

External Review of the Faculty of Science University of British Columbia - Okanagan

Submitted by:

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Executive Summary

The Irving K. Barber Faculty of Science (IKBFoS) is a robust Science Faculty excelling in the teaching and research mission of UBC-O. While a review such as this tends to focus on a series of recommendations that may seem to highlight deficiencies (but intended to enable the faculty move forward in a dynamic fashion), we don't want to miss an opportunity to applaud the success of IKBFoS, particularly since the separation from their social science and humanities colleagues who are now in the standalone Faculty of Arts. Of particular note, IKBFoS has been able to attract excellent early career and mid-career faculty members and a vibrant group of graduate students. This speaks well of the existing faculty and the campus as a whole.

This growth has come with some growing pains and the need to tease through the procedures and processes to determine what needs upgrading to meet the new demands as the operations in this Faculty (and other Faculties) scale up. In addition, in order to maintain the commendable record of attracting talent, this is an opportune moment to consider refining the identity of the campus, including IKBFoS, within in the UBC system and the Okanagan. There is a need for leadership training for faculty and staff.

There exists, at present, a tension between supports that are offered at the Faculty level and those that are offered by campus wide structures. This tension is not unique to UBC-O but has been experienced by other universities as they move from small to mid-size institutions. In particular, this was flagged for the administration of graduate programs and students, and for undergraduate student advising.

The goal of interdisciplinarity is laudable and will contribute to generate a distinct UBC-O identity in a demonstrable way. This approach has widespread support on campus. However, intentional fiscal mechanisms need to be put in place to overcome the general siloing of Faculties due to the budget model.

The trajectory of UBC-O starting as a local college, transitioning into a small satellite campus of UBC and now evolving into a partner campus to UBC-V, has been remarkable and it is clear this is the moment to continue to develop a strategic plan at the campus and Faculty levels that further this evolution. This

planning should continue to capitalize on the exceptional UBC brand but add a distinct UBC-O flavour that emphasizes particular areas of expertise and the leveraging of a unique location.

Introduction

External reviewers, Associate Dean Marni Mishna (Simon Fraser University), Dean Maria DeRosa (Carleton University) and Acting Principal William A. Gough (University of Toronto Scarborough) visited UBC-O September 24-26, Mishna and Gough in person, and DeRosa via Zoom. They met with a wide range of stakeholders including decanal leadership, faculty (professors, associate professors, assistant professors, Educational Leadership professors, lecturers) undergraduate students, graduate students, faculty staff, provostial leadership team, recruitment, advancement, finances, capital projects and infrastructure, IT, the Provost and the Vice-Chancellor & Principal. Their visit included tours of research facilities and teaching spaces.

The reviewers were impressed with a vibrant campus that hosts a growing Faculty of Science (IKBFoS) that has embraced the research and teaching mission of the campus. The past five or so years the Faculty has adjusted to being a standalone faculty and are now poised to build on this foundation to further develop a clear identity both on the campus and within the UBC system, capitalizing on the invaluable UBC brand while at the same time provide uniqueness to its contribution to the campus and UBC writ large.

Undergraduate Education and Student Learning:

There are 3026 students registered in the IKBFoS undergraduate degree programs in 2023/2024. This is a slightly downward trend from the previous two years but consistent with a sustainable increase over the past 5 years. Computer Science, data science, ecology and psychology have seen important increases over the review period, and most programs have had stable enrollments.

The review team met with many stakeholders in undergraduate education, including students, faculty advisors, and the members of the leadership team. Each department described key strengths in their programming.

Both students and faculty emphasized the uniqueness and importance of undergraduate research to student learning. These experiences foster enthusiasm about research, but also serve to create relationships which serve students beyond their degree. The self-study indicates a growing number of Directed studies, honours theses and NSERC USRA applicants. Approximately 6% of undergraduate students have such an experience. Approximately five Indigenous students have participated in the

Indigenous Undergraduate Research Mentorship program. Co-op provides experiential learning opportunities, but we did not hear as many details as other programs. According to the self-study document, there have been 819 Co-op placements since 2018.

A second identified feature of undergraduate programming is the existence of cross disciplinary programs, either spanning two departments within the Faculty, but also across Faculties. The sustainability program provides impact, although the first years have had enrolment below aspiration. The program is growing. At the decanal level, concerns were raised about whether the university funding model incentivizes such collaborations. This seems less critical for programs within IKBFoS, but relevant for communication courses, and other courses and programs that have a co-existence in the Faculty of Arts and other Faculties.

In meeting with students, some concerns were raised about the availability of upper year courses required for degree completion. A few examples of key course cancellations were cited. The faculty advisors did not report that they had regularly observed this while advising. One explanation for some cancelled courses in EEG came from the secondment of faculty to administrative positions. Indeed, the leadership is heavily from EEG, which is a relatively small department. The solution of reading courses and options at other institutions were indicated as stopgap measures. The perception was quite real for the students that spoke to us, and to those that replied to the student survey, so leaders should examine this closely, and prepare for teaching replacement early in the process of leadership renewal. The small number of upper year courses (which are co-numbered with graduate courses) was also indicated as a disincentive for undergraduates to remain at UBC-O for a Master's degree, even if a solid research relationship had been established. Many undergraduate programs are small, and this issue is likely to persist.

There was much concern from faculty that the central nature (UBC wide rather than UBC-O specific) of the undergraduate recruitment did not optimize enrolment from the local market. The central recruiting team met with the review team, and described a significant local presence, despite the perception of being a UBC-V entity. Their analysis suggests that in fact UBC-O has saturated the local market (200 km radius) for undergraduate recruitment. We see a growth opportunity for the IKBFoS to work more closely with this office to reconcile these visions, as there are common interests. A goal could be to develop a strategy to better target domestic students beyond the immediate local market.

Even if local recruitment is saturated, there is a significant opportunity to use recruitment events to establish UBC-O as a local intellectual leader, and to build professional contacts for advancement purposes or for experiential learning opportunities. Also, the Alberta market could be more strategically tapped. Faculty members also had a perception that students use disproportionately UBC-O as a gateway to UBC-

V. The data as reported in the self-study indicate retention rates of over 80%, and the central recruiting reinforced this perception.

The quality of student advising was flagged by several stakeholders. The details on the mixed way in which this is handled is surprising for the scale of the programs. This was raised in the student survey and by students in our meetings. The perspective of central advising shed important light on causes of this issue, as did observations and reflections by the Associate Dean, Students. We recommend that a dedicated advisor be brought into the Faculty, leading a thoughtful reorganization. The large number of faculty advisors could be reduced to recover some savings in such a reorganization.

The review team learned about Indigenization and decolonization initiatives at UBC-O. The IKBFoS leadership articulated a very clear desire to ensure that UBC-O undergraduate students are aware of the colonial history of BC and Canada, aligned with national, provincial and institutional plans for reconciliation with Indigenous peoples. This is manifested in a degree requirement the course, IND 100. The review team was very pleased to meet with Adrienne Vedan, Senior Advisor on Indigenous Affairs and Director, Indigenous Programs and Services to hear more about the campus wide support for Indigenous students. The representation within IKBFoS (approximately 5%) is impressive, and we understood the university had built a pathway. There was some suggestion that the audience for the introductory course was too mixed, although we note there already is a dedicated section for Indigenous students to ensure cultural safety among other reasons. Given the evolving elementary and grade school curriculum in BC specifically, but also Canada due to educational responses to reconciliation, it may be that the needs of domestic students will be similarly different from international students, and thus a one course solution may be inadequate in the long run. We heard a proposal for three one credit courses which would allow for improved customization, and we encourage IKBFoS to investigate this option to ensure a meaningful requirement which achieves the intended goal. There was no indication that this training was also a requirement of graduate students. Given that there are research projects that partner with Indigenous communities, access or incentives to these courses might be a consideration.

The picture of life after an undergraduate education in IKBFoS was less clear. There was scant information about alumni outcomes, and indeed the session with Alumni drew a single former student. The data on occupations presented was somewhat anecdotal and not statistically significant (e.g. six responses from Environmental Science). While illustrative they did not give us a fulsome picture, but there was evidence that many of those who replied seem to work in a related field. This was particularly true in Computer Science. The students themselves are interested in more information about professional skills and

preparedness for industry. There is an important opportunity here – to reach out more and build connections that will be useful for future co-op placement, hiring of graduates, and advancement.

The students indicated they had good academic experiences, appreciating access to professors and a high standard of teaching in the classes. The students indicated issues with course management of large classes, but overall they appreciate the intimacy of the small campus, and the opportunities for research.

One concern that was evident in the self-study was the low satisfaction scores for Data/Stats. When questioned, the department hinted at some faculty issues, but generally did not consider it an issue. An independent review may be useful to identify if there are significant issues.

Graduate Education and Post-Doctoral Training:

IKBFoS has experienced a substantial growth in the number of graduate students. This evolution to a larger graduate student operation is consistent with the goal of being more research intensive and is a key feature in attracting and retaining excellent early career faculty (as well as attracting excellent mid-career faculty). However, this growth has come with some growing pains. Space for these students has lagged behind the availability of such. This has been a tension point between a well-intentioned administration and graduate students. Some relief appears on the horizon with the completion of the new ʔəl sic snpaʔnwix^wtn building and the secondary space made available at the existing UBC-O campus once the downtown Kelowna campus is completed. Interim solutions such as QR coding student space to make them bookable, has not gone over well. However, we do take the point that allocated graduate student space has not always been effectively used.

Several of the stakeholders we met with expressed concerns about interactions with the College of Graduate Studies (COGS). We did not meet with representation from COGS and so could not directly raise concerns with them. As the graduate student operation grows it may be the right time to consider carefully the mandate and scope of COGS and how it can best interact with the Faculties where graduate students are housed. While there has been some movement to devolve aspects of graduate student administration to the Faculty, there are lingering concerns about duplication of work.

With the rapid growth of the number of graduate students and the likelihood of many new supervisors or supervisors with minimal experience in graduate student supervision, it seems opportune to further develop graduate student supervision guidelines and workshops based on these guidelines to foster an environment of best practice for such supervision. Many universities, even with well-established graduate programs, have done so in recent years, in efforts to reduce graduate student neglect or abuse and embed EDI best practices and compliance to sexual violence legislation. Student and supervisors flagged the levels of graduate student support as being inadequate, given the cost of living. Graduate students also flagged barriers in receiving additional TA work.

It was reported to us that not all the provisions of the TA collective agreement (in particular, graduate student preference in hiring) were being fully honoured. While we could not determine the validity of these claims within the limited scope of the review, we urge this be carefully examined and if there are examples of non-compliance, these be addressed.

We note that the last review had a recommendation of a “Fast tracking of Postdoctoral Strategy”. We found no evidence of any movement on this strategy.

Continuing and Professional Education:

While some of the Non-Credit Micro-Credentials were outlined in the self-study such as the Fundamentals of Wildland Fire Ecology & Management, Wetland Delineation & Assessment, Metabolomics, and Critical Skills for Communications in the Technical Sector, we heard little about the impact (financial or otherwise) of these offerings during the site visit. On the other hand, there was palpable excitement about the professional master programs that were underway (Data Science) or imminent (Biotechnology). If there are some tangible positive outcomes from these programs, there could be opportunities for expansion into other areas of strength of the Faculty. Ideally, IKBFoS should leverage or look to expand partnerships with industry, government, and Indigenous communities to develop authentic academic programs that address a local need. We suggest a fulsome review of the current and future opportunities for continuing and professional education (CPE) provided by IKBFoS, including non-credit micro-credentials and professional programs. We note that concerns were raised from other Faculties about non-credit bearing microcredential initiatives which appear to be in a less rigorous, less consultative, governance process than degree-granting initiatives.

Student Academic Experience and Support:

Overall, it was clear from the majority of our interactions with faculty and staff that there is a goal to provide a supportive and enriching academic experience for both undergraduate and graduate students, with a particular focus on experiential learning and research engagement.

A key strength that we noted were the exemplary pathways and support for Indigenous students, highlighted by centralized programs like the Access Studies Program and the Indigenous Undergraduate Research Mentorship Program, which provide crucial guidance and resources to help Indigenous students navigate and succeed in STEM.

Retention rates among domestic students are relatively stable and strong, though international student retention requires attention. Undergraduate morale is generally positive, with many students expressing satisfaction with small class sizes, experiential learning opportunities, and the approachable nature of faculty members. However, we were made aware of some tension (duplication in the best case and contradiction in the worst case) between the centralized advising supports and the local, faculty-led advising happening in the unit. A frank, open, and collegial assessment of the existing services available centrally and in IKBFoS is needed and would be in the best interest of students.

It will be important to note that the attractive differentiators of IKBFoS (small class sizes, hands on training on specialized research equipment) are resource-intensive and finding a balance between prioritizing the student experience and maintaining financial sustainability will require some transparent, and likely difficult, conversations.

While recognizing that our mandate for this review was not investigative per se, we would like nevertheless to note that some significant concerns were raised regarding the Faculty of Science's handling of academic concessions for students, in particular, those impacted by sexual misconduct, and urge the administration to follow up on these concerns with a proper investigative process. We were disheartened to hear of cynical attitudes among academic leadership around requests for student accommodations, suggesting that students are exploiting the academic concession policy for undue advantage. We were particularly concerned to hear about issues relating to accommodation requests linked to sexual violence. While there are clear university policies aimed at supporting students through trauma-informed practices, we were told that the Faculty of Science has been inconsistent in approving concessions and has requested personal disclosures and medical documentation in direct contradiction to these policies. This appears to have resulted in violations of student confidentiality, re-traumatization, and a failure to uphold UBC's commitment to providing equitable support. It is well established more generally, such practices disproportionately harm vulnerable students, particularly those from marginalized groups, undermining their academic and emotional well-being. It is imperative that these concerns be examined more formally, outside of this review process. From what was disclosed to the reviewers, the Faculty of Science needs to reevaluate its approach, ensuring alignment with trauma-informed principles and consistency with university policies. More generally, it is good practice for academic decision-makers to undergo SVPRO training to promote a fair, respectful, and supportive environment for all students.

Graduate students and staff who handle graduate program issues expressed concerns about interactions with the College of Graduate Studies (COGS). We did not have the opportunity to meet with the staff and leadership of COGS and so do not have their perspective on these issues. As the graduate student population increases and new programs are contemplated, it may be appropriate to review the mandate and scope of COGS operation and how it relates to the graduate student experience and the interaction with Faculties on these issues.

Research, Scholarly, Creative and Professional Activity:

A true high point of our visit came from hearing about the excellent scholarly work underway in the Faculty. Universally, unit heads highlighted that their colleagues were the “highest calibre of scientists” and students were excited about the research they were undertaking with their mentors. The upward trend in research funding levels and scholarly productivity in recent years has been substantial and is commended.

While the authenticity of UBC-O's label of “research intensive institution” was questioned in the last review, there have been important positive steps made in recent years to address this. Chief among them

is the crystallization of their research strengths into three pillars: Sustainability & Climate Resilience, Life Sciences for Agriculture & Health, and Computational & Data-Intensive Sciences. By most accounts, there was consensus that these themes appropriately encapsulated UBC-O research strengths and that they represented areas where they could have measurable impact. For example, the focus on wildfire research and disaster resilience is critically important in the Okanagan region. Prior investments in research chairs (CRC Tier II positions, Michael Smith Health Research BC Scholars, UBC Okanagan Principal's Research Chairs), in infrastructure including research facilities (e.g., the impressive plant growth facility), and the new ʔəl sic snpaʔnwix^wtn building with its focus on research clusters, are clear indicators of the administration's commitment to the research mission.

While there is great potential for IKBFoS to continue its impressive trajectory on research, there are some issues that need careful attention. Growing pains associated with the rapid growth of a research profile we were also evident here (see above relating to graduate student funding and below regarding administrative errors that affected grant processing). A concerning narrative that was expressed in some meetings was that "it is not worth it to apply for grants" due to the lack of centralized support for grant administration and financial reporting. Concerns were also raised about the inability of IKBFoS researchers to lead major grants (e.g. CFI-IF) when decisions on funding envelope were made centrally with a perceived UBC-V bias. Again, a question for the institution is whether IKBFoS should capitalize on its unique local/regional advantages or if the "one UBC" strategy should be followed at all costs. Lastly, while some local strengths, such as wildfire research have received a lot of attention, IKBFoS should ensure that other equally impressive research strengths are promoted, particularly where there is international impact. For example, greater connection with the Dominion Radio Astrophysical Observatory research facility could let IKBFoS benefit from its proximity to this unique resource.

Leadership and administration:

The original administration of the campus as a satellite of UBC-V relied on a centralized infrastructure. The model is slowly shifting as the size and scale of the operation warrants more dedicated resources. There are also growing pains found in the leadership and administration as this transition takes place.

The leadership team does not represent the diversity of IKBFoS. According to the self-study, 30% of the Teaching and Research staff identify as racialized. The leadership complement, including department chairs, did not reflect this. There is an opportunity for the Faculty to be thoughtful on how to develop future academic leaders. This and broader training could be of immediate use, as the Chairs indicated inadequate transition training at the start of their appointment as an academic leader.

More than one stakeholder observed the organizational structure of the Faculty leadership team is not optimized to address current challenges and opportunities. The Associate Dean Students role is very hands on with handling of standard course advising and direct handling of student issues. This is an approach that was likely reasonable in the past, but it has not scaled as the Faculty has grown, and indeed the current Associate Dean indicated they were overwhelmed by the enrollment management associated

with the role. Rote advising work could be done by a dedicated advisor, as we describe above in Undergraduate Education and Student Learning. Those holding the AD Students role should be provided with training on relationship building and conflict resolution, in order to work effectively with other campus organizations with a common interest in student well-being and success. If this position continues as a point person for individual student interaction and advising, we strongly recommend that training on best practices interacting with students dealing with trauma, such as bystander training, be provided.

The position of Associate Dean Faculty and Research should be revisited as the Research mission of the Faculty grows and as faculty issues have become more complex. Separating the “Faculty” portfolio so that it receives due attention was suggested to us, and this seems to be a feasible solution. We suggest incorporating an EDI portfolio into the AD Faculty role. EDI extends beyond faculty issues, but this is a natural place for such to sit.

Research faculty indicated several instances of administrative errors that impacted their research, such as inaccurate grant processing. Graduate students highlighted frustration with a perceived lack of clarity about the administrative procedures that govern their experience. The administrative staff were able to articulate the mechanisms behind these, and other administrative concerns. In their view, there were two key issues communicated strongly:

- A lack of succession planning combined with weak onboarding led to lapses during the transition between staff. This was exacerbated by a high turnover, partly due to unavoidable circumstances such as maternity leaves.
- The workload roles of the new manager positions were too high, and those staff are at risk for imminent burnout.

To address the first point, IKBFoS should ensure that no single staff member solely holds all relevant institutional memory in a particular area. To support this, the Faculty should work to ensure that the administrative roles and procedures are well documented, and stored in a clearly accessible location. This can serve to try to clarify and unify common processes across units.

People, environment and culture:

Discussions with staff and faculty suggested a collegial, friendly work environment. Associate and Full professors, and Educational Leadership professors indicated some concerns about career advancement and professional development. Specifically, we heard more than once some concerns with transparency related to promotion, and how the general UBC guidelines are implemented in this Faculty. The dearth of full professors among the Educational Leadership faculty, and the apparent ambiguous process to achieve

such, was noted. Faculty members who were hired early in the Faculty's history indicated limited prospects for promotion to full professor, even though there was much leadership activity undertaken by this group. There was a clear concern that the process for promotion to full professor is slower than the timelines stated. Administrators agreed that this was a known issue and that the decision can come over a year after an application is made, with a backdated appointment. There was interest in clearer guidelines for tenure promotion.

The faculty within IKBFoS could benefit from leadership development programs and training. The current set of chairs and associate deans were far more homogeneous than the general pool of the professoriate. In general leadership roles (both scientific and administrative) appear to be concentrated among a small number of faculty, as several seem to have multiple roles. A leadership program could signal institutional value in the associated skills, increase the total number of faculty engaging in leadership, and ideally, generate a more diverse leadership pool.

Both staff and faculty are very dedicated to IKBFoS and seemed genuinely invested in its success. This is a major strength of the Faculty. That said, the staff sent a clear message that they lacked proper onboarding in their positions, and that the new manager roles were too demanding. They expressed sincere concern that the managers were at very high risk for burnout. This concern was echoed by Department chairs.

IKBFoS's ambitions are constrained by its physical space and availability of administrative support. Ensuring excellent leadership, from both faculty and administration, will be essential as UBC-O achieves its aspirational goals.

Community Engagement:

Community engagement efforts in IKBFoS are maturing in recent years and there is evidence of productive engagement with schools, Indigenous communities, professional organizations, and government. Events like STEM Day and Let's Talk Science events are important for fostering an early interest in STEM. Researchers in IKBFoS are working closely with Indigenous communities, in particular, in projects on Indigenous-led conservation and ecosystem management. The required Indigenous Studies course for all BSc students equally demonstrates that IKBFoS prioritizes culturally relevant learning experiences for their students and aligns with UBC's Truth and Reconciliation goals.

IKBFoS is involved in various partnerships that extend its research impact into local, national, and international contexts. Collaborations with organizations like Agriculture & Agri-Food Canada, the BC Ministry of Water, Land and Resource Stewardship, and Interior Health support research in environmental sustainability, health, and agriculture. Leveraging these partnerships to yield more work-integrated learning opportunities for students (through co-op and internships) is an important goal. There was some discussion about a burgeoning tech sector in the region; links to academic programming (e.g. Master in Biotech and Master in Data Science, undergraduate coop) should be a focus.

The Distinguished Speaker Series is an important community facing event that speaks to research reputation and serves to bridge the gap between academic research and community application. These events, which bring in global leaders to speak to a general interest audience, highlight the Faculty's commitment to addressing real-world challenges through research. There's now an opportunity to use this platform to highlight IKBFoS faculty and share their research with the community.

Engagement with IKBFoS alumni appears to be a gap. We were discouraged at the low attendance (1 alum) at our meeting for this group. Given the short history of UBC-O and IKBFoS, there's an opportunity to create a young and engaged alumni base that will serve the institution well for years to come.

Support for the University and Campus Strategic Plans:

People and Places

There is a strong culture of support for students. This is, at the core, a generally collegial tone within all members of IKBFoS. The commitment to undergraduate research is an example of activity reinforcing this culture. The faculty members and staff were impressively aware of campus initiatives to support students.

The alumnus who spoke to us indicated that they chose UBC-O specifically because the campus configuration was well adapted to their mobility needs.

Research Excellence

The Faculty strongly reinforces the Research Excellence commitment in the campus strategic plan. There are active cross disciplinary research programs; the trajectory for external grant funding is exceptional; and the research is deeply impactful within the Okanagan, particularly with respect to themes of local interest such as the impact of wildfire, and ecology.

Transformative Learning

The faculty has created several programs, for example, in Data Science and in the microcredential programs in EEGS that are exemplars of transformational learning. They are popular and provide access to international expertise to engage and advance the workforce.

Access to undergraduate research opportunities provides an extremely high-quality experiential learning opportunity.

Local and Global Engagement

There are numerous examples of community-engaged research within IKBFoS. The strong connections to Germany demonstrate a noteworthy strength, and this example offers a template for more global

engagement. There was less evidence of the Asia-Pacific connections that is mentioned in the University Strategic plan. This could be an opportunity for growth.

There is strong potential to improve alumni engagement.

Physical Infrastructure:

Throughout our discussions with the various stakeholders, the lack of space was raised repeatedly. While enrollment has not grown in recent years (post-pandemic), there was earlier growth, particularly the dramatic increase in space-intensive graduate students and the hiring of research-intensive faculty. The administration has sincerely tried to address the graduate student space issue, but a significant shortfall still exists. In addition, a QR code monitored allocation of graduate student desk space has not worked well and has damaged relations with this group. These chronic conditions need to be addressed before contemplating further enrollment growth. We were encouraged by two capital projects, the *šł sic snpařnwix^wtn* building, and the downtown Kelowna “Health” building. The new *šł sic snpařnwix^wtn* building has been thoughtfully considered to support Science faculty in ways that support the strategic direction of research inter-disciplinarity. This will allow for some net growth of research space as well as freeing up space in other buildings. The move of the health-related faculties to a new home in downtown Kelowna is a second opportunity to address existing space concerns at the UBC-O campus with the redeployment of the vacated space. This presents an important planning process to most effectively re-use this space, noting that there are challenges with renovating older space including finding the resources to do so. Looking beyond these two initiatives to a longer term capital building plan is important to start now.

Financial Planning and Resources:

The Faculty of Science appears to be on an expense budget, receiving tuition from enrolled students and some percentage of the government grant to balance their budget. The relationship of IKBFoS’s budget to the greater campus budget was not made clear to the reviewers. This plays into the consideration of the desirable incentivization of interdisciplinary (particularly cross-faculty) and the allocation of resources to do so. The recent collaboration with the Bachelor of Sustainability and the proposed School of Computing could prove to be excellent case studies to provide a framework for such collaborations, both from governance and fiscal perspectives. There appears to be opportunities to realize efficiencies by carefully considering overlap among campus wide centralized services and within faculty delivery of such, in particular, recruitment, and undergraduate and graduate student services.

We acknowledge that most Canadian universities and colleges are facing financial challenges, largely related to volatility in the international student market, and this will likely impact the UBC-O’s budget and likely require razor-sharp strategic decisions. Finally, we applaud the efforts and resources deployed to develop an Indigenous strategy that is the envy of other Canadian universities. These initiatives need to be safeguarded during periods of fiscal constraint.

Future development:

IKBFoS was part of major restructuring in 2020 when the former Faculty of Arts and Science became two Faculties. The change while very welcome by the Science departments led to a few years of adjustment. This review is occurring at an opportune time to look to the future of IKBFoS. This consideration of the future is embedded in the trajectory of the campus as a whole addressing the nuanced question of how to maintain the benefit of the overall UBC brand but carving out a distinctive identity for UBC-O, capitalizing on demonstrated strengths, fostering unique new directions, and the leveraging of the Okanagan and environs location.

Many smaller institutions in service of undergraduate program delivery have faculty that are “one of a kind” to cover disciplinary breadth. UBC-O is now large enough to develop depth by cluster hiring that provides competitive strength in a number of focal areas as well as meeting EDI goals of diversification of the faculty, particularly in the STEM areas. The new ʔəl sic snpaʔnwiʔtən building will foster this cluster focus in an intentional way.

Conclusion:

It was a pleasure to review the Irving K. Barber Faculty of Science (IKBFoS), a vibrant Science Faculty excelling in the teaching and research mission of UBC-O. We applaud the success of IKBFoS, particularly since its creation as a standalone Faculty five years ago. IKBFoS has been able to attract excellent early career and mid-career faculty members and an enthusiastic group of graduate students. It has dedicated and effective group of staff. There have been some growing pains and there is a need to reconsider the organizational procedures and processes to meet the new demands on the Faculty. In addition, there is a need for leadership training for faculty and staff.

The tension between student and other supports that are offered at the Faculty level and those that are offered by campus wide structures needs to be resolved. In particular, this was flagged for graduate programs and students, and for undergraduate student advising.

The goal of fostering interdisciplinarity is encouraged and will contribute to generate a distinct UBC-O identity in a demonstrable way. This approach has widespread support on campus. However, intentional fiscal mechanisms need to be put in place to overcome the general siloing of Faculties due to the budget model.

In order to maintain the commendable record of attracting talent and research funding, there is a need refine the articulation of the identity of the campus, including IKBFoS, within in the UBC system and the Okanagan. The trajectory of UBC-O, starting as a local college, transitioning to a small satellite campus of UBC, and now evolving into a partner campus to UBC-V, has been remarkable. This an ideal moment to continue to develop a strategic plan at the campus and Faculty level. This plan should continue to capitalize on the exceptional UBC brand while weaving in a distinct UBC-O flavour that emphasizes particular areas of expertise and the leveraging of its unique location.

Summary of Recommendations:

1. Undergraduate Education and Student Learning
 - a. Work cooperatively with recruiting to understand realistic local opportunities, to better target domestic students beyond the immediate local market.
 - b. Assess the existing services available centrally and in IKBFoS and how best to integrate these in the best interest of students.
 - c. Strengthen upper year undergraduate course offerings.
 - d. Revisit the Indigeneity requirement to ensure that it is well structured. Consider making it available to graduate students.
2. Graduate and Post-doctoral Training
 - a. Continue to examine solutions for graduate student workspace
 - b. Consider carefully the mandate and scope of COGS and how it can best interact with the Faculties where graduate students are housed
 - c. Develop graduate student supervision guidelines and workshops based on these guidelines to foster an environment of best practice for such supervision
 - d. Examine departmental practice to see if there are examples of non-compliance with the TA collective agreement
3. Continuing and Professional Education
 - a. Expand regional connections with industry, government, and Indigenous communities to continue to develop authentic academic programs that address a local need.
4. Student Academic Experience and Support
 - a. Mandate SVPRO training for academic decision-makers to promote a fair, respectful, and supportive environment for all students
 - b. Simplify the structure of undergraduate advising.
5. Research, Scholarly and Professional Activity
 - a. Collaborate with the central research office to streamline grant administration and reporting support, enabling faculty to leverage regional strengths and pursue larger funding opportunities.
6. Leadership and Administration
 - a. Prioritize leadership development and deploy intentional strategies to diversify the pool of candidates for future positions.
 - b. Improve the transparency of the promotion process. Meet timeline requirements and targets.
 - c. Enhance leadership and succession planning by implementing a comprehensive leadership training and succession program to diversify and prepare future leaders, to address the current strain on existing leadership roles.
7. People Environment and Culture

- a. Develop staff onboarding, leadership, and succession planning by creating a training and succession program to support staff and promote leadership opportunities
8. Community Engagement
- a. Leverage existing and other potential partnerships to yield more work-integrated learning opportunities for students (through co-op and internships).
 - b. Establish a more formal structure for alumni tracking and engagement, including frequent outreach and opportunities for alumni to participate in mentoring and co-op placements.
 - c. Consider using existing platforms such as the Distinguished Speaker Series to promote IKBFoS researchers to the local community.
9. Physical Infrastructure
- a. Capital project planning beyond the new *šəl sic snpašnwix^wtn* building and the downtown Kelowna building should begin now in anticipation of the deferred maintenance of the older stock of buildings on campus and to synchronize future space with the strategic priorities articulated in the self-study.
10. Financial Planning and Resources
- a. Develop a form of a revenue sharing model to further the goal of interdisciplinary among departments and Faculties.