identity (helps to elevate UBC's leadership and innovation, amplifies our role as agent of change, attracts academic and professional expertise to the university, etc.)
  - Social license: climate justice and public perception, input from stakeholder groups including the Climate Hub
  - Financial performance: Life Cycle Costing (capital and operational expenditures), with application of UBC's Internal Carbon Pricing on operational expenditures (see next section)
  - Maturity of technology (Technology Readiness Level: TRL)
  - Site footprint (space required for implementation)

- Environmental impact (exclusive of GHG emissions, e.g., public health, and biodiversity impacts (ecological connectivity / ecosystem structure)
- Policy and legislative risk, e.g., future potential for provincial recognition of carbon capture under B.C.'s Climate Change Accountability Act

The CAP 2030 Major Project Review & Selection process will consist of a number of phases as illustrated in Figure 1 below:



**Figure 1 – CAP 2030 Major Project Review & Selection Process**

### Financial models and analysis

- **Identify cost savings and financial benefits:** Decarbonization projects often come with higher upfront costs, but can potentially enable operational savings from lower energy consumption or fuel costs. For example, UBC achieved over **\$22 million in energy savings since 2014** as a result of energy conservation projects completed by Energy and Water Services (EWS); investments in the Academic District Energy System will save the university an estimated **\$13 million per year** in energy and carbon costs by 2030.<sup>2</sup>
- **Integrate internal carbon pricing:** In some cases, projects to reduce GHG emissions may not have acceptable financial paybacks using existing financial analysis models. But going forward, investment decisions will apply Life Cycle Costing (LCC) to operating expenditures over the lifespan of the project and fully factors in accelerating government and other carbon costs to the energy supply component of operational expenditures. Utilizing the proposed Internal Carbon Pricing (ICP) in conjunction with LCC (as outlined in UBC's Internal Carbon Pricing Policy Guideline) will help identify the best projects to achieve UBC's GHG reduction targets – both major projects and smaller projects.
- **Address decentralized savings:** Many CAP 2030 actions can lead to university wide cost savings, such as reducing air travel with virtual alternatives, programs for reusing furniture and equipment assets, and optimizing space use in buildings to avoid new building projects. However, a key challenge to realizing these savings is that currently no unit can make a business case for advancing such projects, as the costs are concentrated in the unit running the program, while the savings are often distributed

<sup>2</sup> This considers today's energy rates net of carbon prices (\$6.50/ GJ natural gas, \$85/ dry tonne of biomass) and already announced implicit and explicit carbon pricing policies for 2030 (\$170/tCO<sub>2</sub>e federal carbon price, \$25/tCO<sub>2</sub>e public sector offset requirements, and an estimated \$45/tCO<sub>2</sub>e for the CleanBC Renewable Gas Mandate).



across other units. UBC should develop new and innovative financial and accounting models/mechanisms to overcome this barrier.

### Funding and partnerships

- **Lower the costs of borrowing:** The cost of borrowing is often a major barrier for capital intensive projects, including clean energy projects. While the cost of capital has never been cheaper, UBC often can't access money at market rates. To address this, UBC should engage its partners in the BC Government to test possible solutions to this issue, and explore other opportunities for low cost financing.
- **Engage with external partners:** UBC should continue to develop and nurture partnerships with the federal, provincial, and local governments, as well as with BC's major utilities, emphasizing opportunities for UBC to help support and inform the priorities of these partners, such as low carbon district energy solutions and decarbonizing buildings.
- **Focus on efficient funding sources:** Given the effort required and complexity of many external funding processes and reporting requirements, UBC should assess the effort vs. potential benefits and focus on opportunities that have a larger chance of success.
- **Get creative:** There are likely many other opportunities that will arise as CAP 2030 is implemented from an initial plan into concrete projects and programs over the next nine years. New and innovative approaches to resource and operationalize CAP 2030 will be critical, and sometimes this will require UBC staff and stakeholders to work outside traditional comfort zones. Leveraging interdisciplinary research partnerships internally will also expand funding opportunities.

### Potential financing opportunities

Potential opportunities to explore include but are not limited to:

- **UBC fundraising programs:** Explore potential fundraising projects or campaigns, e.g., to UBC's alumni and donor network, to help set up UBC as a leading low-carbon community.
- **UBC Sustainability Revolving Fund:** explore expansion of fund criteria to enhance decarbonization opportunities.
- **Canada Infrastructure Bank:** Continue discussions to assess the feasibility of debt financing for buildings and infrastructure projects.
- **Government Funding Opportunities:** Continue to monitor and investigate other existing and emerging federal and provincial government funding opportunities, aligning with resourcing needs.

### CAP 2030 implementation & resourcing outline

While investments are required to implement the CAP 2030 actions, some actions will have a positive return in investment, similar to past CAP projects such as the BRDF that had strong financial performance. The approach for operationalizing the CAP actions is summarized below:

- **Overall:** the investments in CAP2030 will help create teaching, learning and research (TLR) opportunities, attract research and innovation interest and funding, and positively impact campus wellbeing, UBC reputation and leadership and other co-benefits.
- **Capital projects** (new buildings) to be designed to new low carbon standards
  - o Use updated Life Cycle Costing (LCC) approach that incorporates ICP as a tool and guideline for decision making
  - o Research indicates this should have a positive long-term business case and co-benefits – however will entail higher capital costs
  - o The higher capital costs will impact project budgets, which will entail tough decisions. It will be critical to develop innovative solutions to support funding and avoid potential cutting of the high performance and low carbon components.
- **Building decarbonization retrofits**
  - o Similar to above, projects to use LCC with ICP to guide decision making on a case by case basis
  - o Depending on the project, low carbon retrofits may increase capital costs, and business cases will not always be positive
  - o Projects can be prioritized to leverage equipment end of life, address other building issues, and achieve co-benefits
  - o External/government funding will be sought to support these projects wherever possible
- **District energy low carbon solutions**
  - o Detailed feasibility study will recommend option(s)
  - o Costing studies will follow, and lead into the CAP 2030 Major Project Selection & Review process
  - o External/government funding will be sought to support these projects wherever possible
- **Extended impact emissions**
  - o Initial funding for first 2 years will focus on program scoping, development, capacity building across units and initial deployment
  - o Leverage existing UBC resources wherever possible, and leverage external funding whenever available
  - o Work toward clear outcomes
  - o Explore alternative funding models for future years

The following Table provides additional information, including general funding needs by type, opportunities to mitigate costs and improve the business case, and some potential funding sources that will inform CAP 2030 funding asks and resourcing going forward. The funding opportunities will evolve over the coming months and years as CAP implementation advances.

Project type & funding needs	Cost mitigation & business case considerations	Potential funding sources
<b>1. Operations: Infrastructure &amp; Buildings</b>	<ul style="list-style-type: none"> <li>• Reduce carbon liabilities created by escalating external carbon costs</li> <li>• Each project evaluated on a case by case basis</li> <li>• Apply LCC with ICP for decision making</li> </ul>	
<b>A. District Energy low carbon energy supply (e.g., large</b>	<ul style="list-style-type: none"> <li>• Diversify energy supply to reduce supply risk</li> </ul>	<ul style="list-style-type: none"> <li>• BC Hydro contributions to decarbonization studies</li> </ul>

<p><b>scale heat pumps, thermal storage)</b></p> <p>One or several major projects 2025 - 2030</p>	<ul style="list-style-type: none"> <li>CAP 2030 Major Project Review &amp; Selection Process</li> </ul>	<ul style="list-style-type: none"> <li>Government grants – e.g. federal</li> <li>Research funding and Campus as a Living Lab opportunities</li> </ul>
<p><b>B. Existing Building Decarbonization Retrofits</b></p> <p>5-10 retrofit projects, 2022 – 2030+</p>	<ul style="list-style-type: none"> <li>Leverage and align with other retrofit needs: deferred maintenance, seismic upgrades, heating equipment end of life</li> <li>Avoid installing new fossil fuel-based equipment: more cost effective than retrofitting equipment prior to end of life (i.e. a new natural gas boiler is likely to need retrofitting before end of life to meet our GHG goals)</li> </ul>	<ul style="list-style-type: none"> <li>Clean BC</li> <li>Utility incentives/partnership</li> <li>Sustainability Revolving Fund &amp;/or future Green Fund</li> <li>Future Provincial funding related to Step Code</li> </ul>
<p><b>C. New Building Incremental Capital Costs (to meet GHG targets)</b></p> <p>2022+</p>	<ul style="list-style-type: none"> <li>Avoid installing new fossil fuel equipment</li> </ul>	<ul style="list-style-type: none"> <li>Explore funding models – e.g., develop an internal low carbon/green building fund</li> </ul>
<p><b>D. Funding for Community Energy &amp; Emissions Plan (CEEP) update</b></p>	<ul style="list-style-type: none"> <li>To provide planning and focus for GHG reduction and adaptation in UBC's Residential Neighbourhoods</li> </ul>	<ul style="list-style-type: none"> <li>GPO/central funding for 1 Project Manager and consulting budget for a period of 2 years</li> <li>Utility incentives &amp; funding</li> </ul>
<p><b>E. Permanent funding for existing term positions: Climate Action Planner and Green Labs Lead</b></p> <p>2022+</p>	<ul style="list-style-type: none"> <li>Climate Action Planner oversees Climate Change Accountability Reporting (regulatory), manages CAP and facilitates implementation</li> <li>Green Labs includes operational energy conservation and extended impacts emission reduction initiatives, leading to operational cost savings</li> </ul>	<ul style="list-style-type: none"> <li>GPO/central funding</li> </ul>
<p><b>2. Extended Impacts Programs</b></p>		
<p><b>A. Scope and establish new programs</b></p> <p>Program development &amp; coordination, communications planning, capacity building, engagement and communications support</p>	<ul style="list-style-type: none"> <li>Opportunities for cost savings/avoided costs – e.g., business air travel</li> <li>Leverage and integrate within existing staff resources wherever possible</li> </ul>	<ul style="list-style-type: none"> <li>GPO/central funding needed for core program development and capacity building</li> <li>Potential opportunities for alternate funding models – e.g., user fees for furniture/equipment reuse program</li> </ul>
<p><b>B. Business air travel</b></p> <p>Engagement and behavioural change campaigning - Sustainable Travel Program with a goal to reduce UBC's Staff &amp; Faculty business related GHG emissions</p> <p>Emissions tracking and annual reporting:</p>	<ul style="list-style-type: none"> <li>Reduced travel costs across departments i.e. a 45% reduction in annual travel would result in approximately \$10m in annual travel savings</li> <li>IT A/V upgrades to enable more virtual and hybrid activities have already started and may be funded already - TBD</li> </ul>	<ul style="list-style-type: none"> <li>GPO/central funding</li> <li>Future potential for offsets fund</li> </ul>

<ul style="list-style-type: none"> <li>- Integration with existing IT systems (e.g. Workday) &amp; processes</li> </ul>		
<p><b>C. Climate Friendly Food Systems (CFFS)</b></p> <p>1.Continuation of critical core project management to advance research to practice/policy:</p> <p>a)CFFS initiative development and implementation:</p> <p>b) Continuation and launch of new applied student research and development costs that produce demonstrable outcomes</p> <p>2. Operational Costs to support CFFS menu offerings</p> <p>3.Communications and Engagement -campaigning</p> <ul style="list-style-type: none"> <li>- Emissions tracking and annual reporting: Integration with existing business processes</li> </ul>	<ul style="list-style-type: none"> <li>• Helps maintain UBC's leadership position and global sustainability reputation</li> <li>• Significant co-benefits on other intersectional campus sustainability and wellbeing commitments, including human and ecological health and wellbeing.</li> <li>• Opportunities to leverage and highlight student-led research and interdisciplinary partnership opportunities that use CLL, contribute to key UBC Strategic Plan strategies including: interdisciplinary education, practical learning, student research, thriving communities, public relevance and knowledge exchange (e.g. SEEDS/Food Systems Project/Food Security Initiative)</li> <li>• Financial savings from capturing/recovering value of rescuable lost and wasted food</li> </ul>	<ul style="list-style-type: none"> <li>• GPO/central funding</li> <li>• Future potential for alternative funding sources</li> <li>• Internal/External research grants</li> <li>• CLL funding and resources</li> <li>• Resourcing opportunities from other planning and policy processes that support mutual/synergistic priorities (i.e. ZWAP Update, Wellbeing Strategic Framework)</li> </ul>
<p><b>D. Commuting</b></p> <p>Sustainable transportation program staff &amp; operating budget</p> <p>Program costs: to be offset by proposed parking levy</p>	<ul style="list-style-type: none"> <li>• Commuting emissions are the largest extended emissions area, with campus energy decarbonization these will become the largest source of emissions under a BAU scenario.</li> <li>• Significant impact on campus wellness for active transportation modes.</li> <li>• Efficient land use, as over time less space will need to be reserved for parking</li> </ul>	<ul style="list-style-type: none"> <li>• Proposed Sustainable Transportation parking levy to generate funding</li> </ul>
<p><b>E. Waste &amp; materials</b></p> <p>Reuse program administration costs; build and expand program incrementally based on KPIs</p> <p>Other waste-related costs TBD pending update to Zero Waste Action Plan</p>	<ul style="list-style-type: none"> <li>• Reuse generates savings to departments; could generate net savings to UBC</li> <li>• Potential revenue generation for some components</li> </ul>	<ul style="list-style-type: none"> <li>• GPO, and/or user pay to distribute some costs to departments (but must avoid dis-incentivizing departments from participating)</li> </ul>
<p><b>3. Complimentary Opportunities</b></p> <p><b>A. Climate Resilience &amp; Nature-Based Adaptation Solutions</b></p>	<ul style="list-style-type: none"> <li>• Nature-based solutions to climate mitigation and adaptation (through biodiverse ecosystems and ecosystem services like shading, carbon sequestration) present a low-</li> </ul>	<ul style="list-style-type: none"> <li>• Campus Vision 2050</li> <li>• Internal/External research grants</li> <li>• Campus as a Living Lab funding and resources</li> </ul>

	<p>cost alternative for climate action</p> <ul style="list-style-type: none"> <li>• Climate resilient ecosystems require less maintenance and irrigation, thus lowering operational costs to maintain campus landscapes.</li> <li>• Student-led research and interdisciplinary partnerships (e.g. SEEDS/CBIRD/CCUB) to highlight and leverage opportunities to maintain and enhance urban biodiversity</li> </ul>	
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## Governance and Process

The CAP 2030 will require incremental funding over the 10-15 year horizon of the plan. The plan identifies strategic priorities and projects that are phased and calibrated to achieve demonstrable impacts and leverage external funding opportunities as they arise.

1. **Implementation planning:** Informed by the guiding principles and approach outline earlier, continue to develop, prioritize and refine a range of cost estimates and investment needs for CAP 2030 priority actions and projects.
2. **Engage OSSC:** The Operational Sustainability Steering Committee holds significant institutional knowledge and connections. The CAP 2030 project team will continue to engage the OSSC in vetting and guiding the implementation and resourcing of major CAP actions and projects.
3. **Start conversations with UBC Development and Alumni Engagement Office & the President's Office:** The UBC Development and Alumni Engagement Office provides an opportunity to explore innovative approaches to support CAP 2030 resourcing.
4. **Continue and refine conversations with potential utility, government and other partners:** In addition to the CAP 2030 team, work with units involved in implementation to leverage the distributed approach to resourcing described earlier.

## Appendix B – CAP 2030 Unit Accountability Framework

### Context and purpose

Sustainability is a core value of UBC's Strategic Plan. Climate action grounded in climate justice is strategic priority of the university, and defining metrics and targets are critical tools for advancing climate action.

CAP 2030 requires a 'whole of university' distributed approach whereby every unit has a role and responsibility in ensuring it is integrating climate action into its day to day decision making, work programming and business processes.

The Framework provides a mechanism and process for UBC units to report on their progress and achievements toward UBC's Climate Action Plan 2030 Board-approved targets. It can be a process, an action, an activity, a physical space or piece of infrastructure, or even a program that is measured over time and can help evaluate progress from an existing condition or baseline).

The Framework is similar in concept to BC's Public Sector Climate Change Accountability Reports, which PSOs including UBC submit to the Province annually to report on progress toward carbon neutrality, but for UBC internally (the largest PSO emitter in BC).

### Who would submit the reports?

Departments or business units that are leading or playing significant roles in actions identified in the CAP 2030. These units have already been involved in development of the CAP actions.

### How would the process work?

- The CAP 2030 team/Campus & Community Planning would provide guidance and tools to units for confirming CAP 2030 actions, creating simple unit action plans, and reporting
- The unit confirms their committed actions, ideally by completing a unit action plan
- The unit director/manager agrees to integrate the assigned actions into work plans /programs with allocation of staff time and resources to ensure actions are advanced
- The unit manages and advances implementation of the actions internally
- The unit completes and submits a Climate & Sustainability report annually, likely in the months following fiscal year end.

### What would be in the report?

- Definition and scope of responsibility of that unit
- Progress and status of actions committed by the unit
- Identification of success factors, barriers or limitations, and recommendations or requests to enable increased progress.



- Key performance metrics, where applicable (identified in the unit action plan). These may be quantitative or qualitative, as appropriate and based on what can be reported easily and efficiently; qualitative elements could also include stories or case studies.
- Updated priority action plan for the following year.

### **Governance: who are units accountable to?**

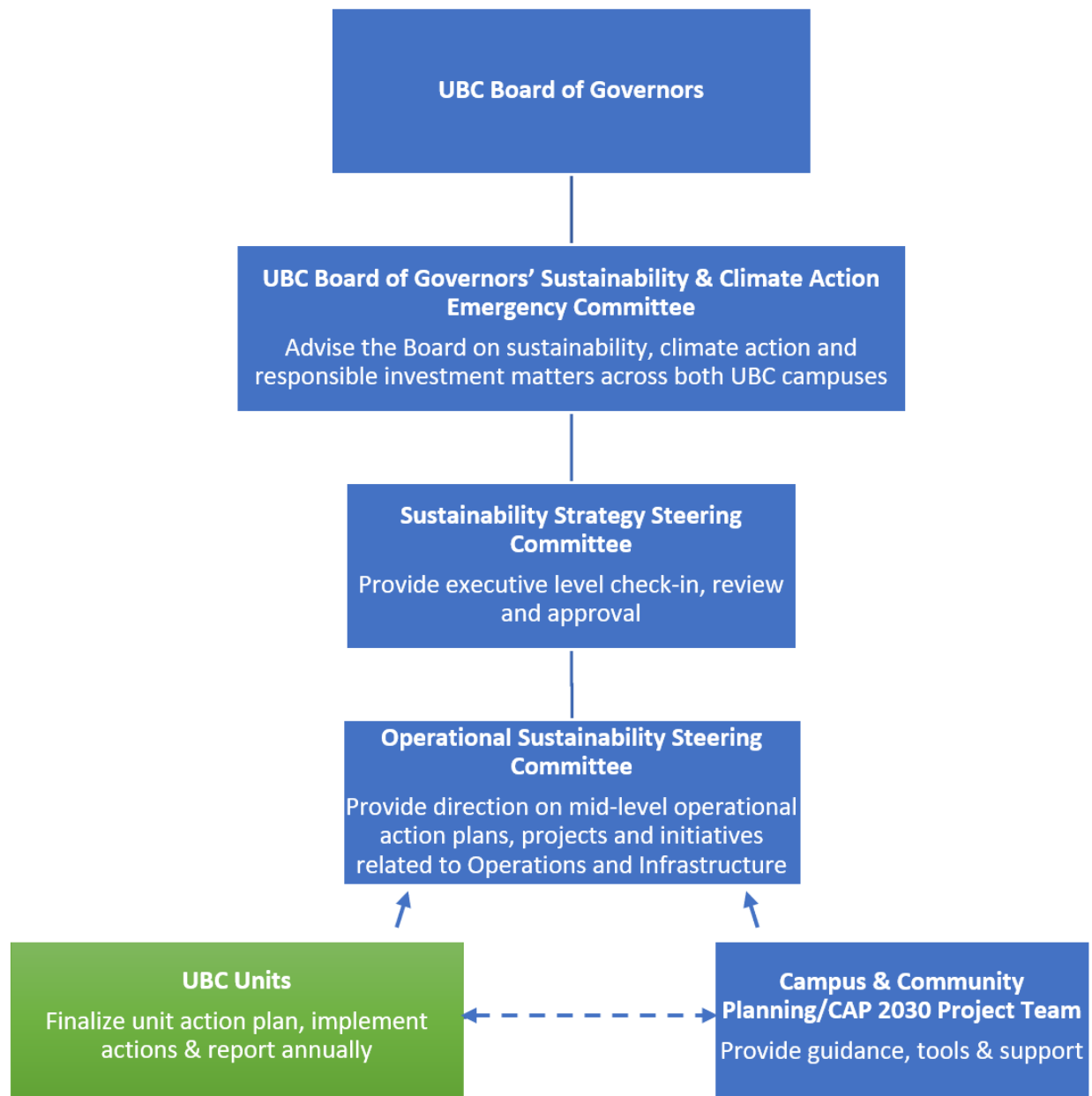
- Units would be accountable to the Operational Sustainability Steering Committee (proposed), to whom the annual reports would be submitted
- Refer to the Governance Chart in Figure 1 for more information.

### **Co-benefits and opportunities**

- Recognition and celebration of achievements by units or people demonstrating leadership and exemplary performance
- Supporting external sustainability reporting such as the Annual Sustainability Report and the emerging online sustainability metrics dashboard.

### **Related Policies and Programs**

Campus & Community Planning are also developing a complementary program to enable campus-wide, ground-level engagement on climate action and sustainability, with an anticipated launch in 2022. The program will serve as a clear roadmap for collective climate action, offering a customizable but standardized pathway for different groups within the UBC community (e.g. workplace units, laboratories, clubs) to prioritize and implement discrete, achievable actions to support UBC's sustainability and climate goals as well as concurrent institutional climate action.



**Figure 1 - Governance Chart – Unit Accountability Framework**

## Appendix C – UBC Internal Carbon Pricing Policy Guidelines

### Purpose

This document serves to guide low carbon decision making on capital investments and renewals to align with UBC Climate Action goals related to greenhouse gas (GHG) reduction, in addition to the provincial government's CleanBC Plan and Carbon Neutrality Act. In addition to GHG savings, implementation of Internal Carbon Pricing (ICP) will reduce UBC's exposure to future escalation of external carbon pricing, both federal and provincial, related to infrastructure decision making (primarily the external carbon pricing component within operating costs from energy consumption). The major users of this document would include project managers and consultants engaged in capital projects and renewals on both the Point Grey and Okanagan campuses.

### Types of Applicable Business Decisions

The value of applicable GHG emissions – through an internal shadow price – will be incorporated into lifecycle cost analyses for the following UBC projects or initiatives (Scope 1 and 2). Projects and initiatives have been calibrated to the UBC Green Building Action Plan (GBAP) Institutional Tier System where applicable:

UBC Project / Initiative	GBAP Tier
Energy supply decisions for buildings (e.g., utilities) including, but not limited to, natural gas, liquid petroleum products, propane, biomass, and electricity; applicable to both new and existing buildings and the district energy system (DES), e.g., the value of GHG emissions would be incorporated into decision-making related to switching to a different energy source	NA
Mechanical equipment renewal decisions, e.g., replacing a boiler or connecting to the DES	5
Energy conservation projects, e.g., building energy retrofits, programming and controls changes	4/5
New capital project planning, i.e., new, large projects with significant costs, such as new academic building	1/2
Building renewal projects, i.e., system renewal and large-scale building retrofits	3
Fleet purchases	NA

### Methodology

The ICP calculation is to be added as an additional criterion in capital and renewal decisions. All applicable analyses using lifecycle costing must include the carbon cost component – presented separately – associated with forecasted emissions stemming from a project, and must be embedded as a cost component in the schedule of cash flows. This can be accomplished in one of two ways:

1. As current lifecycle costing analyses account for existing provincial carbon taxes and offset mechanisms, the itemized breakdown would be replaced with a single carbon cost line which would equal the ICP price level. In this scenario, all existing and future external pricing instruments would be consolidated into this single line, and would therefore not be listed again as separate line items in the schedule of cash flows (see Example 1 below).
2. The status quo breakdown of carbon cost items would remain in place, with an additional line item added – representing the notional portion of the internal carbon price – which would equal the delta between the sum of all external carbon pricing instruments and the UBC internal carbon price level (see Example 2 below).

Irrespective of the scenario, the sum of all carbon costs must equate to the internal carbon price level. Individual users can exercise discretion with respect to the level of granularity of the carbon cost breakdown. It should also be noted that users must ensure that all relevant utility rates (including RNG) being used for forecasting do not have carbon costs included in them (i.e., commodity, delivery, and applicable taxes only). The UBC ICP should be applied to the same scope of GHG emissions as the BC Provincial Offsets, rather than the BC Carbon Tax (which applies to combustion sources only).

#### Example 1: Consolidating all carbon costs into one cost line, 2022

UBC Internal Carbon Price in 2022 (Only Cost Line)	\$250 per tonne of CO <sub>2</sub>
<i>Inclusive of:</i>	
UBC Shadow Price	\$175 per tonne of CO <sub>2</sub>
BC Provincial Carbon Tax	\$50 per tonne of CO <sub>2</sub>
BC Provincial Offset	\$25 per tonne of CO <sub>2</sub>

**Example 2:** Itemized breakdown of all carbon costs, 2022

BC Provincial Carbon Tax	\$50 per tonne of CO <sub>2</sub>
BC Provincial Offset	\$25 per tonne of CO <sub>2</sub>
UBC Shadow Price (\$250 - \$50 - \$25)	\$175 per tonne of CO <sub>2</sub>
<b>Total Carbon Cost in 2022</b>	<b>\$250 per tonne of CO<sub>2</sub></b>

As Example 1 illustrates, an internal carbon price of \$250 per tonne of CO<sub>2</sub> is inclusive of all current and UBC-relevant carbon pricing policies. In this example, as a lifecycle cost model is developed, the only cost component to be reflected in the schedule of cash flows for 2022 would be \$250 per tonne of CO<sub>2</sub>; as such, a separate cost line for the BC Provincial Carbon Tax or the BC Provincial Offset would not be included, otherwise the figures would be double-counted and therefore erroneously inflate the financial projections. On the other hand, as Example 2 shows, in this scenario all the carbon cost items are itemized, with an internal notional price of \$175 added in order to bring the total up to \$250 per tonne of CO<sub>2</sub>. Again, irrespective of the scenario, the total carbon cost remains the same.

The interface between new federal carbon taxes and existing provincial carbon taxes is unclear at this point; whether the federal carbon tax is superimposed on the existing BC carbon tax or if the BC carbon tax is raised to meet the federal standard remains to be determined. Irrespective of the outcome, the UBC internal carbon price will be inclusive of all federal and provincial instruments – i.e. it represents a total carbon price ceiling. With respect to the implicit costs associated with carbon regulations under the CleanBC strategy (e.g., the Renewable Gas Standard), the UBC internal carbon price will be inclusive of carbon costs associated with said regulations until they are adequately reflected in the respective utility rates.

**Price Level**

The UBC internal carbon price level is set at \$250 per tonne of CO<sub>2</sub>. The ICP price of \$250 / tonne was set to help UBC mitigate future financial risk in future carbon regulations (forecasted to escalate to around \$250 by 2030) and to provide a solid business case to shift capital investments to low-carbon options. The ICP price has been informed by leading practice by local, regional and federal governments.

The pricing level will continue to be in place unless all federal and provincial policies and regulations exceed the UBC ICP price level in a given year, at which point, the carbon price will simply equal the sum of all applicable external pricing instruments (see Example 3 below). For cash flows corresponding to years beyond 2030, the UBC internal carbon price will be held flat at \$250, i.e., \$250 per tonne of CO<sub>2</sub> in 2031, \$250 per tonne of CO<sub>2</sub> in 2032, etc., assuming the sum of all government policies do not exceed this amount, otherwise the latter amount will supersede the \$250 value. A mid-point check-in for reassessing the pricing level is proposed for the 2023-2025 period. This check-in will seek to determine potential price escalation beyond 2030, if still required.

All associated cash flows will be discounted at a rate of 5.75%, consistent with UBC cost of capital and general principles underscoring UBC financial projections.

**Example 3:** External pricing instrument escalation and implications on UBC internal carbon price

	<b>Scenario A: lower external price escalation</b>	<b>Scenario B: higher external price escalation</b>
Year	2026	2026
UBC Internal Carbon Price (\$ per tonne of CO <sub>2</sub> )	<b>\$250</b>	<b>\$250</b>
All External Pricing Policies, Sum Of (\$ per tonne of CO <sub>2</sub> ):	<b>\$160</b>	<b>\$260</b>
BC Provincial Carbon Tax	\$50	\$130
Incremental Federal Carbon Tax	\$60	\$80
BC Provincial Offset	\$25	\$25
Renewable Gas Mandate	\$25	\$25
<i>Applicable Carbon Price (\$ per tonne of CO<sub>2</sub>)</i>	<b>\$250</b>	<b>\$260</b>

As Example 3 illustrates, the applicable carbon price incorporated into lifecycle costing analyses will be the greater of the price as per the UBC internal carbon pricing level above or the sum of all federal and provincial pricing policies and regulations for that given year. In Scenario A of this example, since the sum of all external instruments only equals \$160, the carbon price of \$250 is applied – as per the UBC internal pricing level – to achieve federal and provincial climate targets for 2030. In Scenario B, all external instruments render a value (\$260) that exceeds the corresponding UBC internal pricing

level (\$250), and would therefore supersede it. In such an escalation scenario, UBC would re-assess the internal carbon pricing policy to determine if it would be necessary to increase to achieve its Climate Action Goals. If the external pricing instruments help achieve UBC's goals, then the ICP would no longer apply.

### **Decision-Making Process**

The results of lifecycle costing analyses with an internal carbon price must be interpreted in concert with broad-based institutional factors (e.g., available project funding); in other words, the decision is rarely clear cut, and would be considered among a broader set of decision-making criteria. When developing project budgets, it is critical to factor the impact of carbon pricing on proposals, as well as the alignment to institutional strategic goals and climate action targets.

To assist with decision-making, several scenarios have been presented for consideration. It should be that the 'proxy component' of the total internal carbon price refers to the portion of the carbon price that raises the sum of all external pricing instruments to the \$250 UBC shadow price on carbon:

Scenario	Impact of Internal Carbon Pricing	Decision
Scenario 1	The results of a lifecycle costing analysis point to the low carbon solution as being the lowest cost, with or without the proxy component of the total carbon price.	UBC should pursue the low carbon solution, for both environmental and financial reasons.
Scenario 2	The results of a lifecycle costing analysis point to the low carbon solution as being the lowest cost with the proxy component of the total carbon price, but not the lowest cost without the proxy component.	UBC should pursue the low carbon solution, for both environmental and long-term financial reasons.
Scenario 3	The results of a lifecycle costing analysis point to the low carbon solution as not being the lowest cost, with or without the proxy component of the total carbon price.	Generally, given the financial implications of such a result, UBC does not necessarily have to pursue the low carbon solution. Again, UBC can exercise discretion and choose the low carbon solution if it was needed to achieve emission reduction targets or if other associated benefits could be realized.

**Business Case Example for Illustrative Purposes**

Analysis of the following case study, illustrates the impact of an internal carbon price on the decision to replace a natural gas boiler (like-for-like) in the Robert F. Osborne Centre (OSBO), or to connect to the Academic District Energy System (DES) altogether. A decision was made to replace the boiler, like-for-like. However, when accounting for the impacts of climate change using ICP, the decision would favour connecting to the DES, instead.

As Table 1 demonstrates, ICP is added to the energy price<sup>1</sup> which increases the total energy costs depending on the fuel sources and consumption. The present value of this energy cost in concert with the present value of capital expenditures and maintenance cost renders a lifecycle cost that is more indicative of the true cost of the decision over a 15-year time span. Figure 1 shows that without an internal carbon price, the decision would favour a like-for-like replacement; with an internal carbon price applied, however, the decision favours switching to the DES. In this case, with an internal carbon price applied, the present value of all costs to switch to the DES is approximately \$136K, i.e. incorporating ICP provides a positive business case (Net Present Value = \$136K) for switching to the DES compared to a like-for-like natural gas boiler replacement.

It should be noted that ICP, as a proxy price, does not directly entail money changing hands, it provides clarity as to which option may be chosen. In this case, the option to switch to the DES incurs higher initial capital expenditures compared to like-for-like replacement (\$323K vs. \$582K); however, considering all costs (capital, energy and maintenance costs), switching to the DES is more favorable.

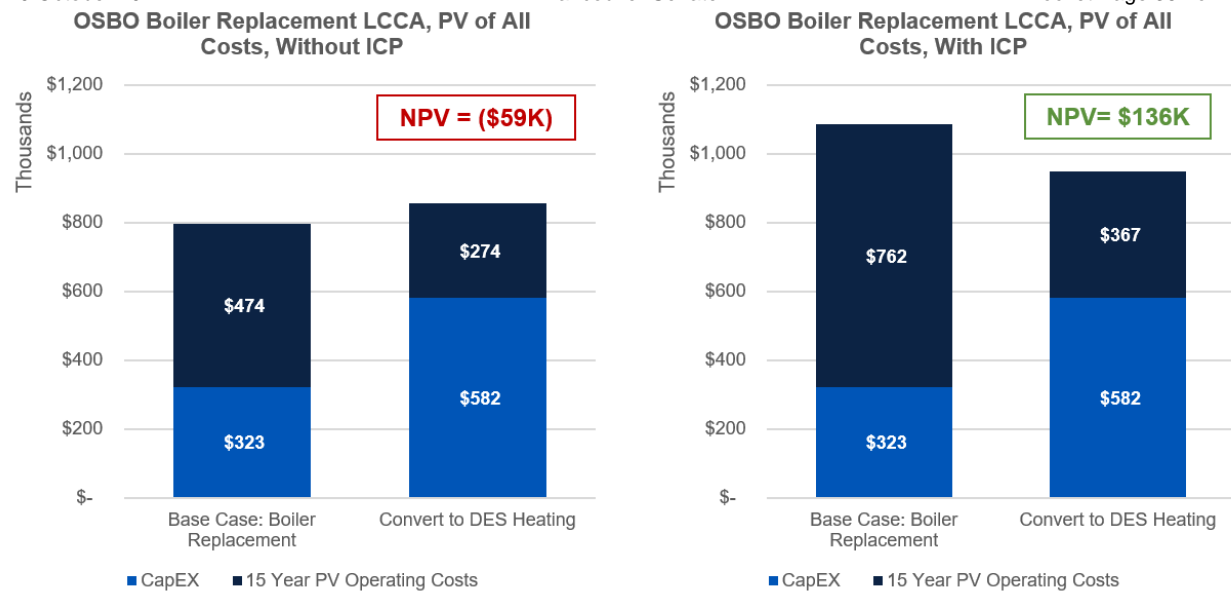
**Table 1: Energy Cost Comparison of Options for the Robert F. Osborne Centre (OSBO)**

FY2021 Energy Rate (\$/GJ)	Option 1: Natural Gas Boiler Like-for-Like Replacement	Option 2: Switch to DES	
	Natural Gas Rate 25	Natural Gas Rate 22	Biomass
Energy Price (\$/GJ)	7	6	4
Provincial Carbon Tax (\$/GJ)	2	2	0
Carbon Offset (\$/GJ)	1	1	0
ICP Net of Provincial Carbon Tax <sup>2</sup> (\$/GJ)	6	6	0
Total Energy Rate without ICP (\$/GJ)	10	9	4
Total Energy Rate with ICP (\$/GJ)	16	15	4
Energy Consumption (GJ/Year)	3,220	1,038	2,292

<sup>1</sup> Inclusive of carbon offset.

<sup>2</sup> Equals to the lifecycle carbon intensity of each fuel multiplied by carbon price. For illustrative purposes, this business case is based on the following assumptions: carbon price is \$250/t-CO<sub>2</sub>e in FY20 inclusive of provincial carbon tax, escalated by \$5/year; provincial carbon tax is \$40/t-CO<sub>2</sub>e in FY20, \$45/t-CO<sub>2</sub>e in FY21, and \$50/t-CO<sub>2</sub>e afterwards; both options include existing provincial carbon tax; commodity prices inclusive of delivery and taxes.





**Figure 1:** Present Value of Total Cost Comparison of Options for the Robert F. Osborne Centre (OSBO)

*Note: PV of operating costs = PV of energy cost + PV maintenance costs*



# UBC Vancouver Climate Action Plan 2030

## Public Engagement Summary Report

June 2021



THE UNIVERSITY OF BRITISH COLUMBIA

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FIRST AND FOREMOST, WE HEARD BROAD SUPPORT, INTEREST AND PASSION ABOUT UBC'S CLIMATE AND SUSTAINABILITY AGENDA. IT WAS CLEAR FROM THE SUBMITTED FEEDBACK THAT THE UBC COMMUNITY IS ALREADY VERY ENGAGED IN A DIVERSITY OF CLIMATE-FRIENDLY INITIATIVES AND HAS MANY CREATIVE AND INNOVATIVE IDEAS FOR HOW THEY AND THE UNIVERSITY CAN CONTINUE TO SUPPORT THE REGION IN CLIMATE LEADERSHIP.....

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## Executive Summary

### Climate Action Planning at UBC

In December 2019, [UBC declared a climate emergency](#), which included a commitment to accelerate the reduction of emissions at UBC Vancouver and UBC Okanagan. A key step is UBC's development of a Climate Action Plan 2030 (CAP 2030) for both campuses.

CAP 2030 at UBC Vancouver is building on earlier [climate action plans](#) and successes in climate change mitigation and action, which have resulted in significant emissions reductions from core operations. However, CAP 2030 is enabling UBC to accelerate the pathway to becoming net zero through clean energy solutions and energy-efficient technologies, as well as identifying new ways to reduce emissions in areas that every university community member has influence over including commuting, food, waste, and business air travel.

[Emerging directions and draft targets for CAP 2030](#) were presented to the Board of Governors in February 2021. The final CAP 2030 will be presented to the Board of Governors in November 2021 and will incorporate direction from the Board of Governors, refinement of targets and actions through on-going studies, as well as input received through public engagement.

### CAP 2030 Public Engagement

From March 29 – April 16, 2021, UBC's Campus and Community Planning held a university-wide engagement process on CAP 2030. This engagement process was an opportunity for UBC community members to learn about the emerging CAP 2030, ask questions, and share perspectives. Engagement took place on both UBC campuses; however, this report focuses on the Vancouver campus. Please visit [here](#) for more information about the UBC Okanagan CAP 2030 engagement.

### Engagement Activities

We heard from a total of **764 participants** through three virtual engagement activities:

- **Online Survey (627 participants):** The online survey was a chance for the UBC Vancouver campus community to submit feedback about the CAP 2030 emerging directions and targets as well as provide insights about the barriers and opportunities for climate action on campus.
- **Virtual Open Houses (92 participants):** Two virtual open houses were held for the Vancouver campus community to connect with the CAP 2030 team over Zoom, watch a presentation and have a Q&A with UBC staff and the planning project team.
- **Speaker Event (45 participants):** A cross-campus staff event was held over Zoom and included small breakout sessions for staff to have detailed discussions on the CAP 2030 emerging directions and targets.

## What We Heard

Through our online survey and virtual events, we heard feedback from participants about the emerging CAP 2030, and the barriers and opportunities for climate action on campus. Feedback was focused specifically around five areas focused on indirect emissions (called “extended impacts”): (1) engagement, (2) commuting, (3) UBC business-related air travel, (4) climate-friendly food systems, and (5) waste. The main themes that we heard during the CAP 2030 public engagement are summarized in the infographic and paragraphs below, with more detailed information in the Appendices at the end of this report.



### Support for UBC Continuing to be a Climate Leader

First and foremost, we heard broad support, interest and passion about UBC’s climate and sustainability agenda. It was clear from the submitted feedback that the UBC community is already very engaged in a diversity of climate-friendly initiatives and has many creative and innovative ideas for how they and the university can continue to support the region in climate leadership.



### **Support for a Hybrid Approach to Working and Learning**

The top comment we received overall was strong support from UBC students, faculty, and staff for a hybrid approach to working and learning following the COVID-19 pandemic. Participants felt strongly that a mixture of remote and in-person activities was the best way to reduce greenhouse gas emissions from commuting, while contributing positively to individual health and wellbeing.



### **Promote Climate Justice, Fairness and Affordability**

Another theme we heard was about ensuring aspects of equity, fairness, and justice are integrated across all CAP 2030 focus areas. This theme was related to a number of topics, such as sustainable divestment, Indigenous partnerships, and acknowledging the intersectionality of climate change impacts. Additionally, students emphasized the need for climate actions that are affordable.



### **Encourage a Climate-Friendly Culture Shift**

There was significant interest amongst participants to use CAP 2030 to incite a culture shift towards more climate-friendly actions and behavior. Feedback included the desire for UBC leadership to lead by example (especially around air travel), holding UBC partners and vendors to a high environmental standard, and strong support for systemic UBC change, in addition to individual behavior change.



### **Design for Long-Term Climate Impact**

A final theme heard from participants was about designing our campus buildings and green spaces to be adaptive to climate changes over the long-term. Notably, feedback surrounded landscape stewardship, green space protection, and thermal comfort considerations for buildings.

## **Next Steps**

The ideas and feedback collected from this public engagement process about the emerging CAP 2030 directions and targets, in combination with further technical work to refine the targets and actions, will inform the final CAP 2030 to be presented to the Board of Governors in November 2021.



## Appendix I – Engagement Process Summary

### Engagement Process

The UBC Vancouver Climate Action Plan 2030 public engagement was held March 29 – April 16, 2021. Community members participated through an online survey, virtual open houses and a virtual Hot Lunch cross-campus staff event.

This engagement process was guided by Campus and Community Planning's [Engagement Principles](#) laid out in the Engagement Charter. These ten principles define how we engage the public and campus community in the planning and development of our campus, as well as collaborating and partnering on community programs and services.

In total, **764 people participated** in this engagement, either attending the virtual events and/or completing the online survey. Our engagement summary is as follows:

- **92 people** attended a virtual public open house via Zoom.
- **627 people** completed the online survey.
- **45 people** participated in the Hot Lunch staff event.

The online survey questions and detailed feedback analysis are included in Appendix II and verbatim survey responses are included in Appendix III.

### Online Survey

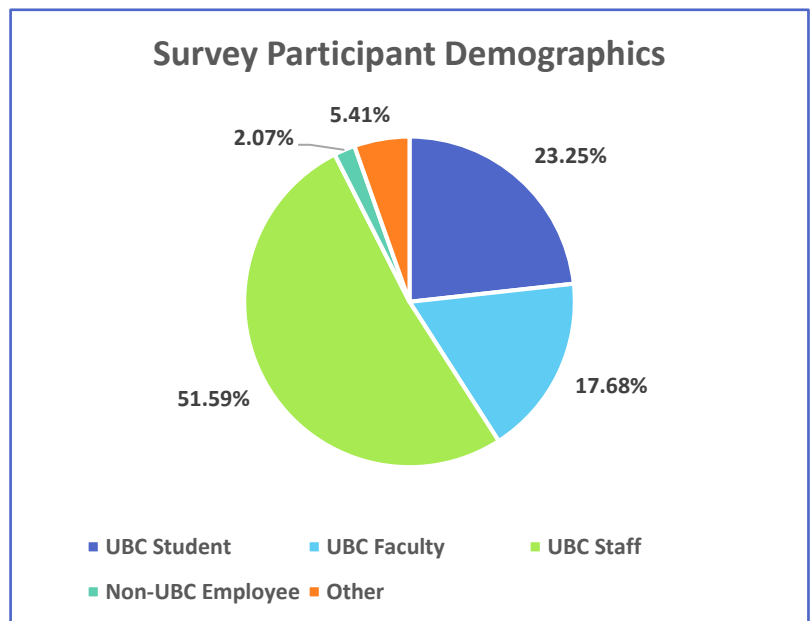
The online survey was a chance for the Vancouver campus community to submit feedback about CAP 2030 emerging directions and targets, as well as provide insights about the barriers and opportunities for climate action on campus. The majority of survey respondents were UBC staff (52%) and UBC students (23%).

### Virtual Open House

The virtual public open houses were held on March 30 and April 7, 2020 over [Zoom](#). These events started with a 20-minute CAP 2030 presentation, but then were drop-in style events where participants met for a Q&A with UBC staff and the planning project team.

### Speaker Event

The public engagement process was also supplemented with a Hot Lunch speaker event, where John Madden, Director of Sustainability & Engineering at Campus + Community Planning, presented an overview of CAP 2030. This event was held over Zoom on March 31, 2021 and included small breakout sessions for staff to have detailed discussions on the CAP 2030 emerging directions and targets.





## Appendix II – Detailed Survey Results

This section outlines what we heard from the Vancouver Climate Action Plan 2030 online survey that was conducted between March 29 – April 16, 2021.

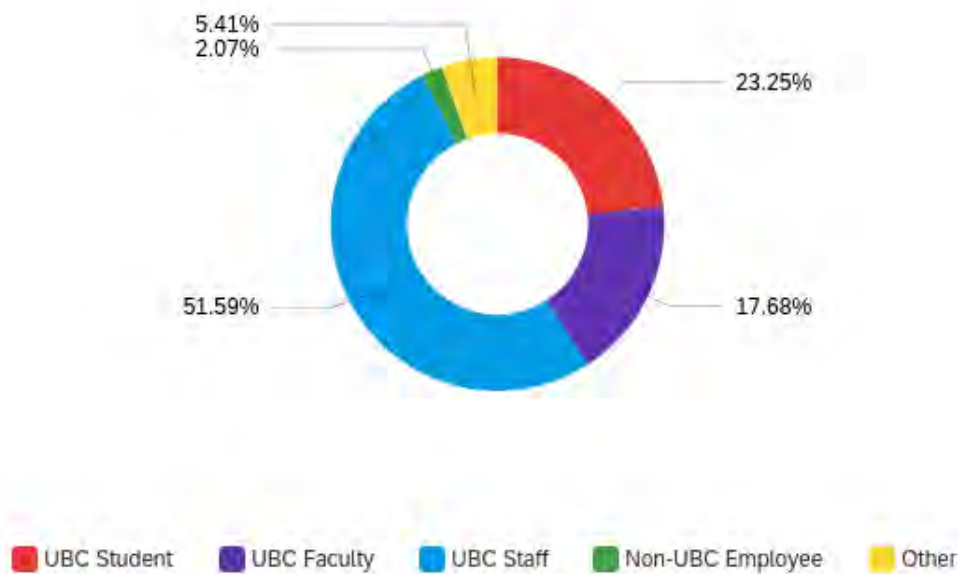
Both qualitative and quantitative feedback were collected through the online survey. The quantitative feedback is summarized below in a number of different charts and visualizations. This data was collected through multiple choice and Likert scale questions, with options to add text entries under “Other” for most questions. It is important to note that most questions had the option to “select all that apply,” so percentages of responses will not sum up to 100%.

The qualitative verbatim responses collected were reviewed and themed according to the sentiment of each comment. Top themes for open-ended survey questions are highlighted in the tables at the end of this Appendix. These include themes with an occurrence rate of 5% or more of the total number of comments for each question.

The top themes heard in the following charts and tables were collected and analyzed to develop the key takeaways for what we heard in the Executive Summary of this report. Responses to multiple choice, ranking and “other” text entry questions were combined with open-ended question responses to identify the top opportunities and barriers to specific climate actions for the Vancouver campus.

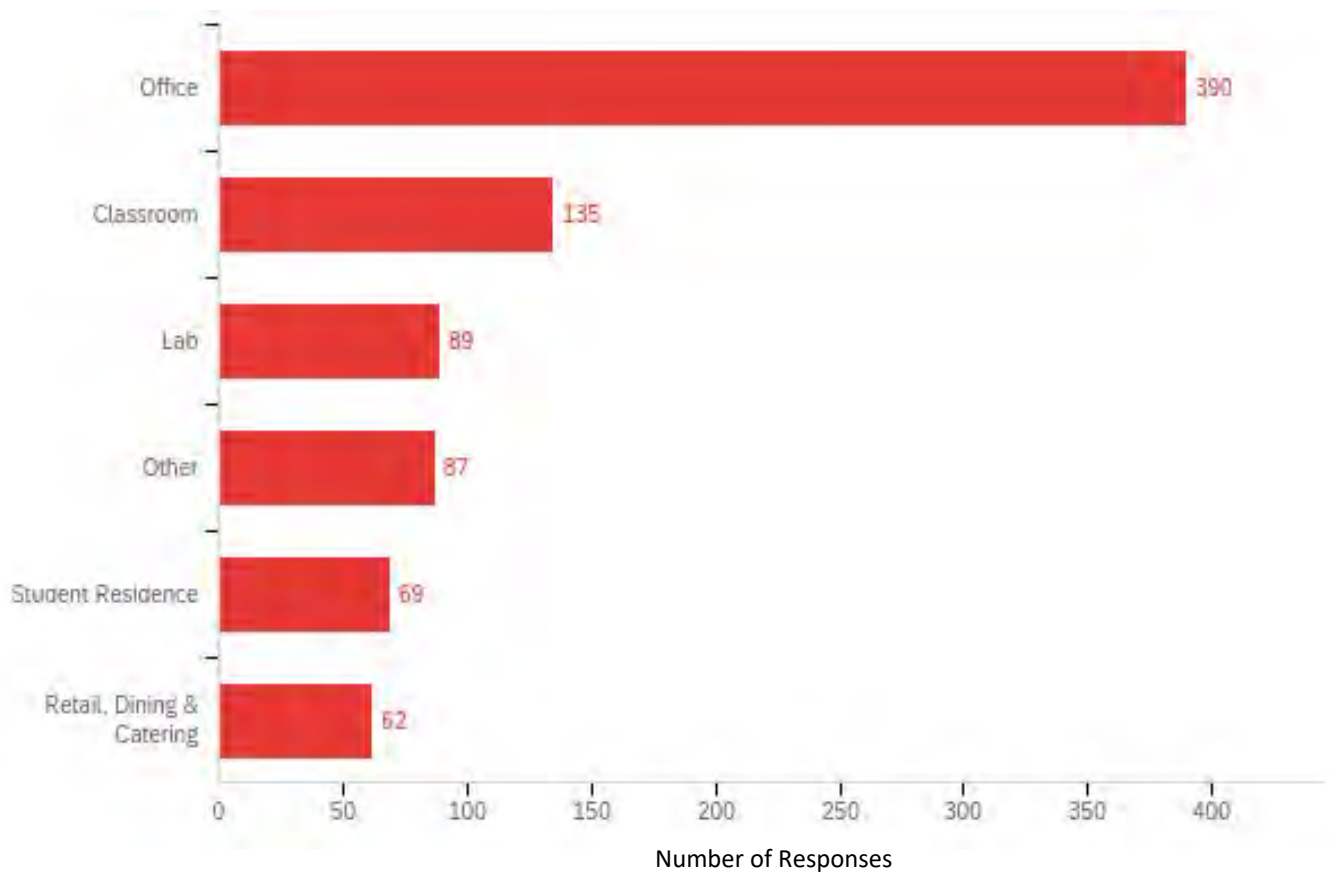
### Section 1: Demographics

#### 1. What is your primary connection to UBC?



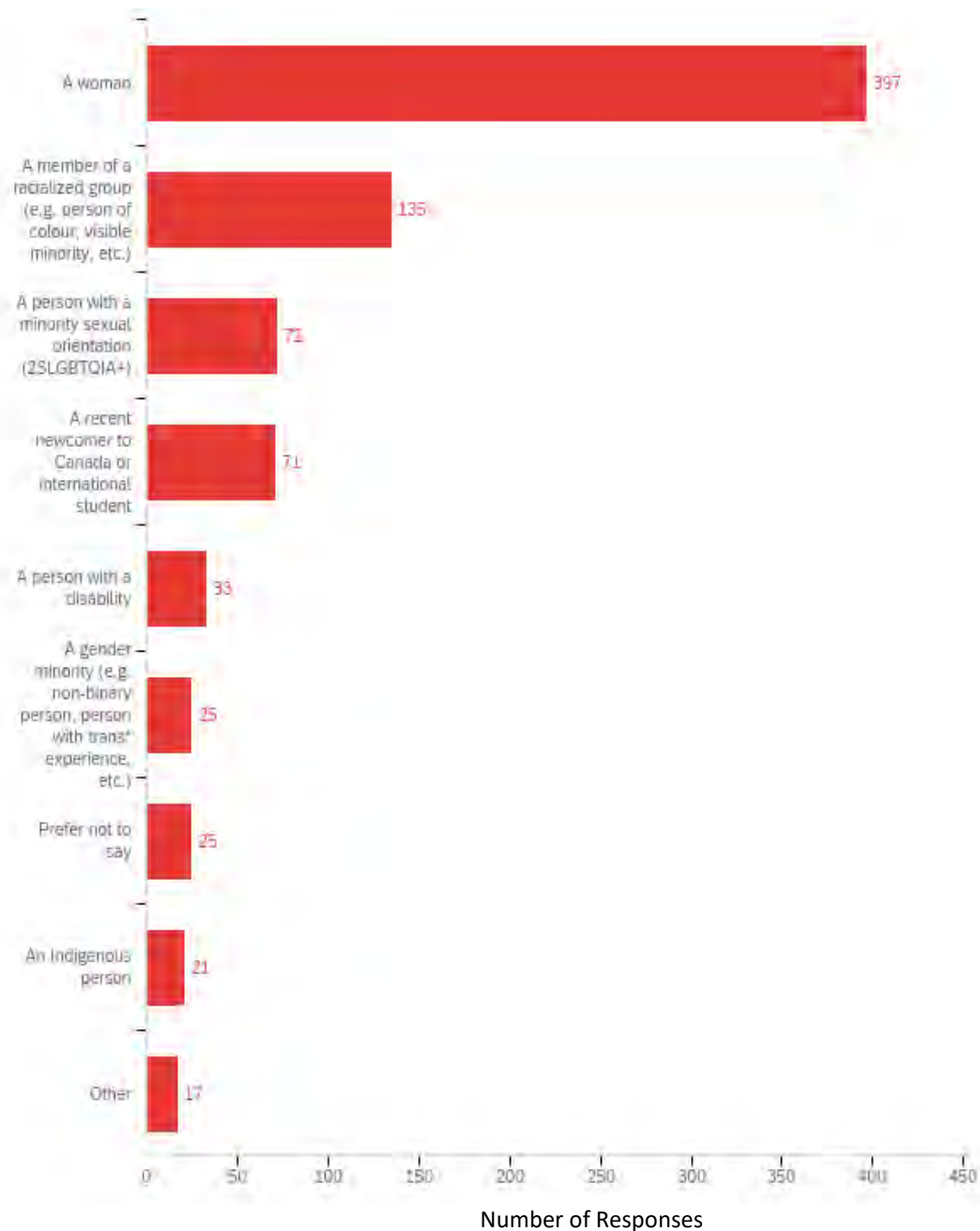
Other: Alumni, multiple affiliations and emeritus professors.

**2. When not based remotely due to COVID, where do you spend the majority of your time on campus? (Select all that apply)**



Others: Library, retired/home, recreation facilities, hospital.

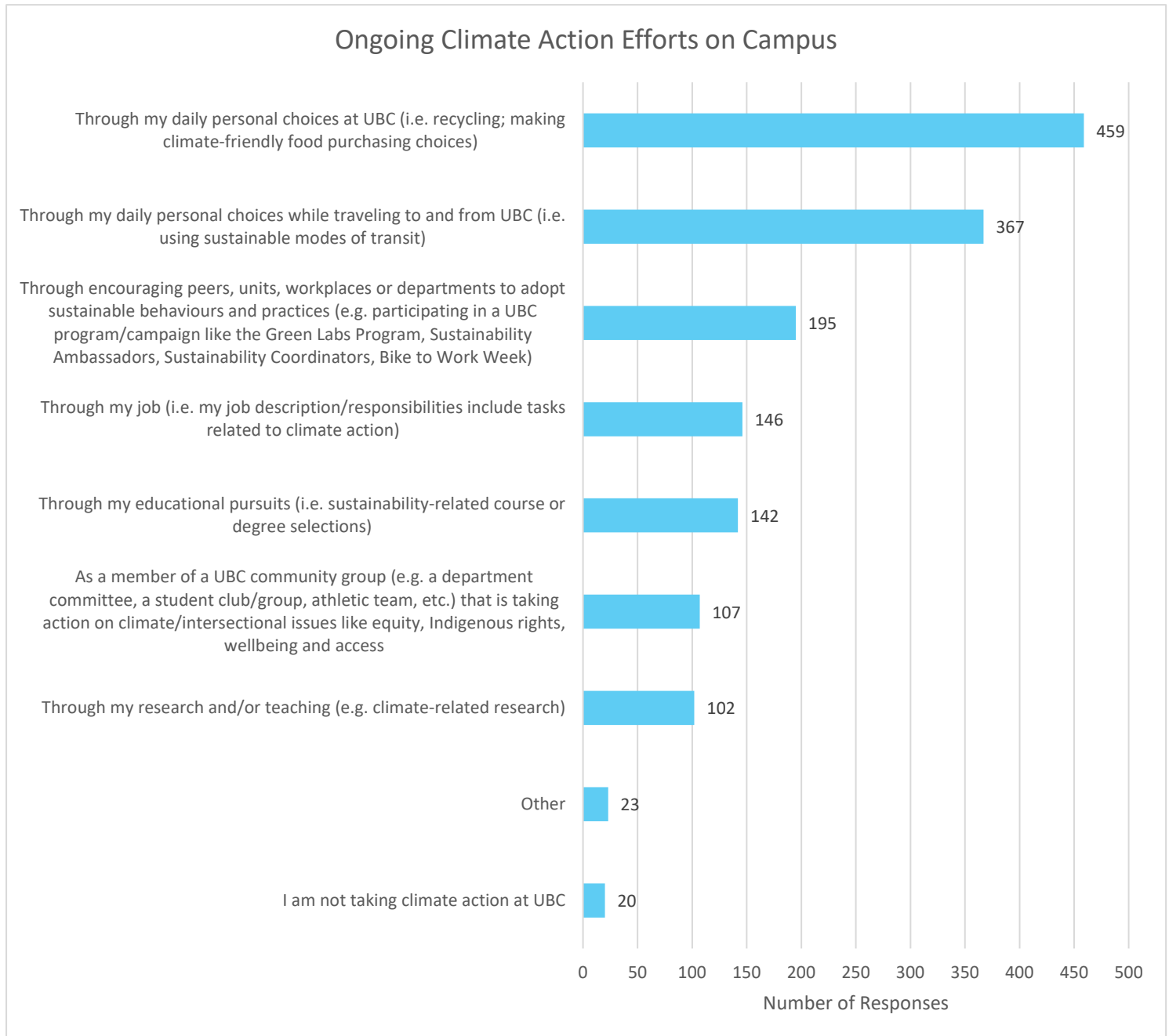
- 3. UBC is interested in knowing whether the voices of groups who have been historically, persistently, or systemically marginalized are represented in this engagement process. Do you self-identify as (select all that apply):**



Others: Mental and physical health issues, mothers and carers.

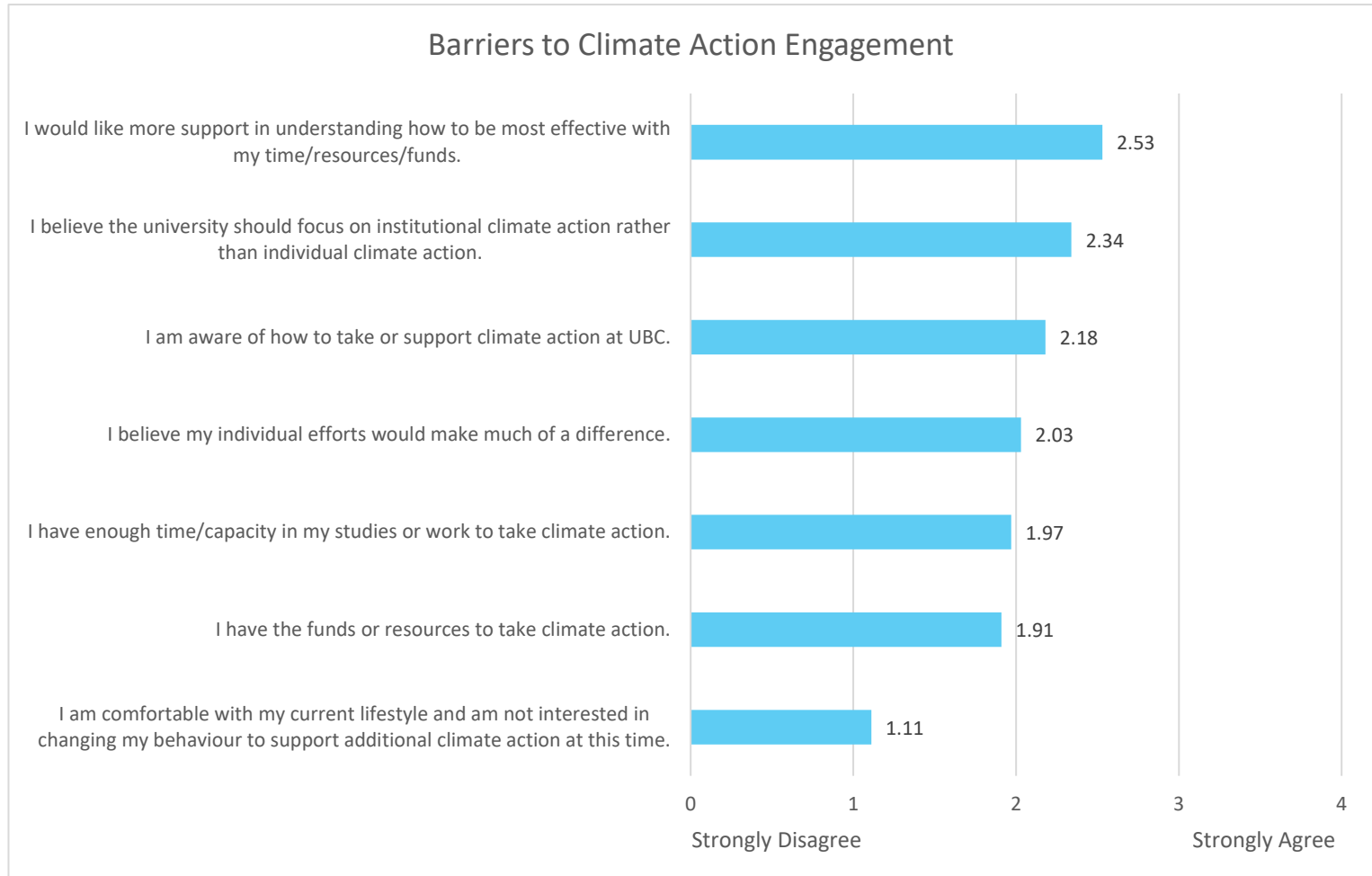
## Section 2: Engagement

### 1. We recognize that many efforts to address the climate crisis are already ongoing across UBC's campus. How have you been taking climate action and/or supporting others to take climate action at UBC? (Select all that apply)



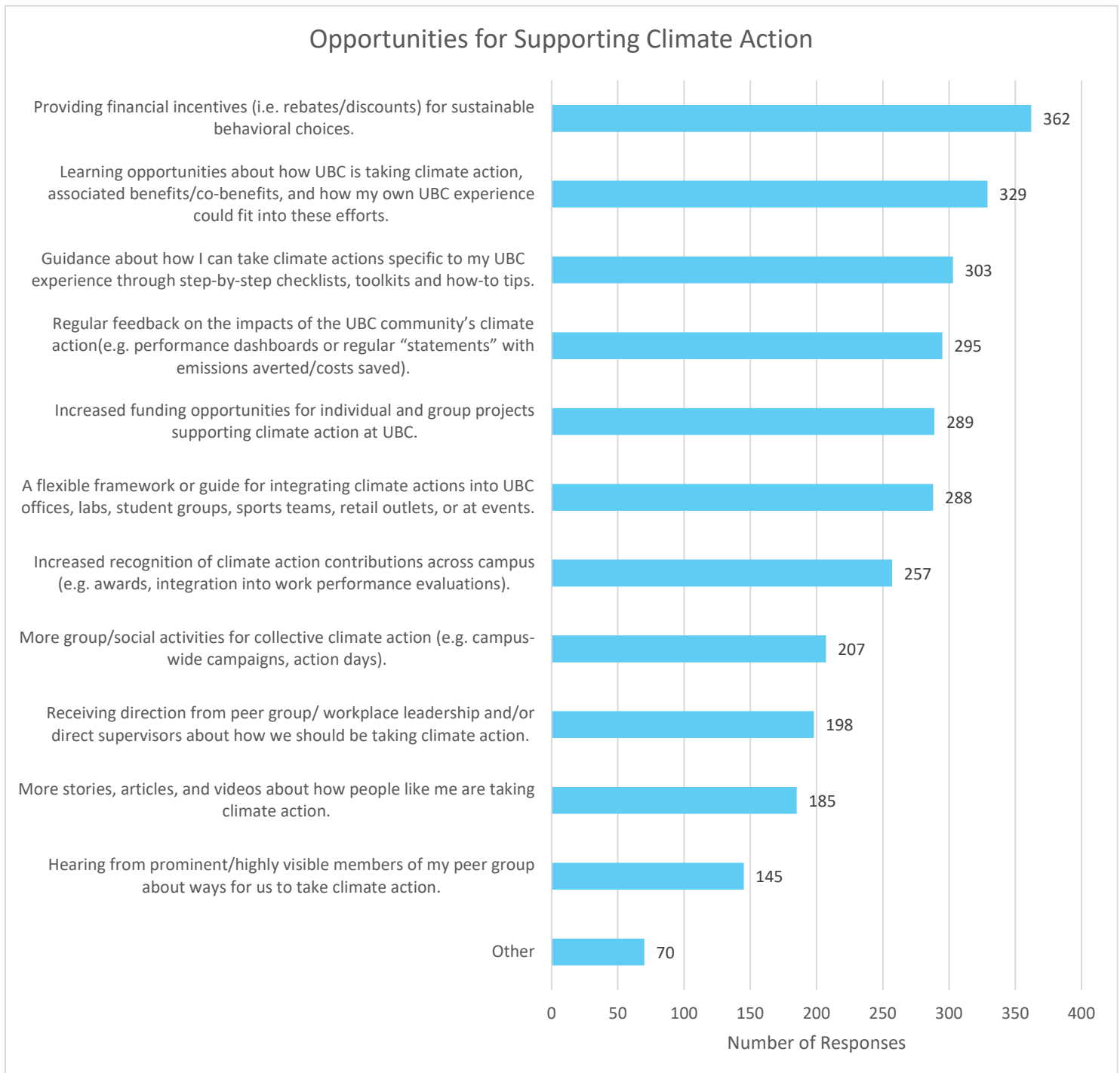
Other: Shop at UBC Farmers Market, participate in campus campaigns and rallies, supporting others to make climate friendly choices, working from home,

**2. To help us understand the barriers (all/if any) to taking general climate action at UBC that you have experienced, how much would you agree or disagree with the following statements (0=Strongly disagree, 4=Strongly agree):**



Other: Change needs to include levels of government, divestment, green jobs training, university needs to implement institutional actions in addition to actions by individuals, UBC leadership should lead by example.

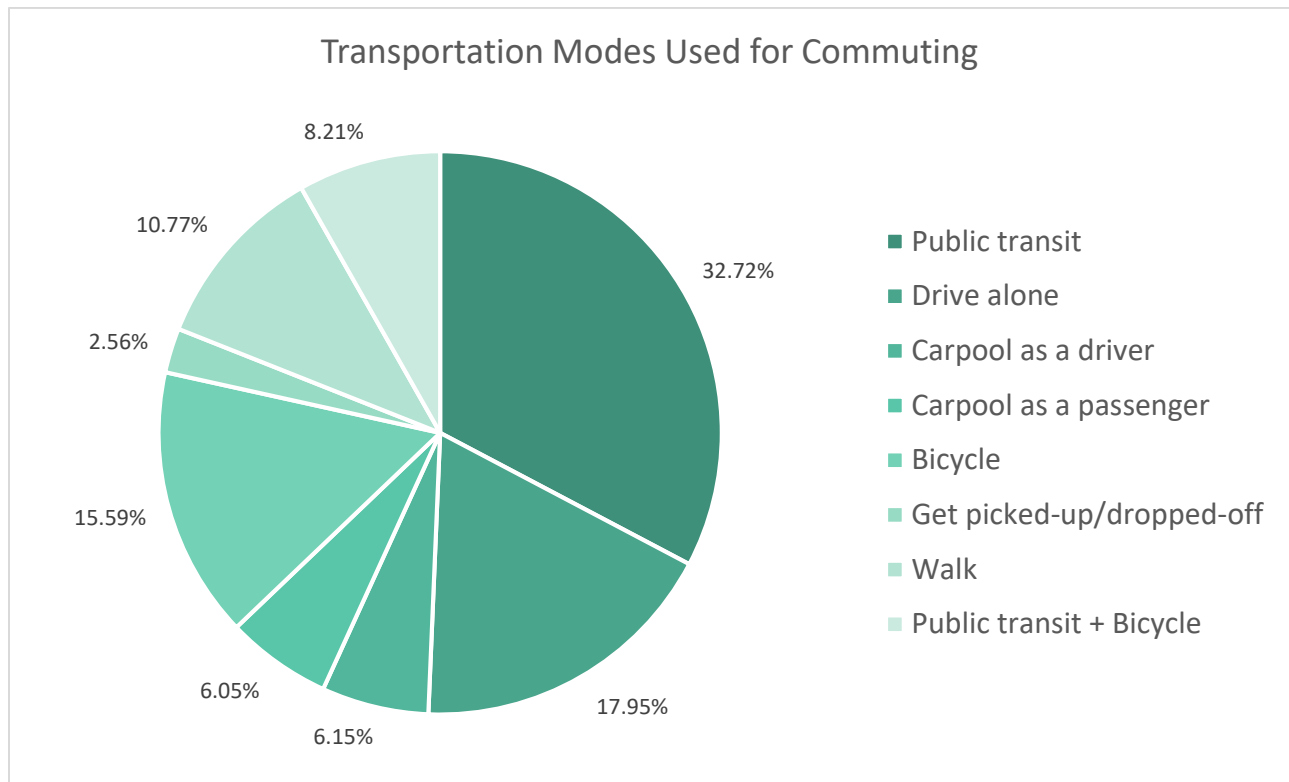
### 3. Which of the following options would be helpful in supporting you to take climate action at UBC? (Select all that apply)



Other: Encourage working from home, more plant-based food options, funding for climate research and carbon neutral infrastructure, clearer information about how to get involved.

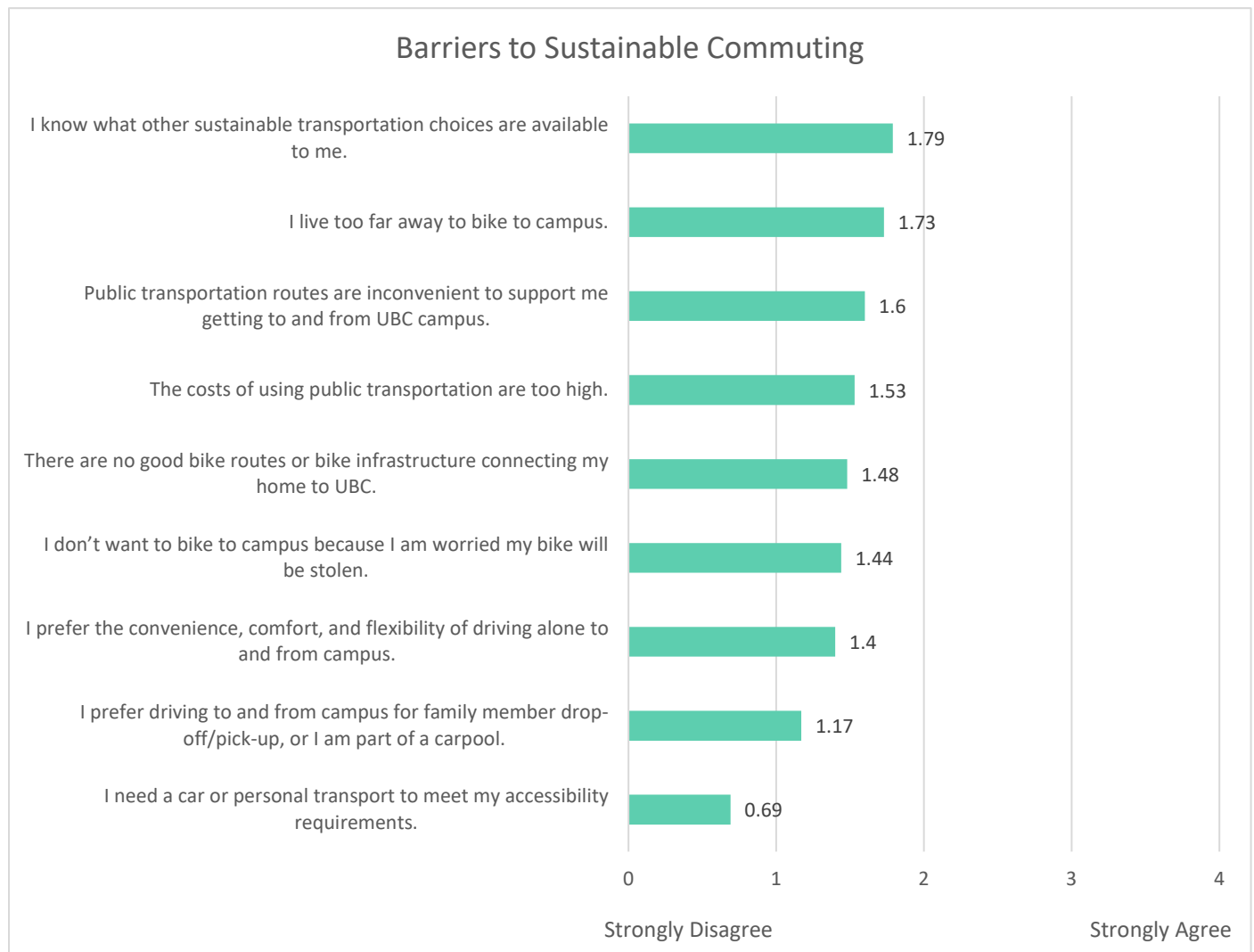
## Section 3: Commuting

1. Pre-COVID, which modes of transportation did you use to commute to and from campus? (Select all that apply)



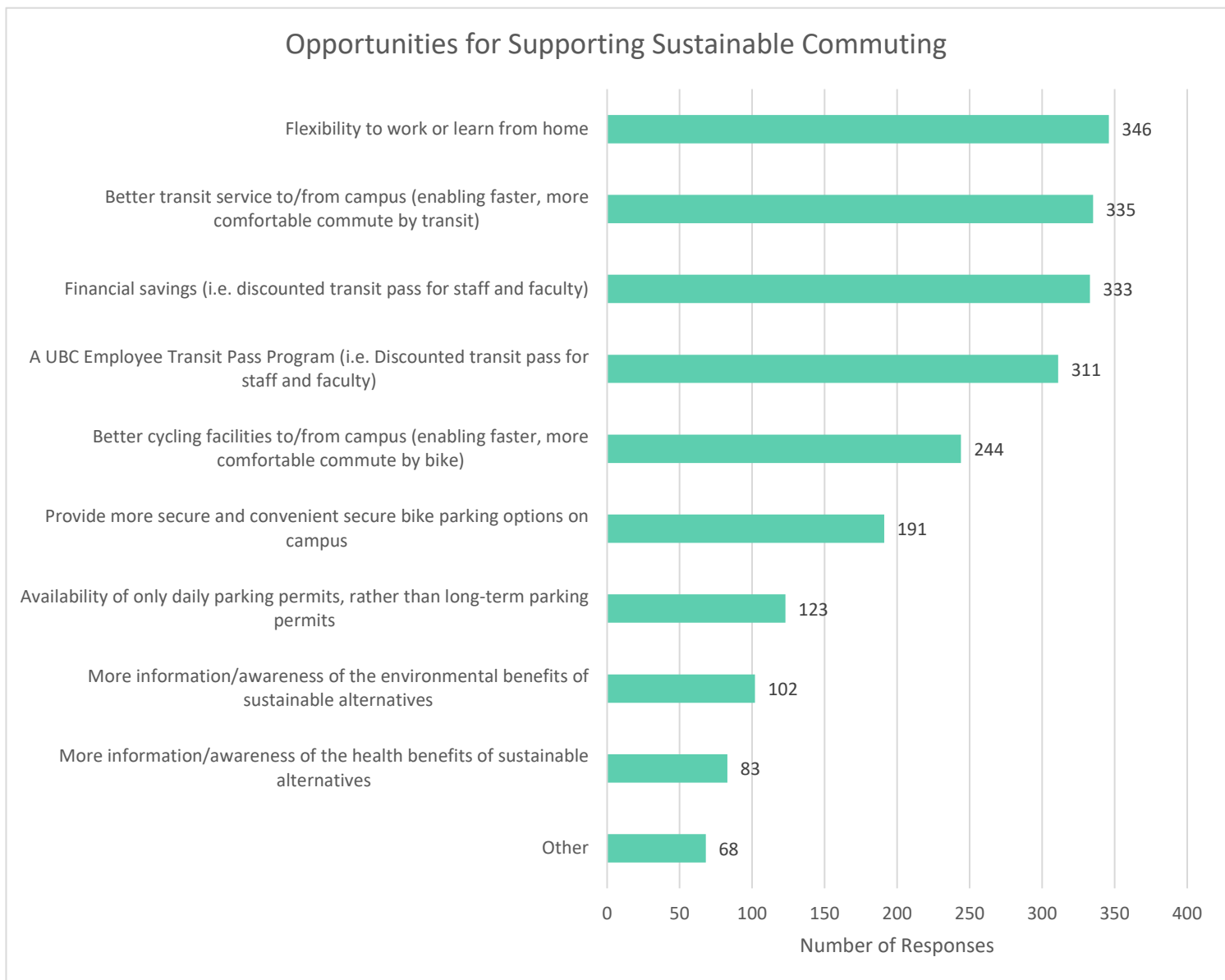


**2. To help us understand the barriers to sustainable commuting pre-COVID, how much would you agree or disagree with the following statements:**



Other: Need a car for accessibility or pick-up/drop-off, public transit is inconvenient, drive an electric vehicle, lack of end-of-trip facilities.

**3. Which of the following options would support you in selecting more sustainable commuting alternatives to and from UBC's campus? (Select all that apply)**

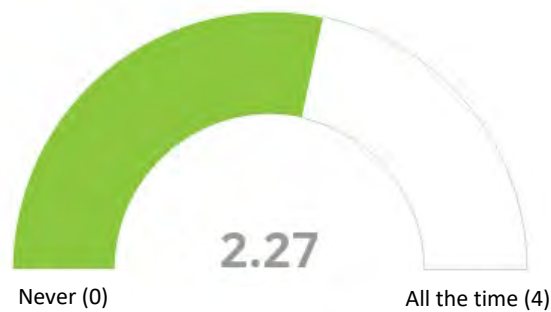


Other: Provide better end-of-trip facilities, encourage remote work, financial incentives to take public transit or use electric vehicles/bikes, increase safety of bike lanes, accelerate the SkyTrain extension to campus.

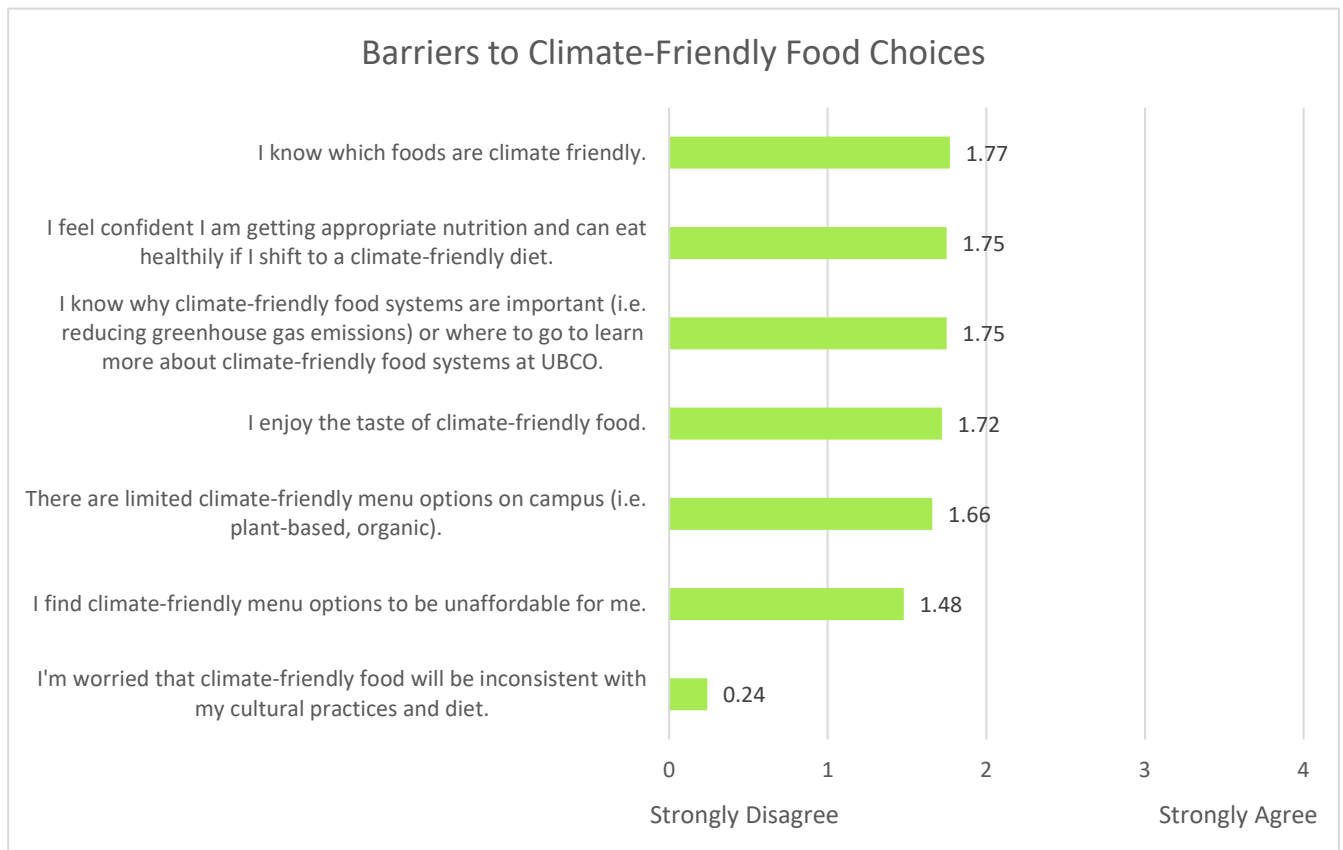
## Section 4: Climate-Friendly Food

### 1. As a UBC community member, how often do you eat climate-friendly foods (i.e. plant-based, organic, local)?

Respondents said that on average they ate climate-friendly foods some of the time.

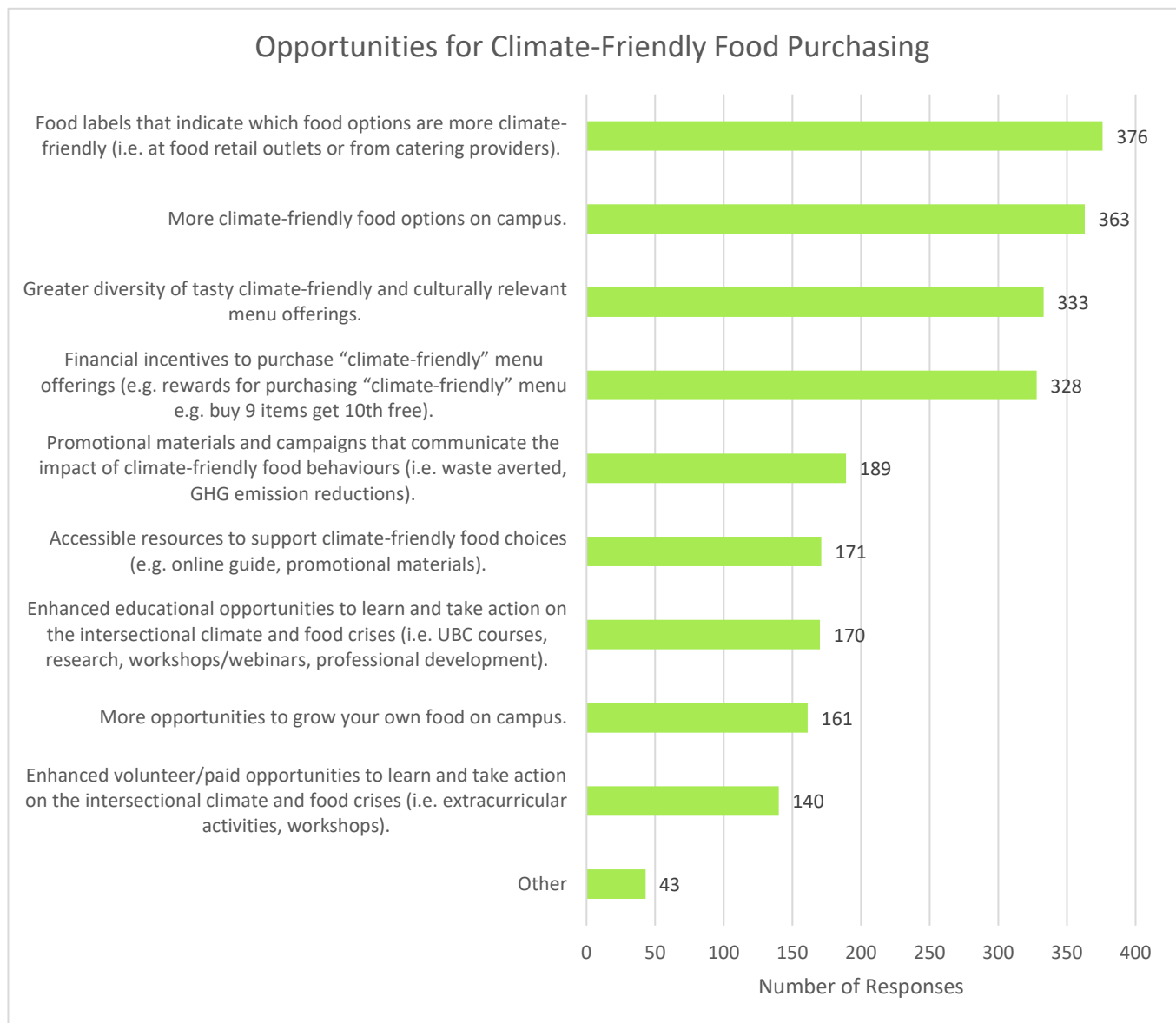


### 2. To help us understand the barriers to making climate-friendly food choices at UBC pre-COVID, how much would you agree or disagree with the following statements:



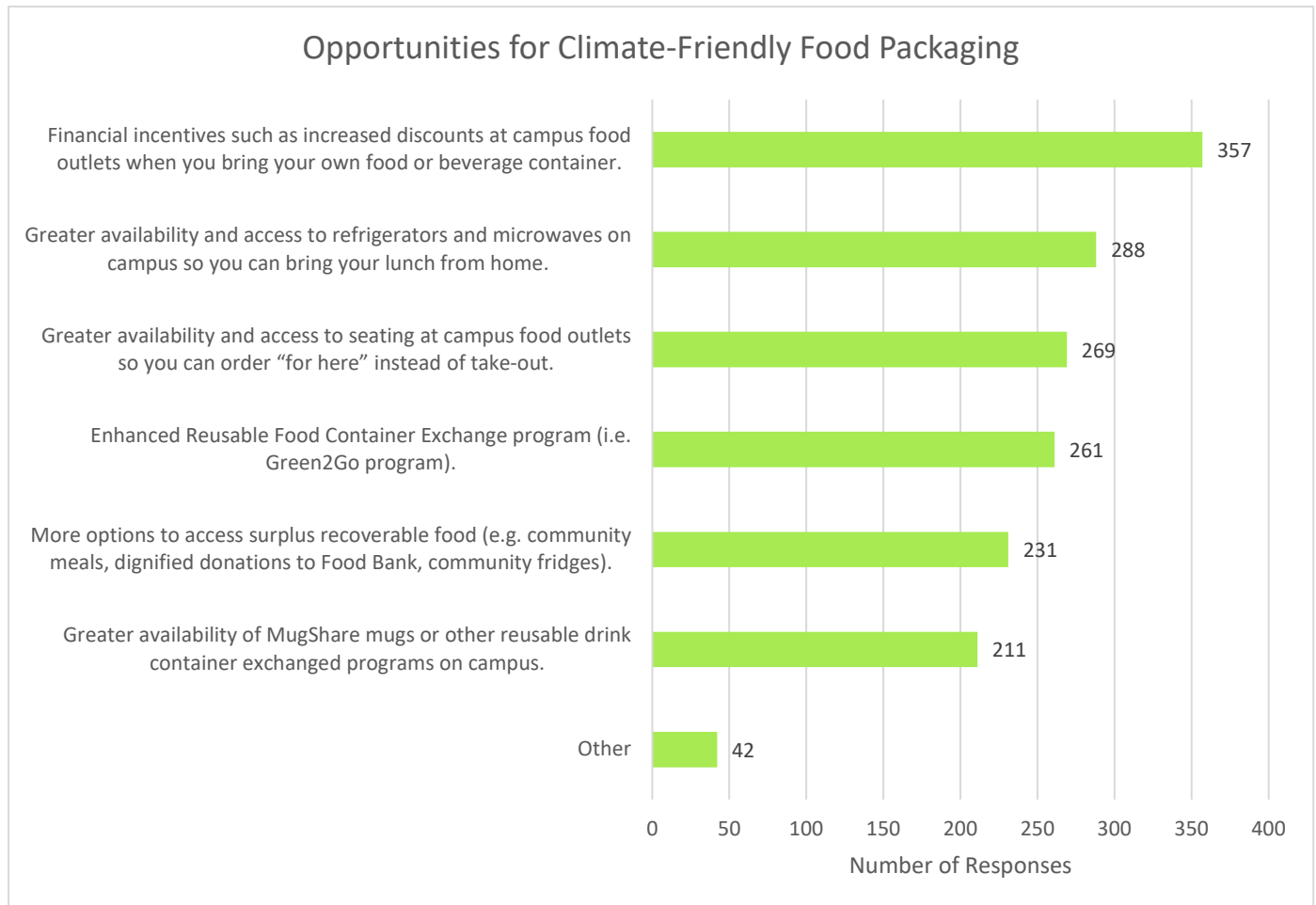
Other: Dietary restrictions, climate-friendly food is more expensive, need more sustainable food packaging, difficult to determine which foods are climate-friendly.

**3. Thinking about climate-friendly food purchasing, eating habits and dietary restrictions, which of the following options would support you in making more climate-friendly food choices on UBC campus? (Select all that apply)**



Other: More options for those with dietary restrictions and food sensitivities, increase sustainable food options on campus broadly (i.e. plant-based), make climate-friendly food affordable, education around cooking and gardening.

**4. Thinking about reducing food waste and packaging, and promoting food recovery, which of the following options would support you in making more climate-friendly food choices on UBC campus?**



Other: Surcharge on all disposable containers, hold vendors accountable for their packaging, expand container sharing programs, more food options that do not use packaging (i.e. bakery items).

## Section 5: UBC Business-Related Air Travel

### 1. As a UBC community member, how often do you travel by airplane for UBC-related business?

UBC students responded that they rarely travel by airplane for UBC business, UBC faculty travel often, UBC staff travel rarely, and non-UBC employees travel often.



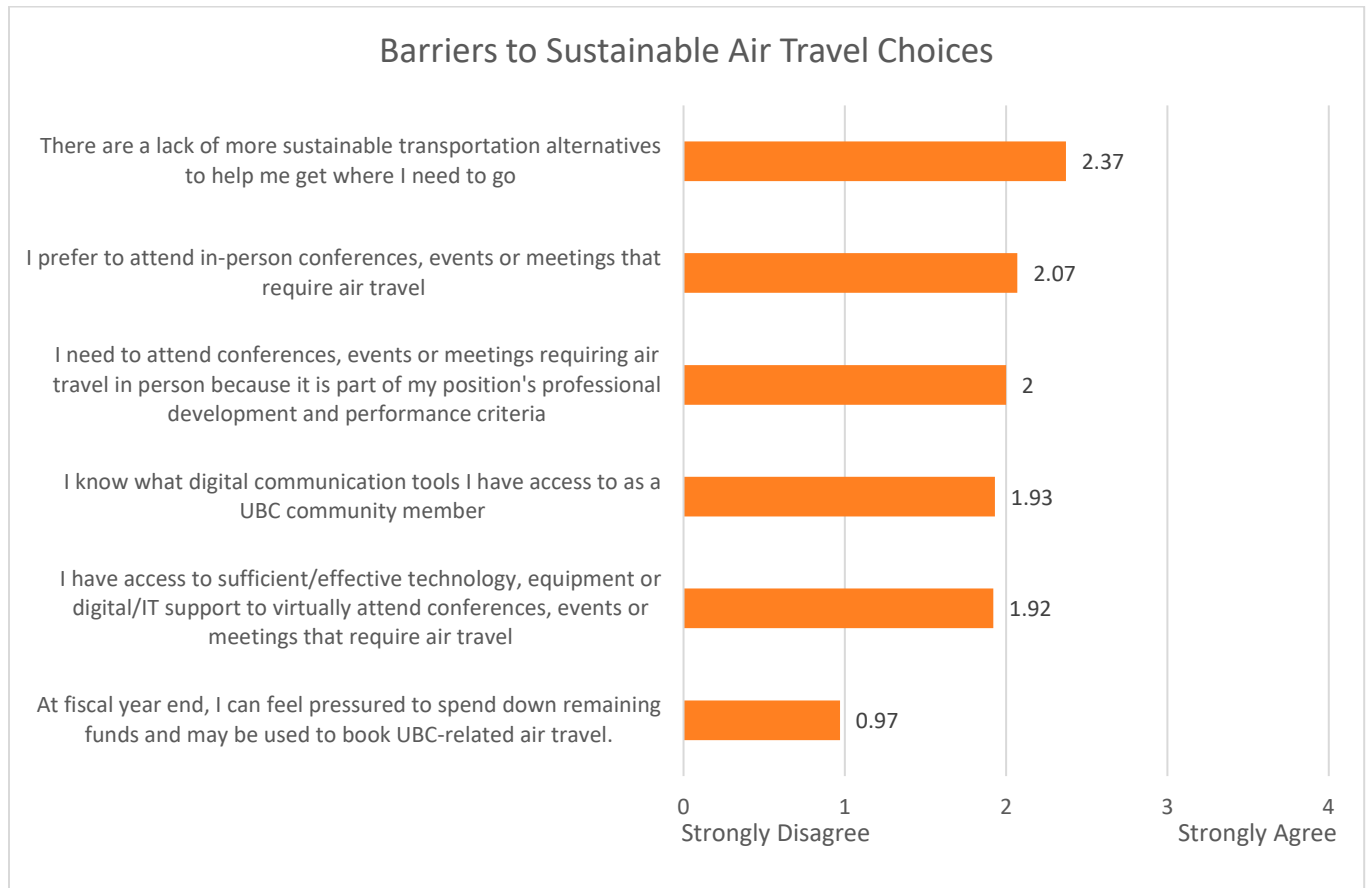
**2. The COVID-19 pandemic has provided us with a host of powerful new virtual platforms, allowing us to shift our meetings, events, learning opportunities and conferences online. In the future, compared to pre-pandemic behavior, would you be more or less likely to:**

Respondents said that on average they are very likely to reduce air travel, conduct and host virtual meetings, and attend virtual conferences and virtual courses compared to pre-pandemic behaviour.



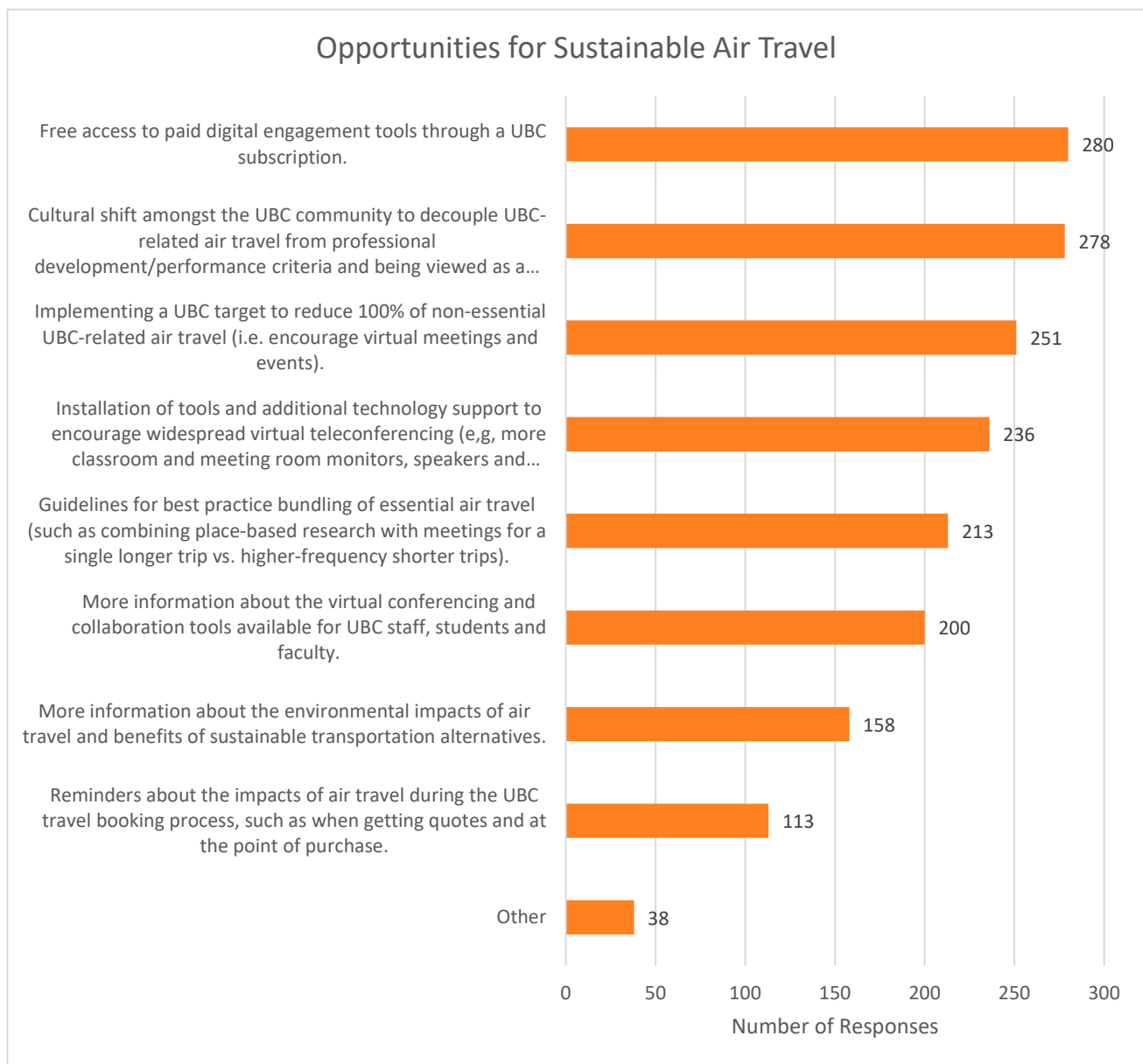


**3. To help us understand the barriers to making sustainable UBC business-related air travel choices pre-COVID, how much would you agree or disagree with the following statements:**



Other: Prefer in-person conferences; In-person conferences offer many benefits including networking, socializing and professional development; travel is currently viewed as a “perk.”

**4. Which of the following options would support you in making more sustainable UBC business-related air travel choices? (Select all that apply)**



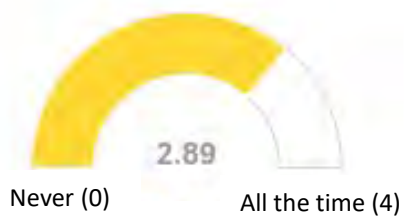
Other: Carbon offset travel program; conferences formats are outside UBC's control; requires cultural shift; incentive programs such as unused travel funds available to departments; formal demerits for frequent flyers.

## Section 6: Waste

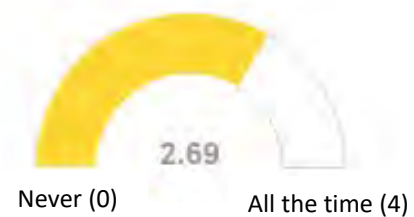
### 1. As a UBC community member, how often do you partake in the following sustainable waste practices?

Respondents said that on average they reduce and reuse their waste often, and sort their waste almost all of the time.

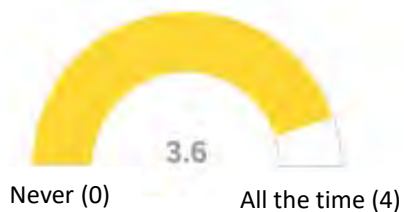
Reduce my waste (i.e. bring your own mug to a coffee shop)



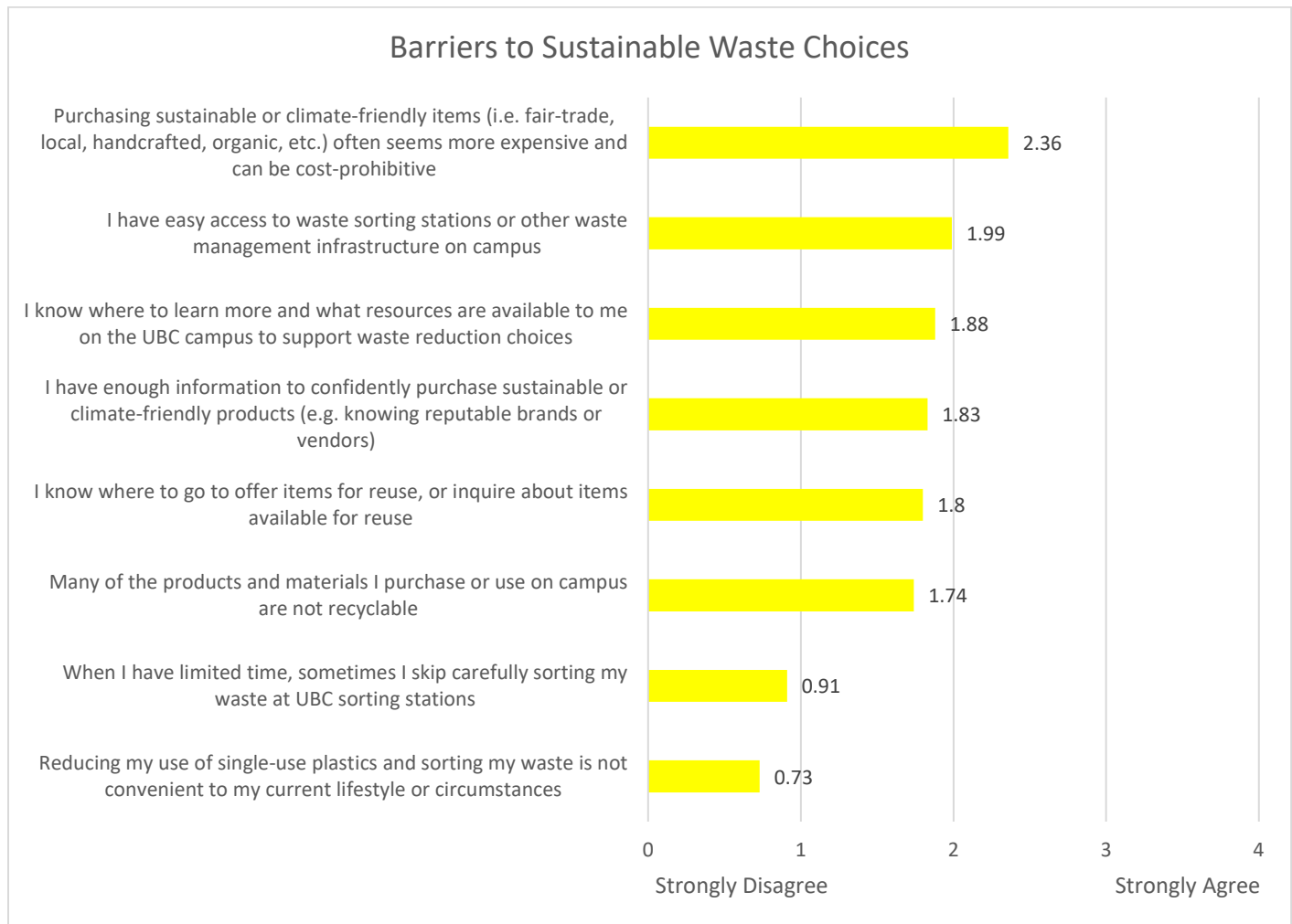
Reuse materials to avoid waste (i.e. buy or sell used furniture)



Sort my waste (i.e. into categories: food scraps, containers, paper and garbage)

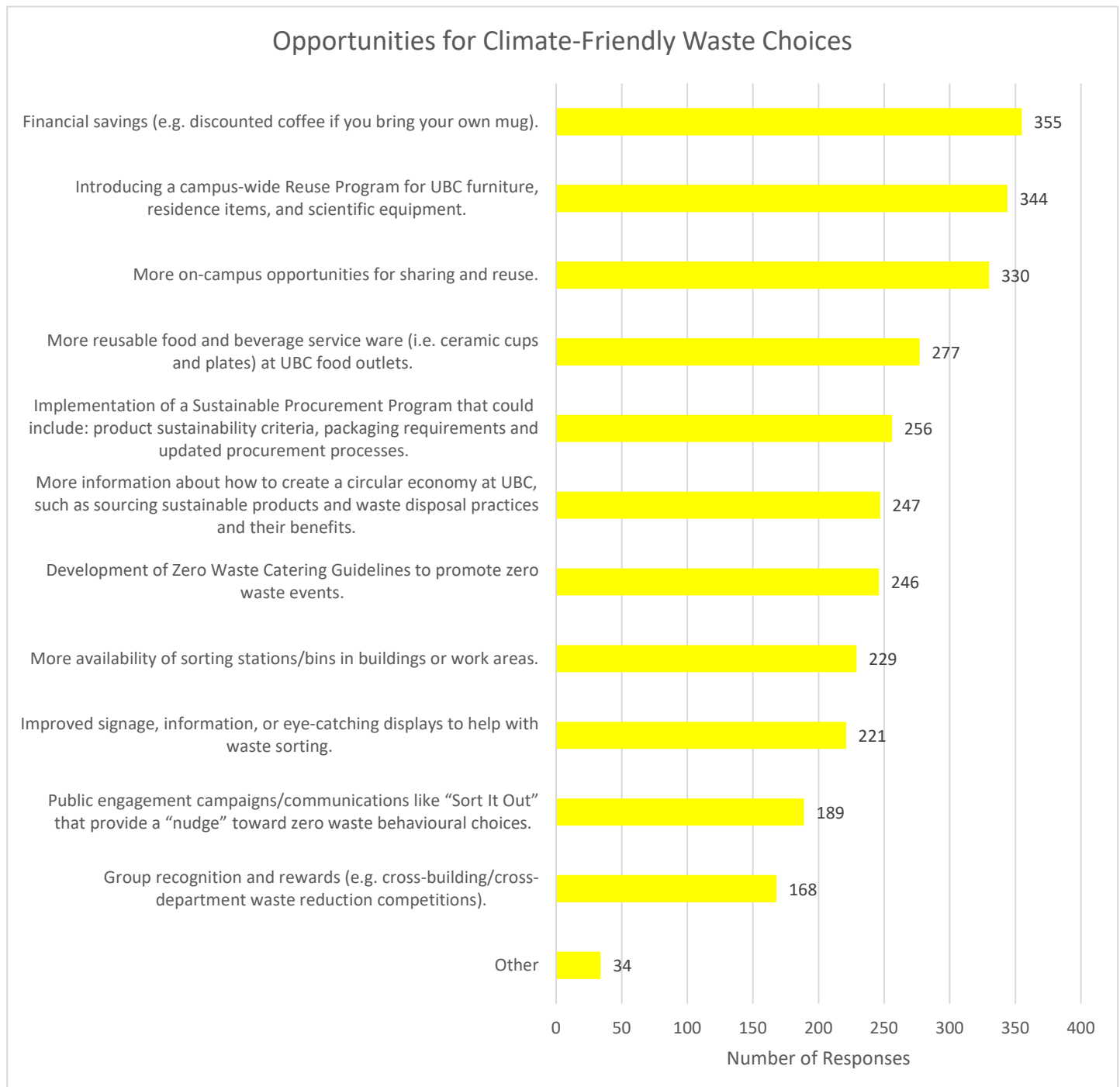


**2. To help us understand the barriers to making sustainable waste choices pre-COVID, how much would you agree or disagree with the following statements:**



Other: Need more information about where waste and recycling goes after leaving UBC; hold vendors accountable for their packaging and materials; recycling does not feel impactful or meaningful in the grand scheme of climate change; not enough plastic recycling options.

**3. Which of the following options would support you in helping to reduce UBC waste sent to landfill and in building a circular economy? (Select all that apply)**



Other: Make items with single-use packaging more expensive and items with sustainable packaging more affordable; additional Sort-It-Out education; expand composting infrastructure; waste streams are best managed by the institution, not individuals.

## Section 7: General Feedback

The following qualitative analysis reflects what we heard from the two open-ended questions in the CAP 2030 Vancouver survey. The themes shaded in grey represent the top themes we heard from participants, while the unshaded themes are included for transparency and interest. To see the verbatim survey responses, please refer to Appendix III.

- To help us understand the climate action efforts currently taking place across UBC, please let us know if you and/or your UBC community are involved with any initiatives aimed at reducing GHG emissions on campus (and, if possible, the name of your community):**

Top themes for this question included responses from those already undertaking general climate actions in their daily lives, and a notable number of survey respondents that are participating with the UBC Vancouver Library Climate Action Team.

Feedback Comments	Frequency
<b>General</b>	<b>12</b>
General climate actions in pursuit of sustainability	7
Looking for opportunities but not currently involved	2
External organizations to UBC	1
Switching from gas/diesel to electric equipment	1
Started working at UBC during COVID - so still learning what is available	1
<b>Student club or organization</b>	<b>11</b>
Engineering Undergraduate Society	2
Sustaingineering Design Team	2
Asian Studies Sustainability Committee	2
UBC Sustainability Ambassadors	1
UBC Climate Hub	1
Vegans at UBC Club	1
Student Sustainability Council	1
Studying high performance buildings	1
<b>Academic group</b>	<b>11</b>
Peter Wall Institute Scholar Program	1
Emerging Media Lab	1
Sustainable PostDocs - PostDoc Association	1
Emeritus College	1
Mitacs - Green Initiative	1
Faculty of Applied Science	1
Project Drawdown	1
Green Chemistry Group	1
Urban Forestry Research Hub	1
Institute of Oceans and Fisheries	1
Michael Smith Laboratories	1
<b>Climate Emergency and CAP 2030</b>	<b>8</b>

<b>Library Climate Action Team</b>	<b>5</b>
Earth, Ocean and Atmospheric Sciences Climate Emergency Committee	1
Climate Emergency Committee - Dept of Geography	1
Climate Friendly Food System Working Group	1
<b>Food systems</b>	<b>8</b>
UBC Farm and Farmers Market	2
Plant-based menus	2
UBC Roots on the Roof	1
Vancouver Fruit Tree Project	1
Community garden	1
Sprouts	1
<b>Sustainability engagement</b>	<b>6</b>
Sustainability Coordinators Program	2
Green Labs	2
UBC Children's Garden	1
SEEDS Sustainability Program	1
<b>Commuting</b>	<b>5</b>
UBC Parking - Access Services (i.e. EV infrastructure, smart technologies for data collection)	2
Shared office bikes	1
#AllOnBoard campaign for affordable transportation in BC	1
Bike to Work Week	1
<b>Waste</b>	<b>4</b>
Zero Waste Squad	1
Waste sorting	1
First Nations House of Learning Waste Management Program	1
Recycling	1
<b>Staff department or group</b>	<b>4</b>
SHCS and Facilities Management	2
University Sustainability Initiative	1
University Neighbourhoods Association	1
<b>Air travel</b>	<b>2</b>
UBC's Fossil Fuel Free Pension Fund	1
Sustainable Travel Industry best practices	1
<b>External partnerships</b>	<b>2</b>
Perkins&Will + Building Transparency	1
OurTime Vancouver	1
<b>Climate justice</b>	<b>1</b>
Climate Justice UBC and UBC Social Justice Centre	1
<b>Grand Total</b>	<b>74</b>



## 2. Do you have any feedback about the emerging CAP 2030 directions and targets, or any other considerations (i.e. equity, climate justice) to add that we should be aware of as we develop the CAP 2030?

Top themes for this question included encouraging a hybrid back to work and campus model post-COVID, considering elements of climate justice in the CAP 2030, ensuring UBC as an institution is not shifting responsibility to individuals, and general support for the CAP 2030 and planning process.

Feedback Comments	Frequency
<b>CAP 2030 Process</b>	<b>48</b>
<b>General support</b>	<b>12</b>
General support	12
<b>Barriers</b>	<b>15</b>
UBC shifting too much responsibility onto the individual and away from the university/institution	13
Include more costing and resourcing nuances for targets	2
<b>Opportunities</b>	<b>21</b>
Include more costing and resourcing nuances for targets	6
Be more ambitious with our target setting and timelines	5
Real change requires UBC leadership to lead local and regional policy change by example	4
Support for specific CAP 2030 goals	3
Any CAP recommendations for individuals need to be affordable and convenient	3
<b>Commuting</b>	<b>34</b>
<b>Barriers</b>	<b>5</b>
Public transit much more inconvenient than commuting by car alone	2
Public transit currently feels unsafe	2
Cannot bike for health reasons	1
<b>Opportunities</b>	<b>29</b>
Encourage hybrid model of remote working and learning	21
Explore new approaches to sustainable commuting (i.e. Staff/faculty U-Pass, combined transit/parking pass)	6
Promote SkyTrain to UBC	2
<b>Climate justice</b>	<b>21</b>
<b>Opportunities</b>	<b>21</b>
Consider equity, fairness and Indigenous values	16
Prioritize affordable housing for faculty/staff/students on campus	3
Support poverty reduction and community education	2
<b>Waste</b>	<b>17</b>
<b>Barriers</b>	<b>3</b>
Strengthen waste and composting infrastructure	2
Recycling does not feel meaningful or impactful	1
<b>Opportunities</b>	<b>14</b>
More e-resources to avoid printing in UBC offices and libraries	5
Strengthen waste and composting infrastructure	3
Reduce single-use plastics	3

Invest in longer-life technology and equipment	1
Arrival care package of reusable items for new students	1
Wastewater reuse	1
<b>Missing from CAP 2030</b>	<b>16</b>
<b>Opportunities</b>	<b>16</b>
Long-term planning for landscapes and tree protection	11
Environmental standards and requirements for UBC industry and corporate partners	5
<b>Other</b>	<b>16</b>
<b>Barriers</b>	<b>1</b>
Acknowledge climate impacts of technology	1
<b>Opportunities</b>	<b>15</b>
Sustainable divestment	8
Automatically turn off building and field lights at night	3
Prioritize affordable housing for faculty/staff/students on campus	1
Stormwater management opportunities	1
Acknowledge climate impacts of technology	1
Need environmentally friendly strategies for long-term campus design	1
<b>Air travel</b>	<b>12</b>
<b>Barriers</b>	<b>1</b>
Recruiting top academics while reducing international air travel	1
<b>Opportunities</b>	<b>11</b>
Need a culture shift for reducing air travel led by UBC leadership	5
New evaluation models that reduce international travel (i.e. naming and shaming frequent flyers)	2
Air travel surcharge to contribute to climate action initiatives	2
Culture shift for not rushing to spend money by the end of fiscal	1
Incentivize students staying on campus during holidays	1
<b>Buildings</b>	<b>9</b>
<b>Opportunities</b>	<b>9</b>
Thermal comfort and wellbeing considerations for building design	6
Reduce waste and emissions from construction, new building materials and retrofits	3
<b>Food Systems</b>	<b>5</b>
<b>Barriers</b>	<b>1</b>
Organic and plant-based foods not necessarily sustainable	1
<b>Opportunities</b>	<b>4</b>
Shift retail and food outlets towards more local and plant-based options	4
<b>Research and Partnerships</b>	<b>4</b>
<b>Opportunities</b>	<b>4</b>
Partner with UBC groups researching climate solutions	2
UBC should publish more public-facing climate information and research	1
Create UBC Climate Policy Institute	1
<b>Community Engagement and Education</b>	<b>1</b>
<b>Opportunities</b>	<b>1</b>
Performing arts are a powerful community engagement tool	1
<b>Grand Total</b>	<b>185</b>

## Appendix III – Verbatim Survey Responses

**Question: To help us understand the climate action efforts currently taking place across UBC, please let us know if you and/or your UBC community are involved with any initiatives aimed at reducing GHG emissions on campus (and, if possible, the name of your community).**

I am not involved in initiatives but I do support the UBC Farmer's Market and try to get most of my produce from them

We have a pool of two office bikes purchased through a centrally-funded program (forget the name) that team members can use to get to meetings across campus (when the weather is good)

Yes we promote predominantly plant forward menus at all locations

More spaces to grow? UBC Farm gets smaller. UBC KILLED the Orchard Garden. Green space that could be used to grow is seen as housing.

I live close to campus. I promote stories of sustainability. I am committed to taking climate action.

Green chemistry UBC group

Asian Studies Sustainability Committee

Yes, have implemented several initiatives and they have all come to fruition and have been implemented.

Parking: removing gates at parkades has eliminated idling vehicles waiting to enter/leave; they installed 75 EV charging stations at their own expense; they are an integral part of developing the clean energy hub at Thunderbird parkade; they participate in SEEDs projects; they have financially contributed to emissions research within parking facilities; they are supporting wayfinding projects within the Rogers 5G projects; they are using smart city technologies to collect data on parking habits and parking facility usage

Urban forestry research hub at UBC Forestry.

#AllOnBoard campaign is working on affordable transportation in BC. This will also lessen the need for parking lots at UBC. Less cars means better air quality and safer for bikers.

Unfortunately, it seems to me that the efforts were left to the individuals. I wholeheartedly support a more through Climate Action Plan.

I led the creation of UBC's Fossil Fuel Free Pension Fund, and (as you can tell from this survey), have been lobbying for a decade for us to profoundly reduce our air travel. Please reach me to volunteer for that at Erica.Frank@ubc.ca

N/A - I have to look outside of my job and what is available to me at UBC. I volunteer for an outside organization

climate friendly food system working group

Electric Charging Stations (Parking)

Geography has a climate emergency committee

I was previously involved in Sprouts.

I continually keep up to date with sustainable travel industry best practices for public and private organizations/corporations, in various markets (CDA, Intl) through webinars, articles, networking and virtual conferences. This year a new emerging action by the hotel industry is to improve visibility and create standards where they can be measured by Water, Energy and Waste reductions

N/A (Bike to Work Week once in a while)

Not at this time. I started working at UBC 3 weeks before the lockdown and didn't have a lot of opportunity to find out about many groups.

We are switching lots of our equipment from gas/diesel powered to electric powered. Unfortunately, we are often limited by the added cost and electric replacements may not meet our needs.
We are working on Green labs project under ubc sustainability
Yes, with the UBC Climate Hub.
Peter WALL Institute Wall Scholar program: <a href="https://pwias.ubc.ca/wall-stories/2018-wall-scholars-launch-initiative-address-ubc-flight-emissions">https://pwias.ubc.ca/wall-stories/2018-wall-scholars-launch-initiative-address-ubc-flight-emissions</a>
Green Labs, LSC Sustainability Leadership Team
As a student involed in the Engineering Undergraduate Society, I work with a team of fellow engineering students to embed sustainability into the EUS operations and promote sustainable practices to students. We just got started on our work about a year ago and recently passed policy within the Society to mandate sustainable initiatives aimed at reducing waste and raising awareness
IOF
The Library #ClimateAction Team has developed an Air Travel decision tree to assist UBC Library employees in choosing which conferences to attend in person and which virtually.
member of Asian Studies Sustainability Committee
The Emeritus College is familiar with the general principles advocated by the CAP, but does not have specific programs in place. That may change once the College has permanent premises.
I am not involved with any initiative but am looking for opportunities to do so.
The Michael Smith Laboratories has implemented many sustainable practices over the years and taken part in many pilots (recycle styrofoam before it available campus wide, amber glass recycling, soft plastic segregation, compost before it was campus wide, ice pack reuse, Aircuity, LED lights in labs and offices, ultra low freezer 'warm-up', change tap on film processor to stop constant flow of water and now elimination of instrument all together). I'd love to give a tour (virtual okay too) to showcase some of these successes.
SHCS Facilities, EWS, A&R Facilities.
no yet bout would love to get involved
EOAS Climate Emergency Committee
It's great that UBC is committed to these actions and providing support to all campus members in achieving the goals and targets.
UBC Roots on the Roof
SHCS
We work on our community garden with our preschoolers
Thanks for organizing this survey. I could imagine that it is highly biased though, since the majority of people who contribute to this questionnaire are already involved in SD activities. I personally for example just started a new group of "sustainable Postdocs" at the UBC (we don't have a name yet, but are part of the Postdoc Association).
UBC Library now has a Library Climate Action Team with members from different employee groups and library branches/units. Thus far we've hosted a climate research panel, drafted guidelines around air travel, held climate change movie nights, creating a webguide for climate research, and shared information with each other. Now we are reviewing the emergency task force report to identify how our work can align with the priorities.
I am a physician, clinical assistant professor of medicine - interested in supporting efforts to reduce GHG emissions at work, and increase access to plant-based foods - making things like bringing your own cup, and ordering plant based the default - extra costs if adding meat, cheese or a plastic cup
Library Climate Action Team
I am generally in touch with colleagues at APSC in the topic of long term work-from-home arrangements that could benefit students, staff, and faculty and also reduce GHGs.

I am President of Vancouver Fruit Tree Project. Thanks to UBC Triumph support, we have been able to harvest the extra fruit from their trees to distribute them to community members. In addition to strengthen food security in our community, this harvest allows to reduce food waste.
yes
USI
Mitacs has its Green Initiative that are aimed at reducing our carbon footprint (at our UBC office and beyond)
UBC SEEDS Sustainability Program
At the Emerging Media Lab we are doing limited work on digital collaboration technology but our budget compared to how much is spent on travel annually is laughable.
I am studying High Performance Buildings
I am part of the Sustaining engineering design team, and a member of the EUS Sustainability Council
Library
Project Drawdown - only buy from fossil-reducing sellers
I am working with Perkins&Will (an architecture firm) and Building Transparency (a non profit) to help reduce embodied and operational carbon in buildings in BC.
Sustainability coordinator program, lighting upgrades, awareness exhibits addressing "ghost nets," oil pipelines, etc.
sustainability coordinator program, Library #ClimateAction Team
I'm a recent graduate (I hope it's okay I completed this) and am now involved with organizing beyond the UBC community (e.g. with OurTime Vancouver).
ubc children's garden
UNA
Engineering Design Team bring sustainability and reduced emissions into our design.
Recycling
Executive at Vegans of UBC club which promotes sustainable/ethical food choices on campus; member of Zero Waste Squad (paused for covid) which sorts waste on campus and has education events; council member on Student Sustainability Council which gets student feedback on sustainability initiatives; support initiatives done by Climate Justice UBC and UBC Social Justice Centre
While normally I take transit, I've been commuting via car since June 2020, when my place of work reopened to on site employees. I don't like driving to get to work. Other than that, I try to use as many reusable dishes for meals, do my recycling, not waste work supplies, etc.
UBC Sustainability Ambassadors
Garbage classification
I am very engaged in climate-friendly living for many years already. However, as a Postdoc in Canada, I actually spend way too much money to stay truthful to his environmentally friendly living style. I think that this is a structural problem, so UBC should support people of all sorts of salary classes to live a sustainable life. I still feel living consciously in Canada demands from you to be a little rich, in particular, when it comes to food!

**Question: Do you have any feedback about the emerging CAP 2030 directions and targets, or any other considerations (i.e. equity, climate justice) to add that we should be aware of as we develop the CAP 2030?**

Perhaps as the planet continues to warm, develop green ways to stay cool during the summer and warm during the winter. Eliminating bottled drinks and water from being sold on campus and eventually from Canada.

To realistically pursue its targets, UBC needs to reform from a majority commuter campus to more hybrid models of learning and teaching without detriment to students and faculty. Remote work has proven effective and should be supported where sensible rather than discouraged on principle!

Not sure if this is important here but I see a gap in reusing resources - are we looking at infrastructure which would allow water reuse/recycling? I know we have a lot of park/green space - can we recapture water from buildings to reuse for landscape? Projects like that would be very interesting.

Allowing remote work to continue would be significant.

I strongly believe that UBC as an institution must enact systemic change as opposed to putting the onus on individuals to bring reusable mugs, pack lunches from home, etc. As a staff member, the transit to and from campus is my largest contribution to greenhouse gas emission and I would love to see a discounted staff/faculty transit pass to incentivize taking public transit, as well as UBC continuing to allow staff to work remotely if their position and duties allow. Something like this would greatly benefit myself and other staff in a similar position as me.

UBC Supported boycott and divest from the petro chemical industry. Is it about time we do the same for China? A boycott divest campaign from China the worlds leading polluter of the Air, land and sea (as well as their horrendous human rights violations in the Xinjiang province?

<https://www.forbes.com/sites/rpapier/2018/07/01/china-emits-more-carbon-dioxide-than-the-u-s-and-eu-combined/?sh=7c5008e9628c>

Getting academics to avoid air travel to go to conferences is going to be a tough sell and, if too stringent, could make it hard to attract top talent.

Yes I strongly encourage the University to ban or put a tax on individual meals being delivered to campus from delivery services like Uber Eats, Doordash, Skip the Dishes, Fantuan etc... These create a BIG carbon footprint. a 20km food delivery is the equivalent of 7 kg of CO2.

Most of these questions about individual actions seemed to be about visible forms of climate impacts (waste, air travel). Some kinds of computing resources (esp. high-fidelity video conferencing for online classes and high intensity computation, such as in machine learning applications) have less visible climate effects. I would like to see UBC consider making known the climate costs of technology and acknowledging computing power as being a relevant consideration in climate action.

2030? Why not TODAY!

I would like to see organizations such as UBC use their purchasing clout to increase the life of technology equipment such as laptops, workstations, phones etc. Shift the focus on speed to life span - five years for a workstation is wasteful and unsustainable.

In terms of air travel, UBC could tack on a surcharge to all air fares purchased with UBC funds and use the money raised on climate initiatives and/or carbon offset programs.

If more staff were able to work part of the week from home, it might not be necessary to have as much dedicated office space. This could in turn free up existing space for other purposes and ideally limit the amount of construction at UBC. Don't raise a building, plant more trees.

What about pushing for more e-resources in the library so that it is not purchasing and supporting a print-based economy.

Your questions around public transit don't really cover all the issues related to our bus system. Buses are overcrowded, dirty and unhealthy. Is there a way to make public transit less unattractive from a health perspective.

-Working from home can greatly reduce our carbon footprint as an institution.
-Air travel should be restricted or carbon offsets should ALWAYS be purchased for every flight taken.
-Remote work options extended to anywhere in Canada could help us make a broader impact.
Equity and Climate Justice and Indigenous values are important and would be good inclusions to CAP for a robust holistic solution.
Thanks and continue with the good work!
Need to look at whether retrofitting older buildings would be paid off (both financially and environmentally in terms of CO2) before the building is rebuilt/replaced
UBC's industrial and corporate partners should be held to strict environmental standards as well as UBC's preferred vendors, couriers, and other services
Too much tuition \$\$\$ being spent on pet projects such as climate action plans. Individuals are already doing so much.
Not at this time. I am interested in learning more and appreciate the university's initiative to educate us as staff, faculty and students, because in turn, we as individuals, can educate our families and our communities off campus. I am optimistic that we as a larger community, at UBC, and a leader in our province can demonstrate what is possible and lead the way.
remote work option would make most difference in impact for office-based staff, particularly as COVID anxiety may result in more people choosing to drive
The financial aspect of this is the biggest target. It is understandable that we require industry and to sell/purchase goods and services in order to keep our economy rolling. Historically consumers have been offered all types of products and it is "their choice" whether they wish to use them or not. Tobacco; unhealthy snacks; vape products are a few that come to mind. Industry makes money selling and they will continue to do so without regard for human health or environmental impact as long as our system allows them to reap benefits from selling harmful products. Industry must be made responsible for making money off of consumers. Their products must be fully recyclable non-toxic or they should not be available for sale. If their product causes physical harm (e.g. diabetes) then there must be a tax placed on selling of the item so the cost of down the road healthcare does not fall once again into the hands of the tax payers. Politics must stop bowing down to big money industries.
If the university changed the culture around air travel and conferences it would have a big impact. So much business travel is unnecessary, especially by senior executives.
The questionnaire is very targeted on individual actions, which have been shown to have too limited impact and won't be sufficient.
We need to stop talking about parking and start talking about access: that changes the context and puts the focus onto sustainable, affordable mass transportation. UBC cannot solve it's access issues one vehicle at a time. We also need to look at UBC vehicles - how do we 'green' the UBC fleet (and how do we stop Dept's buying vehicles instead of sharing existing ones...just because you have a grant doesn't mean you should use that on a vehicle). There is a HUGE amount of work to be done on sustainable transportation
Any recommendation on individual action must be made with affordability in mind. Financial pressure, especially on the younger population, has increased significantly with the pandemic. If the recommended climate friendly choices, e.g. organic foods, are the more expensive option, then it will never be adopted. A large portion of the student body is food insecure, raising the price of food on campus to meet climate targets would be horrifyingly cruel. You cannot get people facing pressing short term problems (e.g.: hunger) to care about long term issues (climate change), no matter how dire.



I think UBC needs to continue to support working remotely post covid (more often than pre covid). I have two young children and I have to drop them off at daycare in the morning. Taking the transit was not an option for me. The only way I can put my effort into climate action is by working from home, so I don't have to drive my car out everyday. This also saves me lots of commute time which I can then use in other areas, for example choosing more climate friendly foods when cooking for my family. I can also use the money I save from not have to purchase a parking permit on things such as climate friendly products. Those are often times much expensive than what I usually purchase.

UBC NEEDS to include its natural landscape in the CAP. On campus tree cover loss is a big issue. Additionally, sustainable management of turf and other landscapes should definitely be integrated into the plan. Landscape management and operations can have substantial carbon emissions! This is beyond the scope of the biodiversity plan.

Look at the University of Pennsylvania's Ecological Landscape Stewardship Plan for an example of an innovative, unified campus approach to sustainable urban landscapes.

I recycle, but most recycling is pointless anyway: only a tiny percentage of anything actually gets recycled. Most plastics aren't recycled effectively. Separating food is a waste of time and effort as it breaks down anyway. I do it, but it's yet another drain on my already limited time.

To reiterate a previous point, commuting to campus by public transit is not an option for me, and I live too far away to cycle. By the time I walk to the bus stop, wait for the bus and -- if I'm lucky enough that it's not full -- then stand all the way to campus, and then walk to my office or the classroom, it has taken at least twice as long as it does to drive (and often even longer), not just because the route is less direct, but because of the additional walking and waiting and because of the slower nature of public transit. I'm also typically carrying at least one very heavy bag, which makes things harder still. If I have to stop on the way to campus or home, for example to buy groceries or to go to the post office, it increases the time even more significantly. I already spend more time working than anything else in my life, and it's exhausting. I am simply not willing to give up even more of my limited free time to commute. With Covid I'm even less likely to take public transit. But, as I rarely travel, drive a car that's relatively low emissions (and also, with working from home I've barely driven at all for the last year), don't have children, don't redecorate my home every year or buy new clothes every month, always cook at home, and don't do the many other things that increase people's carbon footprint, I have no concerns about driving my car to campus, and UBC should have no concerns about my driving to campus either.

UBC can and should do more to improve work-life balance for its employees, and that means not adding yet more chores and more responsibility and more stress to our lives. Instead of adding burdens on individuals, the focus should be on the corporations that are actually responsible for the majority of pollution. UBC as an institution can easily make changes, for example by ending the sale of bottled water on campus, requiring reusable drinkware in all food establishments, and phasing out the use of plastic utensils and single-use plastic containers. Those actions would require little direct action on the part of students and staff.

Divestment of all UBC investments from fossil fuels, polluting industries, and resource-extraction is the most impactful thing the university can do to help reduce the impact of climate change.

Climate action has too many layers associated with it and it is, therefore, a very complex issue. One layer that does not seem to be very well accounted for in here is the issue of time-commitment. For example, recycling and reusing takes time because one has to learn how to do it right first and then execute it. In execution times is allocated for sorting and cleaning some of the things one is trying to recycle or reuse. Another example is transportation, it is very quick and comfortable to go to work driving your own car as opposed to using public transit, which results in about double to time

commuting, or riding a bike, which results in triple the time or more depending on where one lives. Let's also consider that the closer to UBC campus, the more expensive the property, so riding a bike may not even be possible for most students and commuting by public transit takes longer. So, time allocation to commuting must also be considered.

Picture a grad student with a lot on their plate by mere fact that they are conducting research. That, by and of itself is a huge time commitment. This person also has to find time to self-care by sleeping enough hours (8 hours per day), eating well (accounting for grocery shopping and time dedicated to cooking a healthy home meal: 4 hours per day), exercising (an often times disregarded element in academia, but our bodies DO need exercise: 2 hours per day), mental health caring (also disregarded often times in academia: 1 hour per day). These very basic needs already add up to 15 hours per day. On top of that, that student also has to maintain a job because UBC underfunds their students (best case scenario: 2 hours per day), conduct their research (again, best case scenario: 4 hours per day). Up to this point this student has already at 21 hours of their day gone! With only 3 hours of their day left, this student has to dedicate time to their family if they have one, commute to UBC, get involved in campus activities like this climate action stuff, participate in "leadership" activities if they want to get any additional funding so that they can one day stop working and have more time to complete their degrees instead of having to work, etc., etc., etc...

So, when asking about climate initiatives, please consider time-commitment as a parameter. If UBC would fund their students better, students would have time to network and participate in campus-wide activities that would have a positive impact within UBC. As it currently stands, the situation is such that grad students are below poverty level in Vancouver and need to find additional sources of income, which is a time commitment. Eliminating this time commitment would allow them to be more active and generate ideas that would favor UBC goals.

While individual action is important I strongly believe that UBC is failing to put in place the institutional capacity to develop climate policies that could reduce GHG emissions not only on campus but in Vancouver, BC, Canada and other countries. A fully funded UBC Climate Policy Institute would be awesome and innovative and would show that UBC is serious about identifying, analyzing and evaluating potential climate policy solutions. The effects would dwarf the impact of on campus and individual behavioural changes ...

I recently purchased an electric vehicle and because of my lengthy commute would like to be able to charge at work, however its often hard to leave to move my car after 4 hours --- the parking spaces are also limited. I don't think the charging stations are ever full.

It is important to shift away from placing emphasis on individual responses to holding institutions responsible for implementing sustainable solutions. Currently, the burden is placed on individuals to change their behavior when it is corporations and institutions that are economically benefitting from using and purchasing unsustainable cheaper options. For example, a department will buy cheaper furniture from the States rather than buy something a little bit more expensive locally. People will make good choices when given the opportunity. Vancouver is highly unaffordable so this is a barrier too many people when it comes to making sustainable choices. Compassion is needed to recognize that people have different needs and the solutions will be complex. Marginalized communities will be more impacted by climate change so please be aware of that when taking about timelines.

It is the time to really carefully think about architecture, health and climate sustainability of campus buildings. Many buildings have terrible indoor air, problematic heating and cooling, so that is the problem that needs to be, and that can be addressed sustainably with more research and planning. Also how about more plants, for food, for roof gardens, for indoor green walls?

Through Covid-19 faculty, staff and students have shown great adaptability in teaching, researching, working and learning from home. I hope UBC will also be as adaptable and encouraging of these practices after things return to normal. Commuting to UBC should be done as needed not every single day. This is a great opportunity to reduce pollution through traffic reduction. We'd have less packed buses too!

On air-travel I really hope to see senior leaders at UBC take the lead on reducing their air travel. If they can model good behaviour and reduce their travel I think this will encourage everyone to reduce their air travel carbon footprint.

promote work from home more - less time spent in the office, less energy and pollution from commuting. I support wfh but leadership wants us to return to the office and looking at expanding office space. We need leadership to be more active on climate action than staff; we need to do as we are told even if it is less green.

UBC remains caught in the "more and bigger" agenda of progress that encourages longer CVs, more travel for prestigious research consortia, bringing in international tuition dollars, etc. Even living in Wesbrook Village pre-pandemic (allowing me to walk to the office), all I saw was more expensive for-profit construction (for non-UBC folks) and limited retail options, still forcing UBC faculty and staff who live there to drive frequently to shop off campus. Climate Action will involve campus and neighbourhood planning that STARTS from the premise of ecological sustainability. Perhaps it's time to focus more on the local? I would also like UBC to just take some non-sustainable travel/food/operations options off the table, because "we just don't do that anymore."

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For the love of our environment, UBC's planning office needs to do a better job of long-term campus design. Over the last number of years, I have frequently seen concrete poured for new sidewalks and meeting areas across the Point Grey campus, then seen them torn up 1-2 years later in order to change or build something else. That's incredibly wasteful and increases the amount of carbon our campus produces.

Advanced Planning to Support Robo-Taxi Network

Put pressure on provincial government to build the sky train to UBC NOW

As a UBC staff member (and previous student), I've done a lot of surveys over the years. This was one of THE best surveys I've seen yet. I really appreciated the contextual information, the definitions, and the overall survey design. But what I loved most was the selection of practical solutions you offered for each problem. Thanks for putting together this survey. Please tell the survey designers that they've done a good job.

There have been a lot of "Sustainable plantings" but they aren't. A lot of plantings are not designed for plants to grow, and will probably die within 10-20 years. A fair amount of the construction work does not appropriately protect trees, despite UBC have tree preservation rules. There is an island by the intersection of agronomy and westbrook mall that has a sewer drain, and theres no vegetation around it so the soil, mulch, other debris is just going down the sewer. Also there are a lot of opportunities for stormwater management, like the westbrook remodel, but there are never curb

cuts. Plant management and maintenance is poor which increases risk of injury & damage to humans and buildings

I would like to see divestment from companies that emit large amounts of GHG emissions added to the CAP target.

The survey/current approach do not address the significant impact of the use of technology/social media on the carbon emissions (the use of energy associated with data processing/storage/transmission; the associated hardware and software, etc.). The survey itself seems to be rather selective in its focus (e.g., as it asks about the use of reusable food containers, it overlooks the impact on water pollution). The list of suggested actions/remedies is too repetitive and limited - and misses opportunities uniquely related to UBC as an academic/research community (e.g., no suggestions of encouraging researchers to acknowledge sustainability considerations as they develop their proposals (regardless of the study focus, whether it has anything to do with sustainability or not); no reference to any expectations of UBC community members taking personal responsibility for their use of mobile phones/technology/social media from the environmental perspective, etc.)

There is currently no composting at the UBC Hospital site/building that I work at. I would like to see UBC make some efforts to implement composting in all of its buildings (whether it's on campus, or otherwise).

Working and studying from home does eliminate to/from emissions from vehicles. Offering at home options could help to reduce transportation emissions.

Systemic change is needed. Targets won't be met by individual behavioural changes alone. New UBC neighbourhoods are conventional design- need more vision. Don't deflect responsibility to the individual, UBC as a major institution with a massive budget should put its money where its mouth is and make decisions according to the fact that we are in an emergency. Not clear that message has sunk in.

--Related to the above, another major cultural shift needs to be made around spending money at the end of a fiscal year. There are huge problems in doing so during a pandemic fiscal year end and it's never really been clear to me why this is even a thing. It's hypocrisy and makes no sense to say departments need to cut back, and then tell departments to spend money that has so far been unallocated.

--I'm quite shocked to see such a large emphasis on air travel and that there is even an option for people to state that they are 'required' to travel by air. No one is forced to travel for work, and UBC seems to have this culture of requiring face-time 'to build relationships.' I understand this, but there really needs to be a cultural shift away from these perceptions of forcing people to be physically present in a particular location.

--Organic and plant-based foods aren't necessarily more sustainable or environmentally/climate friendly and shouldn't be presented as such without context.

Feedback on content:

--I appreciate that targets need to be made, but we should be looking at a 100% reduction, not just 75% by 2030. We need to be thinking longer term all the time, and CAP 2030 should reflect a phase/stage rather than a goal. People need to understand that this is just one part. It's shocking this isn't addressed anywhere and that UBC is taking a truncated approach.

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Continuing to work from home post-COVID would help reduce car emissions.

In general I think UBC needs to be aware that the greatest impacts will be made through large-scale structural change and supporting appropriate policy directions at various governmental levels.

Continue remote work after the pandemic ends. Commuting is not only an environmental issue, it's a massive waste of time. I am better able to participate in sustainable food systems (buying local, cooking at home, etc) by working remotely. Commuting will mean returning to highly packaged/distributed food that is a massive waste. Allowing a majority of your staff remain remote will make a huge impact just in terms of commute and food alone.

Why does our printing contractor, Xerox, still not use tree-free paper?! They need to be using this by default, but currently do not.

I believe if we look within our own communities and support the reduction of poverty by supporting community educational opportunities it will help with sustainability as well.

Yes. The #1 step the university should take on its Vancouver Climate Action Plan is to make superior affordable housing available for purchase for faculty and staff, so that they can live on campus long term. Currently, UBC has plenty of land, but it seems to be prioritizing leasing it to developers who then sell to non-UBC people, meaning that UBC faculty and staff have to commute from far away. Rentals are available, but renting is not a long-term solution and the Village Gate units are way too small for families.

It is vitally important that climate change issues are not isolated from the huge socio-economic disparities that existed prior to covid, and have been exacerbated by the pandemic. Increasing socio-economic inequalities should be just as much a priority for UBC as climate change. Unfortunately, some activities undertaken in the name of climate change will increase these disparities.

need to fix the temperature in buildings so as not to waste resources

I am pleased to see that reduction of unnecessary air travel is a priority of UBC's. I believe that systematized mechanisms should be put in place to discourage unnecessary air travel. Examples would include: (A) formal demerits on the annual review for promotion and tenure of professors who flew more than some number of times (e.g., once) per year; (B) increased infrastructural support for virtual attendance of conferences; (C) financial rewards and/or faster advancement to promotion and tenure based on virtual attendance of conferences; (D) financial rewards to departments that generate the lowest amount of carbon emissions per head due to flights; (E) a publicly available yearly report on the collective amount of carbon emissions generated by flights taken by UBC's professoriate; and (F) other measures in that same general vein.

Let staff work from home. We have such a long commute to UBC and many have to drive, we don't want to.

Faculty and Staff housing (which allows walking or cycling to work for the parents and school of their kids) was created to be exactly that - for faculty AND staff. Then a few loud and controversial faculty voices took over the conversation and intimidated and belittled staff. Now it's mostly faculty and the rental rates reflect that. On-campus housing needs to be returned too being for faculty AND staff and rental rates need to be adjusted to reflect how much less staff make in comparison to faculty.

Your scope and framing look excellent!

We have seen the value of reducing commutes and cleaner air quality. This should be a consideration. Climate wellness, human wellness. More time to participate in communities, including those who live at UBC.

It looks sufficient

Remote work/education reduces commuting, waste and provides better food choices. If you are serious about this, don't let departments go back to the way things were just because some manager works better that way and thinks everyone else should too.

Printers! Discourage the use of printers in every office especially as most units have a large printer/Xerox accessible for large numbers of staff.

Having a printer beside someone's desk so they don't have to get up and walk down the hall should be strongly discouraged!

E-waste bins should be located around campus so that students/staff can dispose of broken/old/hardware. Is e-waste to Building operations promoted at student residence? Or even in office spaces?

Climate justice, gentrification, white-washing of programs and initiatives

I think the plan should include emissions targets in relation to new buildings being built on campus and a commitment to divest all university pension funds and any other investments from fossil fuels or other climate change causing businesses or areas of the economy.

I would like to see UBC focus on its financial investments (divestment from fossil fuels was a really wonderful step), on supporting climate research, and on working with the Musqueam and other Coast Salish Nations to promote Indigenous-led climate action and climate justice. I'd also like to see more campus shuttles. I would not like to see a lot more energy put into recycling and whatnot--I think we are doing a pretty good job with that and have been for a while. Also, as a member of the research faculty, I'd like to be funded and evaluated in a way that would encourage fewer, longer international trips. Thank you!!!

Ensure that the onus of change is on the institution not on individuals. Ensure that an intersectional lens is taken to understanding the impacts of climate action policies on multiply-marginalized groups.

The investments that the university engages with will also have an important impact, as will UBC's business partnerships, etc. The impact of these cannot be ignored while asking under-resourced students and staff to take action.

UBC should encourage plant based catering at events by departments and Centres etc.

I think UBC should also be implementing sustainable buildings on campus, as well as sustainable building/construction practices. It's always discouraging to see how UBC continues to cut down more trees.

My above thoughts continued. The management is not holding staff with respect or showing good will in terms of reciprocity. I think in order to do the work with the land we need to work with one another. We need to take these values and apply them across the board. This requires a look at structures that management uses which is a harsh power over model vs a power together model. We can't just decolonize our time in the garden or walking in the woods with children. We need to change our thinking by looking at the hierarchical structure that's in place right now and replace it with a form of management that reflects respect, reciprocity and reverence. This process has to be for everyone. UBC needs to rethink their management choices at UBC childcare and take the leap to promote harmony and well being for employees so they feel safe and supported to do this decolonizing work.

While a mandate may not be feasible or appropriate at this time, UBC adopting and communicating a 'virtual-preferred' policy for business travel could be very supportive in shifting the norm to online conferences etc.

have not fully reviewed yet but hope to provide input. Thank you for this important work!

When I first arrived at UBC as an international student, I was overwhelmed with the amount of expenses I had in my first months, considering the costs of travel/moving, tuition/students fees, unaffordability of rent in Vancouver, high living costs, etc. I was also chocked with the discovery of the "take-out", single-use culture in North America that is less prominent in my culture. I would like to help students chose zero-waste options over single-use and I believe one first step would be in the



financial incentive. Supporting students in this initiative through financial relief or a "arrival care package" of reusable items could be an effective first push towards zero-waste.

It's important to provide containers to collect waste paper, garbage, etc; but it's equally important to keep them serviced and clean--not always the case, unfortunately.

This is very important and it would be good if we had strong leadership guiding the UBC community.

Individual choices are such a small drip in the bucket. UBC should also lend their voices to collective climate change and ensuring pension funds do not support oil/gas industries. Climate change is inherently tied to Indigenous sovereignty and efforts of land defenders need to be supported fully by UBC. I would like to see stronger statements in regards to opposing pipeline construction in BC

The targets are succinct, aggressive yet achievable with the required resources.

"Academic District Energy System: By 2030, 100% of the energy used by the Academic District Energy System will come from low carbon sources." seems very aggressive and not achievable.

The costing section of the draft targets are very limited to the cost of carbon liability but does not address the increased costs (both financially and staff required) of achieving these targets. For example, at the current budget and rate of replacement, we will not electrify all building level gas fired equipment; we currently do not have a way of quantifying food related carbon footprint, will we have the resources to facilitate this?

Metrics drive behavior so we need to ensure that we review how we measure things to ensure we drive the desired behavior. We need a more systematic change in the way we operate

It will further destroy Canada's economy relative to the rest of the world.

Encouraging other offices connected with UBC ( Medical, law, contract companies,..) to replace mail communications with electronic communications such as secure fax or email and spread the climate action beyond the campus.

Need a lot more focus on the system/decision making level. Infrastructure, renewable energy, governance and decision making throughout the organization, climate KPIs.

I often wonder with our food vendors why they are allowed to sell items in single-plastic use containers when more eco-friendly options are clearly available, e.g. plastic beverage bottles when metal or glass are clear alternatives.

Thank you for taking action on the climate emergency. I am happy to participate more and love how the momentum of this project provides additional motivation.

Please consider built environment factors and system design that support individuals to take more sustainable action without really having to think about it or 'choose' it. For example, so many people are confused about how to sort their own waste or don't have the time. So ensuring that the waste being produced is more easily/obviously sorted (ex. everything is compostable other than cans/glass) would be extremely helpful for changing individual behavior. Or hiring people to sort waste.

UBC is in a position to offer public data on both its own operation and the wider business community.

UBC should be a clearing house for reliable data and best science on climate issues. For example, SFU published an assessment of TMX <https://biv.com/article/2021/03/sfu-study-says-tmx-provide-no-net-benefit>. UBC should increase its media footprint on climate matters.

It is odd that public-facing climate information comes from online projects like [skepticalscience.com](https://skepticalscience.com) and not from large research-oriented universities like UBC. That needs to change, because universities like UBC are an authoritative voice that can reply to the immense effort of disinformation coming from the fossil fuel industry in particular, but from the business community in general, which



promotes to our peril the business as usual model in a time of crisis.

On a practical level, UBC should use its influence to put pressure on the businesses it works with. Vendors should be ranked according to their sustainability and more sustainable vendors should be preferred. Rankings should be made public.

Air travel, students: Try to reduce air travel by students.

For example:

- Provide incentives for students to stay on campus between the winter terms
- Reduce (or stop increasing) number /percentage of international students.

typo in the survey on following page: "would like to be entered"

Just to keep in mind that the sustainable choice may often come with a larger ongoing cost to maintain that choice, and ongoing funding will need to be allocated to ensure those choices are fiscally sustainable.

I think the focus should definitely be on policies and collective action rather than individual behaviors.

Continue to maintain the university campus more Greenpeace

Here are some ideas:

- Invest in green investments
- Monitor the carbon footprint (of individuals/faculties etc)
- Make penalty/incentive for low footprints
- Vegan options as default
- Extra high parking fees
- More protected bike lanes
- Start Parking Days
- Free bike-repairs services? Service to swap/buy used bikes? Security against theft?
- Subsidize e-bikes
- Green insurances
- Include ESD in all different subjects!!
- Make plant-based products the cheapest option in UBC canteens
- Stipends/awards for sustainable research
- Encourage people to vote for a sustainable party
- Offer sustainable food, i.e. local, seasonal, vegan, organic. It should be cheap and fresh, potentially subsidized by the UBC.
- Forbid certain plastic products?

Climate Venture Studio supporting translation of research to societal impact for climate solutions via Innovation UBC and entrepreneurship@UBC

I think the most important thing to remember is that changes need to be as easy for people to adopt as possible. Don't make actions harder than they need to be or force people to go out of their way to be sustainable - make it the easier choice! Keep information clear and any physical places/resources easily accessible; messaging should not indicate that behavioural change is a sacrifice, but a good and easy thing to do! Do also keep in mind that while working from home or reducing conference travel is good for the planet, it's also really important to maintain good networking opportunities, and a virtual conference will simply never be the same as an in-person one. One way to reduce emissions could be a yearly quota for travel, but with a cap-and-trade system so people who don't need to travel much could "transfer" their quota to others who do (making it more equitable in that way as well). I also know how difficult this will be due to COVID, but encouraging sharing of resources and repair of items

instead of single-use will go a long way. And of course, we need more research on how to reduce emissions, along with ways of implementing that research into policy and practice. I believe that special support should be given to sustainability-related entrepreneurship and research to help us find better ways of doing the things we already do, so that we can maintain our current lifestyles to some degree as well!

Banning meat products on campus would directly contribute to reducing emissions and would make a bold statement to the UBC community and beyond.

All individuals are responsible to make our lives more sustainable - but as a leading institution, UBC must recognize how intersections of experience affect people's financial and physical options (driving, parking, part time staff with invisible disabilities not qualifying for COVID office supplies...etc). How can UBC make the largest impact by asking those in positions of privilege to do things differently? Stop flying, stop cutting costs on purchasing large orders of unsustainable UBC SWAG, make sure all janitorial supplies are biodegradable, sustainable, recycled TP etc) Whose job is it to review the big spending and ensure it is in line with Climate Action commitments? Thanks for this work &3

Working from home reduces commuting impacts as well as increasing how well I eat and minimizing the waste I create in my meals

I am still learning about CAP 2030 -

Perhaps as well as UBC centered initiatives - to provide resources on how we can make wider policy changes - for things ranging from pipelines to animal agricultural subsidies - how can UBC harness its community to be a leader in addressing climate change?

Myself and many staff strongly urge UBC to lead by making at least hybrid work-from-home arrangements permanent for staff to bounce forward rather than back and help reduce GHG emissions through this initiative.

great target but we need to make it financially work as a non core faculty

Focus on the "big stuff" - hold the institutions of UBC accountable. Also, the appetite for online learning will be very close to zero post Covid, and perhaps focusing on green commuting/sustainable campus living would be a much better focus than pivoting to online learning.

1.) Given that commuting is a huge source of GHG and there is an acute housing crisis in V, why is the University not focusing on providing more affordable housing on campus for students, staff and faculty? Costs on campus are higher than off campus.

2.) What is being done to reduce single-use plastics in labs? There is a hidden crisis of plastic waste in labs that is not being adequately addressed. Most labs do not work sterile and could reuse plastic, yet there is neither the education nor the infrastructure to reduce and reuse. A solution here would be to have a centralized plastics pick-up and cleaning service on campus.

Urban biodiversity, inclusion

Please do not hesitate to be bold and ask for redirecting funds from travel towards research on digital presence tech in order to minimize the need for travel.

I strongly disapprove of buying carbon offsets: this is an accounting trick to trade money for real progress. Let's be alert to other fake ways to improve poorly-designed performance metrics and make sure our improvements are real.

We could cut UBC's CO2 emissions to zero by closing the University forever. That would obviously be a greater reduction than anything the CAP might produce, and yet the net impact on global emissions would \*still\* be too small to measure. My point? The \*direct\* benefit of CAP 2030 will be completely irrelevant to solving the world's climate emergency. We must admit this and push hard on maximizing the \*indirect\* benefit instead. That is, we need swift global change on an utterly unprecedented scale. The main point of the CAP should be to earn UBC enough clout and credibility that we can

effectively change the behaviour of public opinion and world leaders. This means that the communications and promotional aspects of the plan must be given very high priority. (And for this, honesty and transparency are essential -- a callback to the previous paragraph.)

I hope that UBC will recycle material from buildings that are gutted or taken down. And when UBC contracts out to construction companies that sustainable practices will be a major factor in who to choose.

This is probably the most important thing for the UBC Community to work on over the next few years. Thank you for your work!

No project is well supported

There are 117 months to 2030. We need 1% of today's level of fossil emissions cut each month down to 0% by 2030.

I would like to connect with some folks about the UBC Climate Action Plan to see whether we could collaborate or support your effort by providing embodied carbon, circular design, and operational carbon expertise. My contact info is: Jesce Walz [jesce.walz@perkinswill.com](mailto:jesce.walz@perkinswill.com)

I think we should go carbon neutral

Fair, of course

Focus on fairness and justice

YES

YES

Pay attention to the fair

Energy conservation and emissions reduction

Energy conservation and emissions reduction

fair

fair

Expand scope to define project work development

I hope to be fair and just

Taking into consideration materials, supply chain, delivery emissions and maintenance costs, etc. I would like to see signage in bathrooms across campus explaining which is more sustainable: air dryers or paper towels

Climate change is happening, for all of us. No country or community is immune.

UBC should stop cutting down trees!

Thank you for doing this urgent and important work!

I think climate justice and an intersectional approach to this action need to be central to this plan. I hope that UBC will also aim for more than 45% reduction in extended impacts as it's not clear why this number was set and if the university takes strong actions to support sustainable transit and food choices while discouraging air travel, etc. I would hope a higher reduction could be achieved.

Thanks for the work your team is doing for CAP! Excited to see many of these ideas come to life :)

Minimise commutes by allowing people to work remotely multiple days per week post-pandemic. Also helps with the inequities as poorer people cannot afford housing in Vancouver anymore, so enables people to live further and only come in now and then.

please include the role of sustainable buildings, wildlife-friendly products (bird-friendly coffee), wildlife-friendly landscaping.

I hope the plans will embrace the idea that the performing arts are a really powerful way to engage in these topics and with the community-at-large around these issues.

Stop worrying about disposable coffee cups and focus on what UBC's role is in lobbying for better mass transit.

Textbooks usage is a big part of GHG emissions. Professors should encourage electronic versions, sharing or using old editions more often.

Behaviour change is very important, but institutional change has the biggest impact.

The ability to work from home will reduce travel emissions (cars, etc.), and it reduces the carbon footprint from reduced building occupancy, and more effective use of building spaces. Work from home should continue to be encouraged even post-pandemic.

While the efforts UBC is taking are commendable, I must ask what is being attended to regarding the design of new buildings and the retrofitting of older ones? This is a huge issue for energy use and long-term impacts on our environment, locally and globally. I know you've been working on this. I've also noticed that one overall issue with newer buildings like the CIRS (Centre for Interactive Research on Sustainability), the Beaty Biodiversity Museum or the AMS Nest is that they favour open interior architecture, which leads to a loud and overly-stimulating environment. I find this incredibly difficult to deal with, and wonder if or how these stark places can be noise-dampened in some way. Also, the "smart" toilets in the AMS Nest have a prolific tendency to flush at least four+ times while one is using them, or even just changing for a yoga class. Not terribly intelligent if you ask me. I also expect that climate control might be more difficult in large open spaces, whether heating or cooling.

For myself, I've found parts of helping with this effort much more difficult during Covid due to having to use more single service consumables and commuting to work with my personal car. Given that I'm one of the staff that needs to be on-campus to work my job, this is very frustrating. Perhaps I can start cycling with spring's opening. I prefer public transit, due to not having to drive, but I cannot risk my health by using it. It also restricts the daily walking I do, which isn't good either.

While it's great that we have a 2030 plan to be carbon neutral, shouldn't this have mostly happened a decade ago? What happened to Kyoto 2012 goals? I'm so tired of hearing the talk from everywhere in our country and not seeing more action on really cutting back to change our spiking temperatures across the globe and the often permanent detriment to environments around the world. This is far more an institutional, corporate and large firm issue than just what individuals can contribute to (though I'm not saying we shouldn't try). Are we teaching students about what the large banks are investing in, such as oil & gas, mining and chemicals? Or poor forestry and large agri-business practices that are not sustainable? What about more active respect for our First Nations throughout BC and Canada: their causes and needs for environmental and social restitution from us?

If we cannot make wise choices with where we entrust our finances, how can we change the impacts of large financial banks & insurance companies on what they support? Does UBC teach students (not just business students) about better, sustainable companies that are developing for the future beyond where our economy and society stands now? What is life going to look like post-oil and in a land that switches to more long-term strategies for harvesting our forests and growing food that we need in our country - even restoring more of the manufacturing sector that has been divested into China and other countries over the years. These are huge issues that need addressing and that UBC has the capacity to do if you choose to. As a large university that has a great deal of influence around the Americas and the world, this is something that we need to stand out on - not just with words, but with serious and sustained action.

Focusing on systemic and policy changes at the institutional level (eg divestment) should be prioritized over individual behavior changes (eg educational materials about recycling)

Incorporating a meaningful biodiversity strategy into CAP 2030 will have social, cultural, economic, and environmental benefits; many biodiversity management strategies also have significant climate co-benefits (e.g. carbon sequestration through urban forests, green roofs for urban temperature

regulation, ecosystem-based stormwater management systems). It is also critical that racial justice and Indigenous sovereignty are included and addressed in CAP 2030, as any climate policies must recognize the communities on the frontlines of the climate crisis.

We need a tree canopy coverage inventory and a plan to increase our canopy coverage. As it stands now we do not know how much tree canopy coverage we have or are losing. With this plan should include storm water management and recovery.

Please make an effort campus wide to reduce the number of people coming to campus each day by way of zoom or virtual learning. This will improve the quality of life for so many staff who commute to campus each day. They gain valuable time with family and the ability to take care of themselves much more than sitting in a car for hours each day to travel to work. Please make a meaningful effort to encourage work from home whenever possible for people and for the planet.

We need bold action from UBC Leadership to ensure individual departments are supporting staff to address the climate emergency through remote work and reducing air travel with virtual meetings/events. For instance, we need a university-wide policy that allows all eligible staff to work 3-5 days a week from home if they want to...more impact will happen if this is something mandated across the University as oppose to left up to individual units to decide (where work place cultures differ so widely).

Thanks for the opportunity to provide feedback. I believe that while education that enables individual choices can be empowering, there needs to be more cultural/structural attention to addressing this issue immediately. This should include divesting of all fossil-fuel related investments by the university and provision of financial incentives/perks/subsidies for behaviours that will support the transition to a sustainable future. As someone who already engages in a low-waste, climate friendly lifestyle as much as possible, I recognize the financial and capacity-related issues that might be barriers for many. In fact, it has been difficult for me, someone who has relatively good access to financial resources and time needed to make informed choices, to stick to my principles. And that can be agonizing and difficult. Workshops and educational materials alone are not sufficient for people to be able to make needed changes personally.

I often noticed that the lights in the fields/track fields were left on even no one was using them. I live on campus, and I feel it's a lot of electricity waste when I see the lights on around 11pm. Are there any automatic switch that turns them off at the certain time?

I pay for parking every day. I'm not against transit (but takes a while from Richmond - 2 exchanges/3 vehicles), but refuse to pay monthly parking AND transit pass. I would love a combined pass that allows for either Transit Ride OR parking (since I can't use both on the same day).

There is very little discussion in my department about climate or environmental impacts resulting from department activities. A mandate to report on impacts would be great!

I started working for the ISC in January 2021. I've worked remotely the entire time and see no need to return to campus full time. Working from home saves not only on commute but reduces food waste and packaging.

During the Covid-19 pandemic, my building sat empty, yet for every single day and night the lights remained on throughout the building's halls. Investing in a lighting retrofit for motion activation would not only save money but also the environment

I am off work right now with an immune deficiency disease but when I return I would like to decolonize the daycare I work at. I intend to use Braiding Sweetgrass and the ideas of the Honorable harvest to start this conversation. I am interested in the ideas of respect, reciprocity and reverence in terms of the natural world and us as humans being a part of this. Unfortunately the climate with management and the childcare workers has eroded so much up at UBC childcare services under covid

The woods on and around campus are amongst the most precious resources. Grow it, don't cut it. Reduce streets and parking.

Nothing about UBC divestments in oil. Nothing about converting farm land into housing. Nothing about making affordable ownership of housing for faculty and staff on campus. Nothing about loss of growing land to development.

just think of people who CANNOT bike for health reasons before telling everyone to bike to work

Turn off the lights as soon as possible

I think policy changes are really the only effective way to change people's behavior to the extent that it makes a major impact.

Buses from downtown and along the Broadway corridor are too busy and take too long. I have lived in NYC and London, and commuting there was better than commuting to UBC. Driving my own car to campus is the only feasible option for me. My commute takes me less than 30 mins door to door in my car; it takes more than 1.25 hours if I take transit. This is not feasible.

We ship our green waste off campus instead of reusing it like we have in the past so we are going backwards. Building operations.





THE UNIVERSITY OF BRITISH COLUMBIA

UBC Campus + Community Planning  
<https://planning.ubc.ca/>





20 October 2021

**To:** Vancouver Senate

**From:** Dr Kate Ross, Registrar

**Re:** 2021 Student Senate Elections Results – Faculty of Education

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Set out below are the results of the 2021 Student Senate Elections for the Faculty of Education.

**Student Representatives of the Faculties to Senate**

Further to the second call for nominations for students of the Vancouver campus to fill the one (1) position for a representative of the Faculty of Education on the Vancouver Senate issued on 20 September 2021, one (1) valid nomination has been received. Therefore, pursuant to Section 15 of the *University Act*, the following student is acclaimed as elected as representative of the Faculty on the Vancouver Senate for a term beginning on 1 October 2021 and ending 30 September 2022 and thereafter until a successor is elected:

- Shaktiraj Kandola

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