Information Systems Program Self-Study Exemplar

NORTH ISLAND COLLEGE

NIC

Program Review Process

November 2022

North Island College is honoured to acknowledge the traditional territories of the combined 35 First Nations of the Nuu-chah-nulth, Kwakwaka'wakw and Coast Salish traditions, on whose traditional and unceded territories the College's campuses are situated.

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Acknowledgements

We the team lead and self-study facilitators would like to acknowledge the hard work and participation of the self-study team members. They participated in the spirit of cooperation, critical self-reflection, and flexible decision-making. In all, the team held 10+ meetings and email exchanges for a total of 90 hours of contact time to complete the self-study, over a period of 15 months. We the team lead and self-study facilitators would like to acknowledge the leadership and support of the Centre for Teaching & Learning Innovation. Their inclusion in activities and discussion at certain junctures in the process provided valuable feedback and direction.

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Summary

The Information Systems programs (including both the certificate and diploma options) provides well rounded learning experiences for students in the North Island. The programs have many strengths, including strong transferability pathways with partner institutions and robust industry partnerships and connections that provide networking opportunities for both international and domestic students. Faculty that teach in the programs are continually evolving their teaching practices to reflect both the changing industry and the emerging science around effective teaching and learning approaches.

While the programs hold many strengths, there is room for improvement in data collection practices, domestic and international student recruitment and consistent course scheduling, specifically in the diploma program. Included in this self-study is a comprehensive overview of the program with detailed recommendations to move the program forward. While some data collection processes must be developed and implemented, the reasoning behind the recommended steps going forward is sound and based on years of experience and an in-depth understanding of the information systems field and the training that is involved in preparing individuals to enter the field.

Introduction

The Minister of Advanced Education, Skills & Training tasked the Degree Quality Assessment Board (DQAB) with developing and implementing a periodic quality assurance process audit of internal program review policies and processes at public post-secondary institutions. The terms of reference for the DQAB establish that audits will be based on information provided by public post-secondary institutions to ensure that rigorous, ongoing program and institutional quality assessment processes have been implemented.

With the end in mind and knowing that program self-studies will be part of the Quality Assurance Process Audit (QAPA) administered by DQAB, North Island College (NIC) has developed an internal self-study template with DQAB considerations in mind. The NIC self-study template includes evidence relating to program performance, including strengths and weaknesses, desired improvements, and future directions (DQAB essential elements) as well as a comprehensive overview of the program in its entirety. The DQAB outlines the following as components to be considered in a self-study (with comments and an indication of where in this self-study a reference can be found).

DQAB Item	Sectional Reference
1. Appropriateness of program's structure, admission requirements, method of delivery and curriculum against programs educational goals and standards.	Section B

2. The adequacy and effective use of resources (physical, technological, financial, and human).	Section B
3. Faculty performance including the quality of teaching and supervision and demonstratable currency in the field of specialization.	Section C
4. Graduate satisfaction level, student satisfaction level, and graduate rate.	Section C
5. The adequacy of the methods used for evaluating student progress and achievement to ensure program's stated goals have been achieved.	Section D
6. Learning outcomes achieved by students meet the program's stated goals, credential level standard, or any regulatory, accrediting, or professional association requirements.	Section E
7. Graduate employment rates, employer satisfaction level, and advisory board satisfaction level.	Section E

Program Overview

The Information Systems program offers the following credentials:

- Certificate in Information Systems (CIS) (one-year)
- Information Systems Leadership diploma (ISLD) (two-years)

Courses taken in the certificate program constitute year one of the diploma program. To maximize access, both the certificate and diploma options will be offered in a hyflex format in September 2023, which allows students to access courses both in person or online. Students have the option to enroll on a full- or part-time basis.

Including a visual of how the programs connect and the pathways students can take through the programs helps to paint a picture of the student options and experiences

Certificate in Information Systems (CIS)

Information Systems Leadership Diploma (ISLD)

Transfer to a University as a 3rd year student in Information Systems

Launch into managerial career in Information Systems

Transfer to a University as a 2nd year student in Information Systems

Launch into entry-level career in Information systems

Admission requirements, graduation requirements and course offerings for the Certificate in Information Systems are found here:
https://www.nic.bc.ca/programs/arts-science-and-management/information-systems-certificate/fake_link

Make sure to use a live link for your admission requirements, in case any requirements change between the publication and completion of the self-study

Admission requirements, graduation requirements and course offerings for Information Systems Leadership Diploma are found here: https://www.nic.bc.ca/programs/arts-science-and-management/information-systems-leadership-diploma/fake_link

Program Mission, Vision, & Purpose

Mission: Our mission is to prepare students for employment and through their employment, make a meaningful impact in the sector of information systems, or provide a gateway for them to continue their education.

Vision: For those wishing to continue their education, the vision of the Information Systems program at NIC is to become an accessible, flexible, and adaptable gateway to degree programs around the province. Part of this vision is to provide access to first-year courses to students located in remote and Indigenous communities up and down the coast and elsewhere, while allowing them to stay in community as much as possible.

Purpose: The purpose of the Information Systems program at NIC is to prepare students for second-year Information Systems at the University of Victoria (UVic) and other universities in BC and across Canada. While most of our students have historically gone to UVic, we have committed to the common Information Systems curriculum and we have had students successfully transfer to UBC, Calgary, Waterloo, and Saskatchewan.

Preparing students means not just covering the curriculum content contained in the first-year courses, but also teaching them to be successful post-secondary students and competent problem solvers.

Program Learning Outcomes

	After completing the **Information Systems Certificate,** graduates will be able to…	After completing the **Information Systems Diploma,** graduates will be able to…
Information systems philosophy	Apply the values, history and philosophy of information systems in a variety of settings	Critically analyze and interpret and apply the values, history and philosophy of recreation in a variety of settings
Systems thinking	Research, create, implement and evaluate a systems theory approach to an information systems practice within their community	Apply systems theory to research, create, implement and evaluate an information systems practice within their community
	Apply a systems theory perspective to develop and support the implementation of information systems practices	Apply and evaluate systems theory perspectives in the development of information systems practices
	Perform and analyse a needs assessment to apply an information systems approach to address community needs	Research, analyze, develop and implement strategies towards an information systems approach, developed from needs assessments to address community needs
Professional development	Develop and implement goals for ongoing personal and professional	Develop, implement and reflect on goals for personal and professional

	development as an information systems professional	development as an information systems professional
Communication	Identify and recognize appropriate communication skills to explain and relay information systems perspectives to those outside of the field	Examine and adapt appropriate communication skills to discuss, debate and integrate information systems perspectives to others within respective fields

Alignment to NIC's Institutional Strategic Plans

As with courses throughout NIC's program offerings, the courses in the Information Systems programs are guided by the college's overarching, interwoven strategic plans – _BUILD 2026_, _Widening our Doorways_, and _Working Together - NIC Indigenization Plan, The Care² Plan, and the Journeying Together Indigenized Internationalization Plan_ – which seek to create an inclusive learning environment, providing individualized, student-centred learning and supporting healthy, thriving communities in the diverse region we serve. Specific examples of how our programs are working to progress institutional strategic objectives are outlined in Appendix A.

> You can copy and paste this section directly into your self-study! Make sure to complete the appendix template that's connected to this section, though.

Alignment of Program to Accreditations and Industry Standards

The Information Systems certificate and diploma program mission and vision align with industry and academic expectations of this sector. The department attends articulation meetings annually to ensure that the programs are in alignment with and transferable to a variety of universities, including the University of Victoria (UVic) and Vancouver Island University (VIU). A complete overview of previous and current relationships with different institutes can be found in Appendix B.

Department Composition

Faculty Teaching in the Information Systems Program

Jane Doe

Jane has been a dedicated faculty in the information systems programs since their conception. Jane plays an active role in the information systems industry in a variety of ways, including but not limited to sitting on the board for the Information Systems Association, coordinating the annual BC Information Systems Symposium, and acting as a subject matter expert and guest speaker for a variety of information systems organizations. Jane cares deeply about the success of her students and takes workshops annually to improve her teaching delivery methods, curricular design, and pedagogical approaches.

John Dear

John began his career in information systems 30 years ago and started and ran a successful information systems organization for the better part of 15 years. Now, in addition to teaching in the information systems programs at NIC, John also runs an information systems consulting company, and spends his time travelling

across Canada to consult at different organizations across the country. John is passionate about teaching and learning and actively works to develop his instructional skills through workshops, book clubs, teaching and learning conferences and more. John is currently in the process of developing a virtual exchange with the University of Papua New Guinea in his 2nd year 'Foundations of Information Systems Course' (SYS220).

Student Characteristics and Graduation Rates

Students entering the Information Systems program primarily come directly from high school or within a few years of high-school graduation. A small number of students, who have been out of school for a longer period, return to launch their Information Systems degree at NIC. These mature students are often extremely valuable to the classroom, as they commonly model a good work ethic and team-work skills to the rest of the class.

Use graphs and charts to add visual components to your self-study. Make sure to wrap any graph or chart with the necessary text to provide context for the visuals. Graphs and charts should support the text and be relied upon to carry the narrative of your self-study 'story'

Student headcount data for the two entry/exit points from NIC during 2015 – 2020 are as follows:

NIC Information Systems Certificate Enrollment Headcount Breakdown
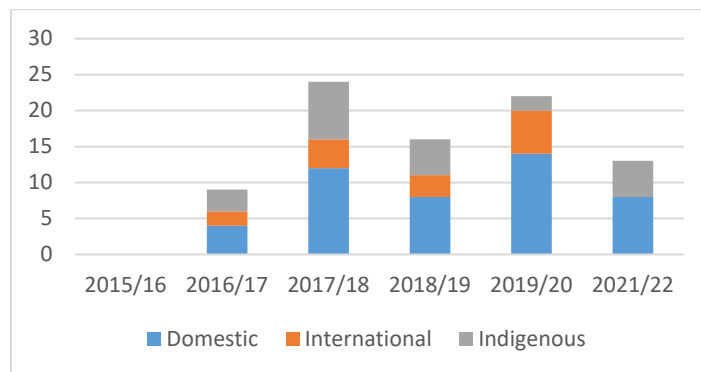
Information Systems Diploma Enrollment Headcount Breakdown
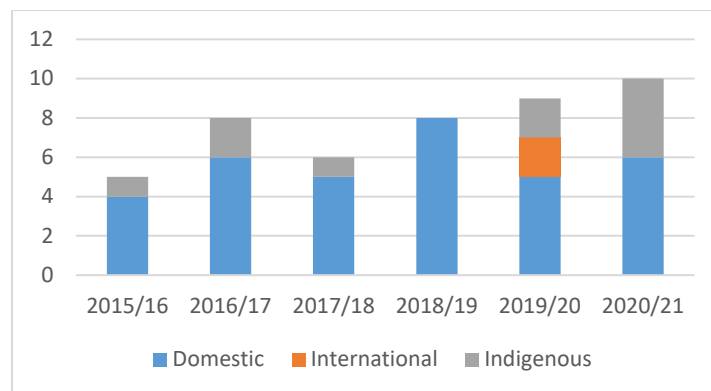
Students entering the program are generally proficient at information and systems and enjoy analytical and systematic approaches to solving problems. From a current student survey conducted in March of 2021 (87% response rate), 62% are not employed, 23% employed up to 5 hours a week and 15% working between 6 and 20 hours a week. 85% of students are in the Comox Valley campus area with 30% in the Campbell River campus area and 7% not able to access any of the college's campuses. These current students report that choice of courses, access to Wi-Fi, paying for tuition, finding time to study, paying for other learning materials and cost of living are their most significant barriers to learning.
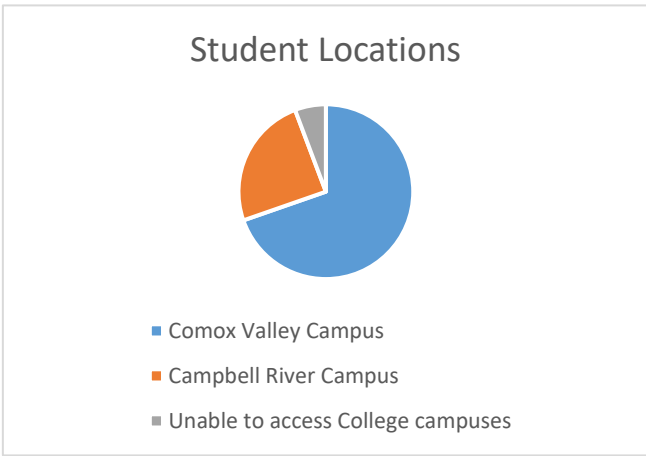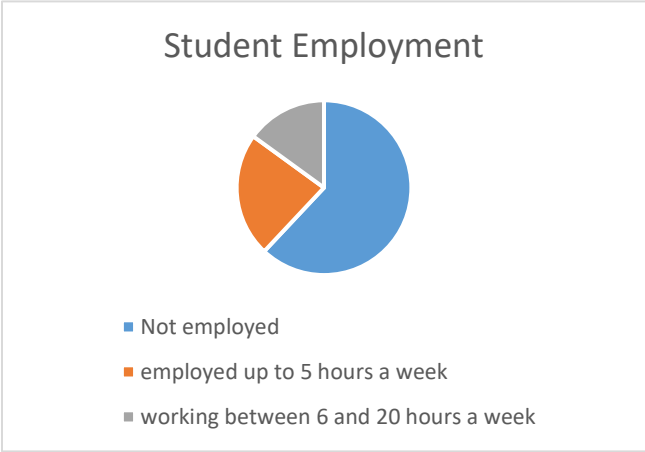
Fifty Eight percent of current students indicated they are here to transfer to another institution to continue or complete their studies, with UVic being their top choice (85%), and VIU and UBC both coming in second (15% each). Alumni results from 2021 survey (graduates from 2016 – 2020) indicate similar results but with only 40% transferring to another institution (50% going to UVic, 16% to VIU) and 60% obtaining the NIC credential (either the certificate or diploma).

A total of 46 students have taken an information systems design course at NIC between 2015 and 2020 [this number is not necessarily reflective of the number of students registered in the program (therefore headcount number inconsistencies) but rather the number of students that have taken SYS 100 – Introduction to Information Systems I or SYS 101 - Introduction to Information Systems II (or the former SYS 110). The official program has only existed for a few years and the 46 number excludes students on a UVic dual admission program. Of these 46 students, 93% were between the ages of 18-24, 15% self-identified as Aboriginal, 6.5% were international students, and 86% male (institutional research data provided for a feasibility study into a two-year Information Studies diploma that was proposed in 2019).

From the current student survey done in March 2021, respondents indicated their perception of how well NIC has prepared them to be a successful learner: excellent (8%), good (50%), satisfactory (33%) and poor (8%). Alumni students (March 2021 survey) indicate similar results.
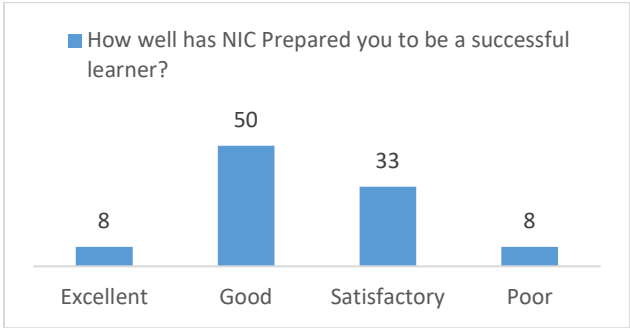
Distinguishing Features of the Information Systems Program

The main distinction between NIC's Information Systems program and first-year Information Systems programs at many other institutions is small class sizes. This factor has been significant in helping bridge the gap between high school and university and easing the transition for students.

Small classes allow for greater personal connection between instructors and their students, which facilitates the identification of students' individual learning needs and confirmation of students' mastery of course material. The low student/instructor ratio means that students have greater access to their instructors for support – both in and out of class time. Additionally, most program instructors have undertaken studies in education and posses either a Bachelor of Education degree or a Provincial Instructor diploma (or are currently working towards one).

Peer-learning and team-learning opportunities are another benefit that small class sizes offer; this contrasts with larger university classes, where students tend to be more anonymous. As well, students have excellent access to learning resources and other academic and non-academic supports.

Small labs create more interaction with and support from the instructor. Often, the same instructor delivering the lecture is leading the lab, so there is a strong cross-over/connection between lecture and lab content.

Another program distinction is NIC's focus on open-source textbooks and resources. This commitment helps to significantly reduce the cost of the program for students, and we know from a March 2021 survey of NIC Information students that affordability is one of the most significant reasons why students choose our program.

Top Priorities for Action Planning Moving Forward:

This should be a high-level overview of the 'current commitments moving forward' aspect of each of the six sections within the self-study. These priorities should be flushed out in greater detail within their relevant sections.

Commitment to Learners:

- Develop a Program Advisory Committee
  - Developing and enhancing relationships with stakeholders and determining annual data gathering practices to increase understanding of stakeholder expectations
- Program alignment
  - Increasing transfer options and guaranteed admission pathways to more information systems schools.
  - Increasing flexibility in program start and endpoints, duration, and delivery methods

Program Structures:

- Strengthen offerings in second-year information systems courses
  - Increasing program awareness, recruitment and retention, as more students are needed in order to strengthen second-year course offerings.
  - Explore the possibility of partnering with other rural institutions to collaboratively offer second year courses that traditionally suffer from low enrollment.
- Create directed suggested scheduling for part-time pathways for students in the certificate and diploma

Learning Community:

- To increase industry relationships

- To foster additional capstone or co-op partnerships for information systems students to choose from (thereby creating a stronger and larger community network to link students with potential employers, and industry professionals with potential new hires)
- To create a designated space on campus for the Information Systems community
- To develop and implement a program advisory committee, as discussed above

Practices

- To work with the Centre for Teaching and Learning Innovation to develop surveys and other methods of data collection to allow for a more reflective and data-informed approach to teaching and learning
- To continue to explore how to Indigenize courses and programs
  - To work with local knowledge keepers to ensure Indigenous worldviews are embedded within all courses and programs

Collective Impact

- The development of surveys to see a more deliberate understanding of program and course learning outcomes
  - To work with the Centre for Teaching and Learning Innovation to better understand from an evidence-based perspective of how and what students are learning
- To more purposefully build a more intentional method of celebrating student, alumni and faculty success

A. Commitment to Learners

What Students Experience, Develop, and Accomplish

Use this section to paint a picture of what it is that the students currently experience in the programs, and how their experience leads them to their expected destinations (transferring to a different institute, beginning a career in their chosen field, etc).

During their time in the program, students gain the knowledge and skills they would expect to obtain at the UVic or other universities, but in smaller classes, with personalized attention. Students develop a range of skills necessary for success in university, including functional skills (such as how to study, manage time, and conduct research) and broader learning skills (such as problem solving, critical thinking, and effective team/group work).

Students in the program expand their ability to apply systems thinking to a diverse range of topics within their communities, and subsequently how to discuss systems theory and explain information systems approaches to others outside of the information systems profession.

Through an introduction to the information systems profession, students learn the different fields of information systems and the respective duties and obligations of information systems professionals. Relevant skills – such as a comprehensive understanding systems theory – developed by students in the program, apply directly to their future co-op work and careers in the field.

NIC's information systems students cultivate a discipline of self-reflection about their learning. They develop a proactive approach to identifying areas where they require assistance in learning and become comfortable approaching instructors and peers for help. Together with the skills and knowledge acquired through the

program, these qualities strengthen students' competence and confidence in preparation for their next educational step.

While students can graduate either the certificate or diploma and go directly into a career in the industry, many students choose to continue their education. As such, courses in the Information Systems programs transfer through the BC Transfer guide to universities throughout the province. The program provides seamless transfer into the second year of UVic's Information System Program as well as the second year of VIU's Information System program.

NIC's Information Systems programs are working to ensure we are compliant with *First-Year Common Information Systems Curriculum for the BC Post-Secondary Sector* to facilitate easier transfer to other institutions as well.

Pathways to Further Learning

Courses in the Information Systems programs align with similar programs offered in other accredited institutions in the province transfer through the BC Transfer Guide. (Please see Appendix B for a list of current and past institutional partnerships.)

After completing their diploma, students can transfer in their 3rd year to UVic or VIU's Information Systems degree programs. For Bachelor of Information Systems degrees, students need to take some bridging courses. UVic is often chosen as a laddering institution in part because students only need to take two or three university transfer courses before entering their third year of studies as well as UVic's offering of an online program, facilitating students to remain in their home communities. Transfer agreements do, however, change regularly, and we meet yearly at Articulation to improve transfer options in the province.

NIC's Information Systems department is working to facilitate better transfer opportunities/options to various institutions in BC that offer Information Systems and related degrees.

Expectations of Stakeholders

Based on their perspectives, key stakeholders have varied expectations of student experiences and outcomes from the program; however, they all anticipate that students will exit the program with a solid base of introductory knowledge in information systems, an expanded understanding of the information systems profession, and a well-developed skillset for post-secondary learning.

This section should be supported with data compiled in phase two: data gathering. Use surveys from students, parents, potential employers, and other key stakeholders to articulate data-based stakeholder expectations.

For parents and family members of NIC's Information Systems students, the expectations are that they will study close to home, thereby maintaining a wider safety net – both personal and academic. Upon program completion, students are expected to experience a seamless transfer from NIC to their university program. This transition to university learning should be easier than had the students gone directly from high school.

In the Information Systems programs of receiving institutions, faculty expect all incoming NIC Information Systems students to have achieved the same learning outcomes with the same level of rigour as their own students.

Within the information systems profession, the expectation is that NIC information systems students will receive a level of education and training equivalent to that of their first-year counterparts in university. Additionally, it is expected that students will maintain membership in the Information Systems Association (ISA) and that they will network with other students, employers, professionals in training, and professional gatherings and regional events.

Employers, hiring for co-op jobs, expect students to be proficient in the skills required for the work. Employers require students to apply their skills to a broad range of problems, and students need to adapt and map their skills onto real-world challenges, which can be vague and disordered. In their co-op positions, students are also expected to have some knowledge of and maintain compliance to professionalism and ethical codes of conduct.

Recommendations on Next Steps Moving Forward

- Develop a Program Advisory Committee
  - Developing and enhancing relationships with stakeholders and determining annual data gathering practices to increase understanding of stakeholder expectations
- Program alignment
  - Increasing transfer options and guaranteed admission pathways to more information systems schools.
  - Increasing flexibility in program start and endpoints, duration, and delivery methods

While the Information Systems programs have strong relationships with stakeholders, specifically industry partners that support students with practicums, projects and networking opportunities, more can be done to strengthen stakeholder relationships and have a clearer understanding of stakeholder expectations. Moving forward, the Information Systems department will focus on the following actions to address this:

Potential students, high school counsellors and parents

- The department will take action to increase program awareness at high schools and communities in the region
- The department will take action to develop data gathering practices to hear from potential students, high school counsellors and parents about what they expect from the program, and how to meet those expectations

Current and potential industry partners

- The department will set up a Program Advisory Committee to meet bi-annually for the purpose of hearing from information systems professionals locally

Additionally, through the program review process, it became apparent that students are increasingly expecting more transfer options and admission pathways to universities across British Columbia. Further, students have expressed the desire for more flexibility in how the programs are offered and delivered. Moving forward, a priority for the department will be to explore more flexible program structures, beginning with offering courses in a hyflex format in September 2023.

B. Program Structures

History of the Information Systems Program

Prior to 2008, a handful of students had started their post-secondary studies at NIC, with the goal of ultimately transferring to Information Systems at UVic or VIU. At the time, only part of the first-year Information Systems curriculum was offered at NIC, and only a few specific courses were credited towards the first-year university programs; therefore, it was not advertised as a university pathway.

Despite the lack of a pathway, recruiters from UVic attended an information night at NIC each year, and an NIC representative attended the annual Information Systems articulation meeting. From collaborations that came because of these events, a plan was created in 2008-09 to make an easier process and a formal pathway for north island students to take first-year Information Systems at NIC before transferring to UVic. This resulted in the development of first the certificate, and then the diploma, two years later. Both programs have evolved in different ways since their inception, with each change intended to improve the student experience. For a detailed overview of specific changes made to the department and programs, please refer to Appendix C.

> Keep this section brief and add additional information in an appendix. Use this section to discuss how the programs are continually evolving to meet student and industry needs.

Program Delivery and Scheduling

When taken in the suggested order, courses build on one another to allow the students to expand their understanding of information systems and systems theory. Instructors work closely to ensure that their courses do not repeat content but instead build on one another through the deepening of concepts introduced and explored. Faculty regular meet to assess and analyse what content is delivered in each course, what assignments are given and what approaches are used to analyze skill development. With tools such as our course planning and alignment table (see Appendix D for details) revisited and updated annually, faculty work collectively to deliver a robust learning experience to the information systems students.

However low student enrollment dictates that second-year courses are not consistently offered or run, which compromises faculty's ability to deliver a cohesive learning experience to students. Further, while the programs have suggested timetables, it is not a requirement that students follow these. Increasingly, we are seeing more students take the program on a parttime basis, which compromises their ability to move through the program with the courses in their intended order. A possible solution to this might be to implement prerequisites to courses that are designed to scaffold others, however this would cause extreme scheduling challenges to students navigating the program on a part time basis. Serious consideration needs to be given to how to address this ongoing challenge.

Appropriateness of Program's Structure, Admission Requirements, Method of Delivery and Curriculum against Programs Educational Goals and Standards

> This is a necessary section, be sure to include this.

While anecdotal evidence supports the following information, it became evident through the department's program review process that more consistent and specific data collection needs to be in place in order to allow the department to evaluate and assess appropriateness from an informed perspective.

Program Structure

The certificate is designed to scaffold into the diploma, and both programs are designed to provide a seamless transfer to both the UVic and VIU Information Systems degree programs. The structure of the certificate and diploma are assessed through curriculum mapping and course alignment exercises annually, to ensure that they are designed in a way that allows students to achieve the program learning outcomes as they move through their chosen program.

Admission Requirements

The admission requirements align with that of VIU and UVic's admission requirements. Admission requirements are assessed each year at articulation meetings, and the department updates and revises admission requirements in alignment with current practices across the province.

Method of Delivery

As previously mentioned, it is increasingly clear that more flexibility in methods of delivery is desired by current and future students. Moving forward, the department will be assessing current methods of delivery and working with the Centre for Teaching and Learning Innovation to explore how to expand methods of delivery without sacrificing quality of instruction. The upcoming trial of courses being offered in a hyflex format in September 2023 will allow our department to begin to explore more flexible course delivery options.

Curriculum

The Information Systems Department attends articulation meetings annually to ensure that the curriculum of the certificate and diploma are aligned with other institutions across the province. First-Year Common Information Systems Curriculum for the BC Post-Secondary Sector is described here: https://www.bccat.ca/pretend-link/information-systems.pdf

This is a necessary section, be sure to include this. Please copy and paste relevant sections such as student supports

Availability, Allocation, and Effective Use of Resources

Physical Resources

The physical resources (classrooms, laboratories, library, study spaces) are adequate for the Information Systems programs. It would be nice, especially if the program is to grow, if there was a dedicated build/study space for the information systems students. Right now, the engineering lab in Sparrow 410 fulfills this function; students' study in there when there are no labs going on, and the 3D printers and some small tools are stored in the prep-room for their use in the SYS courses. If there was a dedicated space, these tools could be more readily available, and students would have more flexibility as to when to complete projects. The information systems students also share the engineering lab with other science students, who also use this area as a study-space, and sometimes the space is unavailable when our information systems students need to use it.

Technological Resources

Technological resources for the Information Systems program are adequate. Students have access to NIC email, Brightspace (NIC's learning management system), and BlueJeans for teleconferencing. Other software used in our courses is available in the computer labs on campus.

Financial Resources

The Information Systems program courses are adequately funded. If more funding were available, we could expand delivery options for some of our courses, and we could provide for a dedicated study space for the

information students. We could also dedicate funding towards recruitment initiatives such as a marketing campaign specifically for the Information Systems program.

Student Support Resources

There is a strong network of academic resources provided by the Library & Learning Commons, including but not limited to math support, writing support, research help, peer tutoring, and student technical services. Additionally, there are qualified instructors available on three main campuses for individual help, even for courses that are only offered online. Further, there is centralized academic and non-academic supports, including the Early Assist program provides one-stop access to a broad range of supports for students – meeting both personal and academic needs.

Human Resources

Human resources for the Information Systems program include teaching faculty and lab technicians for the math and science department, who maintain the lab equipment (including 3D printers and tools used by the Information Systems students).

Student Learning Resources

In addition to the academic and non-academic resources available to all NIC students through systems thinking support, writing support, research help, peer tutoring, student technical services, and *Early Assist*, the Information Systems program provides its students with specific supports to ensure their success.

Accessibility to the program's dedicated faculty for support and consultation is the primary resource for students in the program. Faculty knowledge, support, and guidance provide an invaluable resource to students facing questions on anything from course material to career directions. Further details about student resources can be found in Appendix E.

The Student Learning Journey

In the one-year Information Systems program, students gain an understanding of the Information Systems profession, while refining their skills and knowledge in information and systems. Through learning strategies employed in English and information systems courses, students develop their communication and teamwork skills, and throughout the program, students strengthen their critical thinking and study skills. Upon program completion, they have achieved the base knowledge and skills required for advancement to second-year Information Systems at university and application in future careers.

Course Delivery and Formats: Alignment to Needs of Students

Officially, the Information Systems Certificate is a one-year program; however, over half the students in the program take more than one year to complete it. Some make the decision ahead of time to complete the program in two years, and some decide to do so when overwhelmed by the six courses in their first term. Similar to the certificate, although the diploma is designed to be a two-year program, students are increasingly opting to complete this program over 3-4 years, on a part-time basis. Our hope is that with more flexible course offerings (for example offering courses in a hyflex format where students can learn from home if they

are ill or unable to find childcare, etcetera), it will be more accessible for students to pursue full-time schedules. Further data is needed to determine whether or not offering courses in a hyflex model increases full-time enrolment.

The Design of Learning Experiences

In the Information Systems program, courses are arranged – to the greatest extent possible – to work in complement with one another and to create a natural progression of learning. For example, systems thinking is covered early in the systems course to complement the information course, and statics is covered first in the information course so that the systems thinking will complement what has already been covered.

Moving the first systems course (SYS 100) to the first semester has helped prompt information systems students to think like information system professionals from the start. Course discussions on professional ethics complement the message on academic integrity that is delivered at the beginning of every NIC course.

Good communication is integral to achieving the learning outcomes – mastering how information systems are expressed in writing, demonstrating an understanding that this is a public language. This has been tracked through regular assessments and feedback on quizzes, assignments, and in labs. In future, communication will be part of the rubrics used for written assessments in systems thinking. Information Systems students also practice communication with sketches and detailed drawings of their ideas.

Analytical skill is also essential to program success. Students learn to approach a written problem, determine the end goal, extract the required information (both explicitly provided and implied), and determine the best method by which to solve it. At the start, students are guided to the course content to solve assigned problems; later, assessments progress to broader and broader cross-sections of the course.

This approach is also generalized to the labs, where students are provided real-life scenarios in which they must collect data to work with, rather than having it provided to them. The goal is to start to prepare students for future project-based courses, real-world work scenarios, and/or research, so they can make sense of complicated situations in a comprehensive and logical way.

Frequent, regular assignments and quizzes require students to reflect on their learning throughout the program.

Recommendations on Next Steps Moving Forward

- Strengthen offerings in second-year information systems courses
    - Increasing program awareness, recruitment and retention, as more students are needed in order to strengthen second-year course offerings.
    - Explore the possibility of partnering with other rural institutions to collaboratively offer second year courses that traditionally suffer from low enrollment.
- Create directed suggested scheduling for part-time pathways for students in the certificate and diploma

While there is much for the Information Systems programs to be proud about in regard to the current program structures, there is room for improvement to allow for an even better student experience that currently exists. Specifically, consideration needs to be given to how to best create an optimal student experience regarding

the order in which classes are taken. While the department strives for accessible learning options by means of allowing students to move through the program on a part time experience, consideration needs to be given to students whose schedules do not allow them to take the courses in the intended order. A possible solution might be to structure a specific parttime pathway for students. Consideration also needs to be given to low enrollment numbers and the likely possibility of course cancellations, especially for the 2nd year courses. Lastly, the current program structures could be enhanced through more intentional time towards curriculum development, specifically for the purpose of keeping abreast with ongoing industry evolution.

C. Learning Community

Faculty Overview

The Information Systems faculty comprise experienced and caring faculty. Faculty overviews are included in the Program Overview section, and their CVs can be found in Appendix F. Faculty have strong working relationships and meet twice a semester for formal faculty meetings. However, faculty are in constant communication with one another to check in on student wellbeing, course delivery, assignment deadlines and more. Faculty work together to create a sense of belonging and a community of care for current students and alumni.

Student Overview

The Information Systems programs have a diverse student body, with applicants ranging in ages, genders, nationalities and backgrounds. As discussed in the Program Overview section, the majority of our students join the programs directly out of high school. Our programs are desirable to high school graduates in the community, as they allow individuals the ability to live at home and remain with their support network (friends, family) as they transition from secondary into a post-secondary environment.

"Being able to live at home while taking the Information Systems diploma made a world of a difference for me. I couldn't afford the high tuition costs along with the cost of living if I had chosen to start my education at a university. I also think that homesickness would have impacted my ability to succeed. I am really grateful to have been able to pursue the career of my dreams without having to move away from my community." – 2019 diploma graduate

While students appreciate the ability to study while remaining close to home, it is important to acknowledge that we could do more to provide remote learning opportunities so that students in more rural communities can access our programs as well. We hope that by offering more courses in a hyflex format, we can work towards a completely hyflex program offering and in doing so, create more opportunities for students to study without having to leave their home community.

Department Partnerships

The Information Services department has numerous partnerships and collaborations with community organizations (see Appendix G for list of community partnerships). While many of these partnerships involve providing practicum opportunities for students and having members from different organizations come to speak to students in class there are also collaborations that have developed to support specific programs and

events. Such collaborations have involved things such as partnering to hold a film screening on specific topics or community events for students to take part in.

Sense of Community and Belonging

A significant student benefit of the Information Systems programs at NIC is its close-knit learning community. This is created through the relatively small size of the program, together with the tendency of students to take many of the same courses (required and elective) together. Instructors form a good working relationship with the student group as well as with individual learners, and in doing so, create avenues for support.

Instructors are experienced in and teach in multiple instructional areas, so there is instructional overlap on courses within the program. This enables learners to interact with many instructors interchangeably, providing the benefit of access to assistance from multiple sources and perspectives. This interconnected learning community provides a great source of academic and non-academic support to students in the program.

Additionally, program partnerships and networks have mutually benefited learners and local industry professionals. Opportunities for project and design work have created positive working relationships between the two groups. Please see Appendix E for a comprehensive list of current and past program partners.

While the Information Systems program faculty and staff strive to create a strong learning community for students in both the certificate and diploma, these efforts are hindered by the following factors:

- Not having a dedicated location for information systems students, which hinders community development
- Not having enough release time for faculty to build intentional community development activities for students
  - Related to this is not having enough release time for faculty to develop relationships with information systems professionals and to subsequently create community connections for students and industry professionals
- As we see an increase in students opting for a part-time course load, this reduces the opportunity for relationship development that comes with students attending the majority of their classes together

Recommendations on Next Steps Moving Forward

- To increase industry relationships
  - To foster additional capstone or co-op partnerships for information systems students to choose from (thereby creating a stronger and larger community network to link students with potential employers, and industry professionals with potential new hires)
- To create a designated space on campus for the Information Systems community
- To develop and implement a program advisory committee

While the information systems faculty take pride in the strong and inclusive learning communities we foster, more could be done to enhance the student experience. Specifically, a dedicated space for information systems students could enhance and support a stronger sense of place and community. Somewhere close to, or connected to faculty offices, so students could have immediate and direct learning support without having to seek out faculty online or in their offices in the village (where there is limited space for students to sit and

converse in faculty offices). Additionally, if there were more supports or release time available for faculty to develop and enhance industry connections – this could address two aspects of community development:

1. To increase industry relationships for the purpose of additional capstone or co-op partnerships for information systems students to choose from (thereby creating a stronger and larger community network to link students with potential employers, and industry professionals with potential new hires)
2. To increase awareness of the Information Systems programs at NIC and therefore to increase recruitment the programs through word-of-mouth recommendations (for example, if industry partners have entry level staff seeking to develop a career in information systems, they can share information about our programs to these staff)

Lastly, as previously discussed, it is a high priority to organize a program advisory committee. The intent is for the committee to be comprised of several of our community agency partners, meeting twice a year. These meetings would allow the department to get feedback from the committee that can inform changes in curriculum and the department. It is also an opportunity hear what their needs are and how the department can seek to support them.

D. Practices

This should be one of the most robust sections in your self-study. Take the time to go into depth (and add more detail through appendices) on teaching and learning practices

Identification of Student Learning Needs and Learning Goals

Within the program, several approaches are utilized to ascertain student needs and learning goals, so support can be provided to meet and achieve them.

In the first week of classes, an informal survey asks each student why they are taking the course, what their educational goals are, and what their background knowledge of information systems is. Each student is required to reflect on and identify their learning goals (not everyone is aiming for an A), then the instructor works with the student through the duration of the course to help them reach their individual goal(s). This individual approach is highly effective in encouraging each student to clarify what they seek to achieve and then helping them achieve it.

Regular, low-stakes, formative assessments are conducted throughout each course, enabling students to gauge their progress and instructors to assess gaps in individual and collective understanding. Instructors adjust teaching plans to meet these learning needs as well as those identified through discussions following pre-class reading assignments. Additional learning needs surface in tutorial sessions, where students' group discussions illuminate misconceptions and misunderstandings that need to be addressed.

These approaches have proven very successful in identifying students' learning needs and in ensuring the follow up support sufficiently meets those needs.

Teaching Strategies and Learning Methods

The Information Systems faculty are diligent in their quest to continue to evolve and strengthen their teaching and learning practices. As such, faculty are constantly updating and revising their courses to experiment with new and different approaches to assignments and other forms of evaluation. Recently, the information systems programs have worked to incorporate a more choice-based approach to teaching and learning by

providing students choice in how they would like to showcase their learning. Some students prefer writing papers, others prefer to create multi-media content such as video presentations, and other students experiment with more auditory approaches, for example creating podcasts to showcase learning. To highlight the success of this approach, one of our recent information systems graduates took the skillset their had learned in creating podcasts assignments and launched a public podcast, interviewing information systems professionals about current events on a bi-weekly basis. You can access their podcast here: www.pretendlink.com/informationsystems/podcast.

Wherever possible, faculty incorporate assignments that allow students to develop their professional portfolios by contributing to the information systems field in real world contexts. For example, a faculty member recently designed an assignment that required students to research BIPOC, women, and members of the LGBTQ2SI+ professionals that had positively impacted and progressed the information systems field. Students were required to create bios of these individuals (which often required the students to contact these professionals directly and conduct interviews) and then upload these bios to Wikipedia. This assignment not only created more awareness of marginalized voices who had positively impacted this field, but it also allowed students the opportunity to connect directly with many of these individuals, as well as giving them tangible items to add to their professional portfolios.

For more examples of teaching and learning strategies, including examples of current assignments, quizzes and exams, please see Appendix H.

The department has identified that an area of improvement in teaching strategies and learning methods is to implement Indigenized approaches to teaching and learning. To address this, faculty members are currently moving through the 'Pulling Together: A Guide for Post Secondary Instructors' to begin to understand what Indigenization might look like in the context of the Information Systems Programs.

Curriculum Development

Faculty pride themselves in their ongoing curriculum development endeavours. Twice a year, faculty meet for the specific purpose of discussing and enhancing the curriculum. In these bi-annual meetings, faculty update course planning and alignment tables, as well as the departmental curriculum map (see Appendix I for details). Additionally, faculty will bring in industry professionals and teaching and learning professionals to deliver workshops or presentations, which allow faculty to continue their individual and collective learning and assess and evaluate their own course curriculum, based on the information provided through these gatherings.

While much is being done to collectively drive forward ongoing curriculum development, more could be done to support and encourage faculty's individual efforts to stay abreast in the ever-evolving information systems industry. In students and alumni surveys, we have noted that students and graduates observe a misalignment between what is taught in class and what is going on in the industry. This is simply due to the speed at which change occurs within this industry, and as such, there is a need for additional funding and faculty release time to allow for further involvement in industry ongoings, such as conferences and events annually.

In addition to these methods currently in practice, program faculty plan to implement standards-based grading (mastery grading), which will involve a significant amount of group work. This grading system can impact the classroom culture regarding 'mistakes' and how we learn from them – putting an emphasis on self-reflection.

Textbooks and learning platforms that provide instant feedback on student work will enable students to reflect and self-correct through their coursework.

The standards-based grading system to be implemented will start with clear statements of the learning goals of each course and use learning targets (with associated assessments) to monitor student progression. Throughout their learning journey, students will have a clearer picture of the outcomes they are meeting and where they need to focus their attention. They will be able to track their own progress, rather than 'waiting for a percentage' from their instructor.

Methods and Approaches used to Give and Collect Feedback

The ways in which feedback is provided varies from course to course, but generally instructors rely on a variety of methods, including:

- Verbal feedback provided in class, both to the entire student body (for example, if there were common errors in an assignment, the instructor will address the class as a whole without singling anyone out)
- Written feedback on individual and group assignments
- Peer to peer feedback through systems like PeerMark and reflections on group work (its important to note that instructors will give instruction on how to give and receive feedback, so students have the necessary skills to provide constructive feedback to their peers)

Methods and Approaches used to Collect Data

Currently, the Information Systems programs relies on college wide data and reporting out, using platforms such as the BC Students Outcome survey. While this data was sufficient in providing a broad level understanding of student demographics, employment, and satisfaction with the programs, more data would be useful to inform the development of our programs.

Through this the development of the self-study, it became evident that we can do much more to collect usable data about our programs and student experiences. Moving forward, we will be working with the Centre for Teaching and Learning to develop student surveys for our programs. Specifically, we will develop an entry survey, a midpoint survey and an exit survey, so that we can have a stronger understanding of the student experience.

Methods and Approaches that Create Opportunities for Students to Engage in the Learning Community

The learning community in the Information Systems programs is largely contained within the classroom, so to encourage student engagement, an active learning approach is taken in classroom work. Basic knowledge and concepts are acquired through pre-class readings and/or videos, then class time focuses on applying and expanding on that knowledge. Instructors begin with clear, measurable statements of the learning outcomes – arranged from lowest to highest level on Bloom's Taxonomy – for each class. Low-level outcomes are assigned to pre-class assignments, then class time is used to work through mid-level outcomes. Highest-level outcomes are addressed in ongoing work, extension problems, or projects.

Mid-level outcomes are achieved through group work and peer instruction, to the greatest extent possible. Group projects and studies in the classroom and labs provide students with the opportunity to work inclusively with their peers, getting to know and learn from each other, while building supportive connections within their learning community.

To support a caring and accessible learning environment, instructors utilize a variety of methods. By proactively broadcasting commonly asked questions and answers (in class and on course websites), they provide students with preliminary support on the learning material. They also achieve this by posting examples of course problems with solutions for students to follow. These practices establish early lines of assistance to students and demonstrate the instructors' readiness to provide support. Other methods include posting weekly updates, learning objectives, preview questions, and lecture notes. To expand all students' learning opportunities, unlimited attempts are allowed on WeBWorK Homework Sets for some courses, and three attempts are permitted on WeBWorK quizzes. Through ongoing channels, learners are encouraged to provide feedback on any aspect of the course.

Multiple approaches are taken to accommodate and support learners of varied needs. For students who find it intimidating to ask questions in front of the whole class, pre-class reading assignments provide an opportunity to raise questions about the course material with the instructor prior to class. Alternative assessments are utilized – such as weekly projects – to provide students with balanced methods of evaluation.

Most feedback mechanisms in the program are limited to academic progression through a single course or, at most, through two sequential courses, providing no system to view student progress in the program in a holistic way. However, the final student self-assessment does give a broad picture of the courses and learning journey from the student's perspective and often clearly identifies the extent to which the student's goals in the program have been achieved.

Instructors' Engagement in Ongoing Reflective Practices

Faculty engage in a variety of professional development practices that enhance and strengthen their reflective practices as educators. For a comprehensive list of faculty reflective practices, see Appendix J.

Recommendations on Next Steps Moving Forward

• To work with the Centre for Teaching and Learning Innovation to develop surveys and other methods of data collection to allow for a more reflective and data-informed approach to teaching and learning
• To continue to explore how to Indigenize courses and programs -to work with local knowledge keepers to ensure Indigenous worldviews are embedded within all courses and programs

The information systems faculty feel strongly that their current practices are ideal for creating an optimal learning environment and student experience. While anecdotal data supports this, more can be done to collect information on the student perspective of current practices. Moving forward, faculty are eager to develop and deliver student and alumni surveys that, over time, will paint a more detailed picture on how students experience the information systems programs. Additionally, as mentioned, more work needs to be done to explore and implement the Indigenization of existing programs. This includes not only pedagogical and curricular changes, but also the development of relationship with Indigenous communities in order to better

understand how our programs can serve the needs of their communities. This will be a major focus moving forward for the department.

E. Collective Impact

Measures of Success

While there is strong anecdotal evidence to support that our students leave the Information Systems programs having achieved the program learning outcomes, more consistence data gathering through surveys will enhance our ability to measure the success of our programs. In the alumni survey sent out as a part of the data gathering phase of our program review, we heard from past students about how the skills gained through the programs had not only allowed them to establish successful careers in the industry, but also to positively contribute to and progress information systems projects within their communities. We see these projects as clear measures of success that our students leave our programs with the skills and ability to impact the information systems industry.

Here are extracts from the alumni and student surveys:

"The information systems certificate program gave me the opportunity to not only develop the skills necessary for success in this industry, but also with the network connections to gain meaningful employment within my home community. I will forever be grateful to Jane & John for the profound impacts their teaching has had on my life." – 2017 Certificate graduate

"I recently completed my degree at UVic. The ability to complete the first two years of this degree through NIC and leave with both a certificate and diploma not only gave me more to add to my resume but also enabled my success in the UVic degree program. Many of the other students in the program had not transferred in like I had, and I could tell I had way stronger skills in different areas like systems theory. I know this is because I had one-on-one support at NIC and was able to better wrap my head around the complexities of information systems. I think anyone considering a degree in information systems should start their journey at NIC." – 2019 Diploma graduate

"When I graduated high school, I didn't know what I wanted to do or where I wanted to go. I started general university transfer courses at NIC at I enrolled in an intro to information systems course. I was instantly hooked! Jane Doe, who taught the course, showed me the impact that information systems professionals can have on their communities. Today, I get to contribute to my community's direction and development, thanks to my diploma in information systems." - 2021 Diploma Graduate

Student and Faculty Contributions to Institution, Profession, and Community

Student contributions have included:

- Work as peer tutors, particularly students extending their program at NIC to two years.
- Volunteers at the high school open house and at Science World celebrations.
- Alumni have returned to talk to first-year information systems students
- Client-based projects in SYS 100 working with community members

- Student membership in ISA
- Graduates from NIC and UVic work as information systems professionals and information systems-in-training in our community.

Student Progress and Success in their Learning

Based on their goals of university transfer and preparation for further studies, students demonstrate progress and success though transferring from NIC information systems to UVic, UBC, Dalhousie University, University of Calgary, University of Regina, and elsewhere, then capably undertaking their studies at their respective institution. Through the achievement of their goals, students develop foundational knowledge in information systems and a set of skills to support future learning.

Many program graduates have completed their degrees; some have gone on to graduate school, while others are now working in their field as information systems professionals in training – some within our local community.

Recommendations Moving Forward

- The development of surveys to see a more deliberate understanding of program and course learning outcomes
  - To work with the Centre for Teaching and Learning Innovation to better understand from an evidence-based perspective of how and what students are learning
- To more purposefully build a more intentional method of celebrating student, alumni and faculty success

It is evident through the incredible impacts that students and graduates have in their communities through their careers in the field, that the Information Systems programs at NIC have a profound collective impact. The faculty look forward to amassing a stronger database to support what they know to be true, and to learn about how they can grow or amplify the collective impacts of these programs.

F. Key Learning and Next Steps

Identified Strengths of the Information Systems Program

In terms of the program's strengths, two elements stand out – number one is its rigour. Former students, successful in our program, went on to achieve success at UVic and elsewhere, and feedback from past students conveys that the program did a good job in preparing them for university and eventual entry into the information systems profession. The program and its faculty have been highly successful in providing students with a comprehensive base of engineering knowledge and skill development.

The second element is personal experience. Due to the close-knit nature of the program, past students continue to feel a connection to NIC and keep in touch with faculty to share how they are doing in their further studies and careers. NIC faculty are keen to learn of and support the success of students following program completion and have served as references for many students in their co-op job applications at UVic. Past students have also come to speak to our current engineering students (current UVic students and graduates of VIU and UBC have all come to speak to our students in the past).

A March 2021 survey of information studies students at NIC found that the top three factors that attracted students to our Information Systems Certificate program were ability to take the courses that I desire (69% of responses), affordability (69% of responses), and ability to stay with family (61% of responses).

Gaps and Weaknesses of the Program

Gaps and weaknesses in the program have been identified as follows:

1. Finishing the certificate program (12 courses) in one year is not realistic for many students but spreading it over two years is less than full-time studies unless additional courses are taken
2. low numbers of domestic students coming to NIC for information systems
3. Virtually no international students in the program in the past few years
4. Lack of awareness in high schools and the community that NIC has pathways (and even dual admission agreement) with UVic
5. Lack of guaranteed admission agreement with UBC, SFU, TRU and UNBC

Top Priorities for Action Planning Moving Forward:

Commitment to Learners:

- Develop a Program Advisory Committee
  - Developing and enhancing relationships with stakeholders and determining annual data gathering practices to increase understanding of stakeholder expectations
- Program alignment
  - Increasing transfer options and guaranteed admission pathways to more information systems schools.
  - Increasing flexibility in program start and endpoints, duration, and delivery methods

Program Structures:

- Strengthen offerings in second-year information systems courses
  - Increasing program awareness, recruitment and retention, as more students are needed in order to strengthen second-year course offerings.
  - Explore the possibility of partnering with other rural institutions to collaboratively offer second year courses that traditionally suffer from low enrollment.
- Create directed suggested scheduling for part-time pathways for students in the certificate and diploma

Learning Community:

- To increase industry relationships
  - To foster additional capstone or co-op partnerships for information systems students to choose from (thereby creating a stronger and larger community network to link students with potential employers, and industry professionals with potential new hires)
- To create a designated space on campus for the Information Systems community
- To develop and implement a program advisory committee, as discussed above

Practices:

- To work with the Centre for Teaching and Learning Innovation to develop surveys and other methods of data collection to allow for a more reflective and data-informed approach to teaching and learning
- To continue to explore how to Indigenize courses and programs
  - To work with local knowledge keepers to ensure Indigenous worldviews are embedded within all courses and programs

Collective Impact:

- The development of surveys to see a more deliberate understanding of program and course learning outcomes
    - To work with the Centre for Teaching and Learning Innovation to better understand from an evidence-based perspective of how and what students are learning
- To more purposefully build a more intentional method of celebrating student, alumni and faculty success

Questions for External Review Team

1. **Should we continue to seek guaranteed admission agreements with UBC and other institutions, or should we stay focused on UVic and VIU?**

2. **How can we increase interest in information systems – and specifically in our program – among specific groups?**
   - Indigenous
   - Females
   - International students
   - Domestic students
     - How can we attract domestic students at local highs schools, who have an interest in information systems, to attend NIC's first-year information systems program?

3. **How can we increase our completion rates?**

4. **What can we do to offer second-year courses more consistently?**
   - Possible collaboration with other small/rural colleges
   - Possible part of two-year diploma that can be marketed to international students

5. **What are the concerns we should consider for running our programs in a hyflex environment?**
   - Would it still transfer to UVic and elsewhere?
   - Which labs and activities (if any) would have to be delivered face-to-face to still get transfer credit?
   - We could do a blended version, with face-to-face labs several times per semester (on the same day if necessary)

6. **How can we begin the important journey of Indigenizing our courses and programs?**
   - What professional development opportunities are available for faculty to begin to explore and understand their own worldviews?

- What are best practices for developing relationships with Indigenous nations and organizations?
- What work is being done at other institutes to work towards reconciliation?

Appendix A: Previous and Current Partnerships and Collaborations with other Institutes

Institute	Partnership
University of Victoria	o Seamless transfer to UVic information systems since 2010/11 Provides students with an assured path to second-year information systems at UVic. o Dual-admission agreement with UVic information systems since 2012 Provides students guaranteed admission to UVic, and allows them to officially be a UVic student while studying at NIC. Also allows deferring of UVic scholarships, so students can access entrance scholarships at both NIC and UVic.
Thompson Rivers University	o Seamless transfer agreement with TRU since 2019 Provides students with an assured path to second-year information systems at TRU
University of British Columbia	o Competitive admission process with UBC since 2011/12 Students have successfully entered second-year information systems at UBC through this process.
University of Calgary	o Case-by-case transfer arrangements made with these out-of-province universities Some students have entered second-year information systems through individually charted transfers.
Vancouver Island University	o Seamless transfer agreement with TRU since 2019 Provides students with an assured path to second-year information systems at TRU

Appendix B: Timeline of Major Program Changes

Date	Changes	Comments
20XX/XX academic year	List of course changes/additions	Explanation of changes – how did these changes improve the quality of your program(s)?
20XX/XX academic year	List of course changes/additions	Explanation of changes – how did these changes improve the quality of your program(s)?
20XX/XX academic year	List of course changes/additions	Explanation of changes – how did these changes improve the quality of your program(s)?
20XX/XX academic year	List of course changes/additions	Explanation of changes – how did these changes improve the quality of your program(s)?

Appendix C: Course Planning & Alignment Table

Course	Course Title	Format	Major Assignments	Experiential Learning	Discussion Questions (how many/often)	Field Trips	Industry micro-credential	Indigenous Perspectives Learning Opportunities	Intercultural Perspectives Learning Opportunities	Notes:	COVID Online Course Adaptations
SYS 1160	Foundations of systems theory and Information Systems	Mixed Mode – FALL OFFERING	Story style assignments that connect to systems theory ideals Libarary and types of Information Systems Organizations (Not for profit, public, commercial/private) - -systems theory Ideals Assignment -Information Systems Service Delivery Scope Assignment -Final Exam		1 or 2 per week - initial post due Thursday 9pm, follow up post due Sunday night 9pm			Instructor starts first class with Land Acknowledgement. Asks for volunteer students to start each class with this.		Citing in APA - Introduction to Brightspace	Moving from Mixed mode to Mixed mode on-line model with a zoom class session of 2 hours once/week at the scheduled class time.
SYS 1160	Foundations of systems theory and Information Systems	Online - SPRING OFFERING	Story style assignments that connect to systems theory ideals and types of Information Systems Organizations (Not for profit, public, commercial/private) - -systems theory Ideals Assignment -Information Systems Service Delivery Scope Assignment -Final Exam	Ideals Assignment: Students have considerable discretion to choose 4 of the 20 Information Systems Ideals presented in the course, and to write a reflective narrative of either their own personal experience, or their personal witnessing of the chosen Ideals being actualized by another person (e.g. family member, friend, co-worker). Scope Assignment: Students can similarly use their discretion to visit, research, reflect and demonstrate their understanding of the variety and diversity of any 3 Information Systems places or spaces in their chosen community that meets the definitions of a not-for-profit/volunteer, public and commercial Information Systems sector organization. These student 'personal stories' are shared with classmates in a discussion question forum that highlights personal reflection and, ideally, personal growth and learning that can be applied by incorporating more Information Systems into their personal discretionary time.	Typically 1 or 2 per week - initial post due Wednesday 9pm, follow up post due Friday 9pm	None	None	HIstorical introduction outlining how systems theory and Information Systems in Canada began prior to Confederation. The first accounts can be traced back to the Inuit and the Aboriginal peoples of southern Canada.	12 registration spots in this course are specifically available for International students. The intercultural perspectives from these students in their shared Assignment stories provide valuable learning opportunities.	Citing in APA - Introduction to Brightspace	No longer applicable
SYS 1162	Direct Leadership in Information Systems	In Person	• Outdoor Field School Reflection Paper – Attend Field School and write a reflection paper on the experience. • Peer Teaching Assignment and Reflection – Plan and lead a 1-hour session for their peers, debrief and write a reflection paper on the experience		Occasionally for the intercultural skills training modules, when we run out fo time to have a discussion in class (maybe 3x a semester)	Outward Bound	High 5: PCHD, Sport for Life: Movement Preparation	Guest speaker Lamarr Oksasikewiyin will provide a 4 hour class on traditional Indigenous games. Conversation will be facilitated afterwards about different cultural	Guest speaker Lamarr Oksasikewiyin will provide a 4 hour class on traditional Indigenous games. Conversation will be facilitated afterwards about different cultural approaches to	2IQ2 and IDI	Issues will be Outward Bound and the in-person teaching assignment. Significant thought will need to go into this course to turn it into an online course.

Course	Title	Mode	Assignments								Notes
							approaches to programming and activities.	programming and activities.			High-5 PCHD can be offered online.
SYS 1166	Valuing Diversity in Leadership	Mixed Mode	• Case Study of an Organization that Embraces Diversity (includes 8 hours of observation at the facility that is confirmed with email from Supervisor – can be the same organization as SYS 1168 Program Observation assignment). • Research an issue or Trend in Diversity. • This I Believe – what do you believe about diversity in Information Systems – with photo.	Guest speakers from areas of diversity wheel share from their own lived experience (Sexual orientation, gender equity, Indigenous perspectives, human rights, proverty and homelessness, disability)	2 per week - initial post due Thursday 9pm, follow up post due Sunday night 9pm	Carnegie Community Centre DTES. This was cancelled Spring 2020 due to Covid -- can be flexible about not including this in the course during Covid restrictions	Via Sport - All Youth Matter Inclusion training	Musqueum elder - Guest speaker, one week focus on Indigenous readings, TRC	One week focus on racism and multiculturalism	Have approx 7 guest speakers for this course to cover topics such as Human Rights, Sexual Orientation, poverty and homelessness, disability, indigenous perspectives....	Hoping we will be able to operate in Mixed Mode for Spring 2021 - but can move to fully on-line if required.
SYS 1168	Information Systems Program Planning	In Person	• Program Observation – Going out and observing/evaluating a program in the community • Special Event – Planning, executing, and evaluating a community event (Group Work); Evaluating the team performance and self-reflection of performance	Students partner with a Information Systems organization and do a needs assessment, create, plan, lead and evaluate a real time event within the community	None			Quest 2 - maybe for Spring 2021?	Instructor starts first class with Land Acknowledgement. Asks for volunteer students to start each class with this. First class starts with "who are you" statement.		Planning on incorporating High-5: Quest 2 into curriculum - Spring 2021	Special event can work with a digital platform - synchronous or asynchrnous; the course can be taught online
SYS 1170	Introduction to Information Systems Facilities and Environments	Mixed Mode	• Negligence in Information Systems – Find and analyze an article relating to negligence and liability in Information Systems (2 pages max) • Human Resources Group Project - Research and summarize the possible career trajectory of a Information Systems professional from the front-line to management level. Navigate a collective agreement to find wage and benefits information for each job in the career trajectory. • Facility Metrics Report – Using excel and a provided spreadsheet, analyze the attendance counts of a facility using the statistical methods taught in class. Interpret the results and provide recommendations on how to improve the operations.	• Students are required to create predictive and reflective journal posts for each module where the identify questions/areas that they're intersted in. They also reflect upon how the content has changed their understanding of Information Systems and the career paths it may open up • Students find an industry mentor to have converations/interviews with regarding the course content in the current module. They are required to come up with questions above and beyond what's provided for them to start their conversations • Students participate in hand- on experiences with Pool Operations (testing kits and calculations)	None	City of Vancouver (Stanley Park Lawn Bowling, Hillcrest) City of Surrey (Guildford Rec Centre), City of Coqutilam (Poirier Sport and systems theory Complex, Dogwood Pavilion), and Langara YMCA	RFABC Pool Operators Level 1, RFABC Refrigeration Safety Awareness (Theory), LinkedIn Learning's MS Word Essentials, MS Excel Essentials			Library Tutorials - "Can I Use It?" and "Avoiding Plagarism"	*2022/2023 - Recorded lectures are provided along with lecture slides in Brightspace so that students can continue learning without attending class. Recorded lectures are through Zoom, so students can attend remotely if they are feeling unwell.*

SYS 1270	Applied Skills in Information Systems Operations	[Mixed Mode]	• Research Paper - Pathogens and Cleaning/Disinfection Protocols (2 pages – 3 academic sources) • Scheduling and Budgets Assignment - develop a staff scheduled based on operational needs of a hypothetical Information Systems centre. The scheudle must fit within the parameters of the provided cost-centre budget, staff availabilitly, and the provided collective agreement. • COIL-VE Project - Create an online resource for new supervisors and managers regarding mental health in the workplace. Includes US and Candian Perspectives	• Students are required to create predictive and reflective journal posts for each module where the identify questions/areas that they're intersted in. They are required to research their areas of interst • Students find an industry mentor to have converations/interviews with regarding the course content in the current module. They are required to come up with questions above and beyond what's provided for them to start their conversations • COIL-VE project requires students to work with (and reflect upon) international peers from a different academic dicipline.	Synchronous Discussion Questions held over Zoom with COIL-VE groups. 2 questions per week as part of their weekly meetings (4 meetings total - mid semester). 30min to 1 hr of discussion	Grouse Mountain, Vancouver Lawn and Tennis, Simon Fraser University, Richmond Olympic Oval	MSABC's Due Diligence for Supervisors, Hazard Identification and Risk Assessment, Worksite Safety Inspections, and Incident Investigations; RFABC Refrigeration Safety Awareness (On-Site Orietntation/Practical Component)		Intercultural Skills for COIL-VE Team Development; Comparison/Contrast of US vs Canadian socities and the mental health issues that relate to the workplace and Information Systems	Library Tutorials - "Citing in APA" and "Introduction to Research", COIL-VE Project w/ Penn State. *Currently working with the Parks Board to create mini-practicum opportunties in 2023 that students will complete as part of their course work.*	*2022/2023 - Recorded lectures are provided along with lecture slides in Brightspace so that students can continue learning without attending class. Recorded lectures are through Zoom, so students can attend remotely if they are feeling unwell.*
SYS 2260	The Arts, Culture and Heritage in Information Systems	[In Person or online] [Naomi Brand]	• Community Art Report- Select and Attend a community engaged art event - create a report that covers course cntent; goals/objectives/purpose of the event; value and benefit of the arts in community life; role of the artist(s); mangagment of the event; funding; partnerships; agency sponsor; history of the event;cost; description and why they chose to attend; • Inviting Creativity Method: develop a creative encounter for an identified community group in real time- utilizing this method of program development based upon co-researched project • Community Cultural Development- onsite- collaborative art project that will developed by incoming instructor to demonstrate the specifics of this model of arts progamming		currently moving this online- anticipating one discussion/mini assignment/check in per week-	Yes- face to face: min of 2 field trips- to an arts focused facility, an artist residency in the City of Vancouver. A series of in class guest speakers from the arts, culture and heiritage industry					Hands on arts engagment will be the issue.

Appendix D: Student Supports

Program faculty provide the first line of resources to students – beginning in the classroom and extending to their office hours. The low ratio of students to instructors means that instructors are regularly accessible to their students to offer support and guidance. Faculty also communicate with current and potential students through email, providing information and clarifications related to the program and its courses, as well as job referrals and references for students seeking co-op work and other employment.

College Wide Supports for students	
Library & Learning Commons	NIC's Library & Learning Commons provides a strong network of academic resources to ensure students in all programs have access to the supports they need to succeed, including math support, writing support, research help, peer tutoring, and student technical services.
Department of Accessible Learning Services	The Department of Accessible Learning Services (DALS) provides support to North Island College students who identify as having a disability which may impact their ability to study. Faculty at DALS work to identify accommodations needed by students to enable them to fully participate in their classes and help implement these accommodations so that students do not face disability-based exclusion in any component of their courses.
Early Assist	NIC's *Early Assist* program is a triage service for students experiencing significant challenges outside the scope of the classroom. The program helps faculty and staff identify students' personal and academic needs and connects them to services and supports available at the college.
Thrive Month	NIC held its first annual *Thrive* week in 2020, focused on mental health awareness for the entire college community. These programs and efforts have been effective in illuminating the importance of recognizing challenges – academic and non-academic alike – and proactively addressing them.
Student Services	The college is focused on addressing the non-academic needs of students, and through services in advising, counselling, financial aid, and more. Students are guided and supported from the start of their educational journey.

Appendix E: Faculty CVs

Faculty Curriculum Vitae would be included as an appendix here.

Appendix F: List of Community Partnerships

Organization	Community	Relationship
Ahousaht First Nation	Port Alberni	Practicum opportunities and offering of onsite program
Alberni Community and Women's Services Society - ACWSS	Port Alberni	Practicum opportunity and advisory committee representative
AVI Health and Community Services Campbell River	Campbell River & Comox Valley	Practicum opportunities
Bread of Life	Port Alberni	Practicum opportunity
Beacon Club	Campbell River	Practicum opportunity
CR Family Services	Campbell River	Practicum opportunity
CV Family Services	Comox Valley	Practicum opportunity and advisory committee representative, collaboration on community events and guest speaker in class
Comox Valley Hospice Society	Comox Valley	Practicum opportunity
Communitas Supportive Care Society	Campbell River	Practicum opportunity
Comox Military Family Resource Centre (MFRC)	Comox Valley	Practicum opportunity and guest speakers in class
Comox Valley Therapeutic Riding Society	Comox Valley	Practicum opportunity
Comox Valley Transition Society- Lilli House, Amethyst House, Warming Centre	Comox Valley	Practicum opportunity and advisory committee representative, guest speakers in class
Comox Valley Child Development Association – The Autism Program, Project Inclusion	Comox Valley	Practicum opportunity and guest speakers in class
Courtenay Recreation Society – LINK Youth Centre, Adapted Programs	Comox Valley	Practicum opportunity and advisory committee representative
Comox Valley Head Injury Society	Comox Valley	Practicum opportunity
Campbell River Head Injury Society	Campbell River	Practicum opportunity
Footholds Therapy Center	Comox Valley	Practicum opportunity and advisory committee representative
Glacierview Lodge	Comox Valley	Practicum opportunity
Future Focus	Campbell River	Practicum opportunity

Kackaamin Family Development Centre - Kackaamin Addiction Recovery	Port Alberni	Practicum opportunity
Laichwiltach Family Life Society	Campbell River	Practicum opportunity and advisory committee representative
Literacy Society	Port Alberni	Practicum opportunity
Larche	Comox Valley	Practicum opportunity
LUSH Valley Food Action Society	Comox Valley	Practicum opportunity
Ministry of Children and Family Development	Comox Valley	Guest speakers in class
Mount Waddington Family Literacy Society	Port Hardy	Practicum opportunity
Port Alberni Friendship Centre	Port Alberni	Practicum opportunity
Port Alberni Shelter Society	Port Alberni	Practicum opportunity
Port Alberni Association for Community Living	Port Alberni	Practicum opportunity
Campbell River and North Island Transition Society – Ann Elmore Transition House, Rose Harbour	Campbell River	Practicum opportunity and guest speakers in class
Sasamans Society	Campbell River	Practicum opportunity and guest speakers in class
Salvation Army – Evergreen emergency shelter, Lighthouse Centre	Campbell River	Practicum opportunity
Salvation Army – Cornerstone family services, Pidcock homeless shelter	Comox Valley	Practicum opportunity
School District 70	Port Alberni	Practicum opportunity and advisory committee representative
School District 71	Comox Valley	Practicum opportunity and advisory committee representative, instructors, and guest speakers in class
School District 72	Campbell River	Practicum opportunity and advisory committee representative
Second Chance Recovery	Campbell River	Practicum opportunity
Stepping Stones Recovery house for Women	Comox Valley	Practicum opportunity
Tseshaht First Nations	Port Alberni	Practicum opportunity
Wachiay Friendship Centre	Comox Valley	Practicum opportunity

John Howard Society of North Island	Comox Valley and Campbell River	Advisory committee representative and guest speakers in class
Vancouver Island Health Authority (VIHA) – Community substance use Mental Health Services	Comox Valley and Campbell River	Practicum opportunity
Vancouver Island Mental Health Society – Sobering and Assessment society, Qwaxsem Place supportive housing	Campbell River	Practicum opportunity and guest speakers in class

Appendix G: Methods and Approaches Used to Assess and Evaluate Student Learning and Growth

In the Information Systems programs, a range of assessment methods are utilized to evaluate student learning, identify learning gaps, and assess the demonstration of learning outcomes. These are listed, along with their respective attributes, in the following table.

Method	Attributes
Self-marked quizzes in English and systems theory tutorial	• Instant feedback
Group quizzes and two-part (individual and group) exams in communication and English	• Provide peer instruction and create community
Online homework	• Instant feedback for low and mid-level computational work • Multiple attempts, algorithmic randomization in the questions
Pre-reading assignments	• Students identify areas of clarity and confusion to inform focus of class time
Group-based pre-exam review assignments	• Students identify key points and write a summary for other groups to study from
Written lab reports	• Students demonstrate proper measurement techniques, analyze their data, and interpret their results • Several reports are required, and student growth can (usually) be seen in the increasing quality of these reports
Unit assignments	• Students practice applying their knowledge
Frequent, low-stakes quizzes and assignments	• Short and reasonable turnaround time • Inform private conversations with students at risk • Use a more structured and easy-to-understand checklist/rubric

Appendix H: Diploma Curriculum Map

Program Curriculum Map: Diploma in Information Systems Leadership

Program Learning Outcomes

Legend for icon codes used below:
- **Ex** = Students are learning about and **exploring** a topic, concept, method, skill related to the PLO. They are working at a foundational level. *(yellow hand icon)*
- **Dv** = Students are further **developing** knowledge and practicing skills and abilities related to the PLO beyond a basic or foundational level; they are beginning to make connections between topics, concepts, experiences, skills. *(green sprout icon)*
- **Dm** = Students are able to reliably **demonstrate** achievement of the intended LO. List possible ways (test, assignment, project etc.) for students to demonstrate learning. *(blue people icon)*

Courses and Program Requirements
NOTE: Not all program requirements are necessarily associated with a course number. Other requirements may include work-integrated education opportunities such as co-op, internships, practicum placements, applied research etc.

	Course	1. Apply the values, history and philosophy of information systems in a variety of settings	2. Research, create, implement and evaluate a systems theory approach to an information systems practice within their community.	3. Apply a systems theory perspective to develop and support the implementation of information systems practices	4. Examine accessibility and risk management practices to the efficient operation of information systems settings.	5. Perform and analyse a needs assessment to apply an information systems approach to address community needs	6. Develop and implement goals for ongoing personal and professional development as an information systems professional	7. Identify and recognize appropriate communication skills to explain and relay information systems perspectives to those outside of the field	8. Identify and recognize appropriate communication skills to foster respectful interactions with diverse communities.
B	SYS 1160: Foundations of Systems Theory and Information Systems	Ex	Ex	Dv		Ex			Dv
C	SYS 1162: Direct Leadership in Information Systems	Ex, Dv	Ex, Dv	Ex, Dv	Ex, Dv	Ex, Dv	Ex, Dv	Ex, Dv	Ex, Dv
D	SYS 1166: Valuing Diversity in Leadership	Ex, Dv	Ex, Dv	Ex, Dv	Ex, Dv	Ex, Dv		Ex	Ex, Dv
E	SYS 1168: Information Systems Program Planning	Dv, Dm	Ex, Dv	Dv	Dv, Dm	Dv	Ex	Dm	Ex, Dv
F	SYS 1170: Introduction to Information Systems Facilities and Environments	Ex, Dv	Ex, Dv	Ex, Dv	Ex, Dv	Ex, Dv	Ex		Ex
G	SYS 1270: Applied Skills in Information Systems Operations	Ex, Dv	Dv	Dm	Dm	Dm	Dv		
H	SYS 2260: Arts, Culture, and Heritage in Information Systems	Ex, Dv, Dm	Ex, Dv, Dm	Ex, Dv	Ex, Dv	Ex, Dv		Ex, Dv	Ex, Dv
I	SYS 2288: Personal Portfolio Development	Ex, Dv		Ex, Dv				Dv, Dm	
J	SYS 2361: Applied Leadership in Information Systems Organizations	Dv, Dm	Ex, Dv, Dm	Dv, Dm			Ex, Dv		Ex, Dv
K	SYS 2388: Internship Orientation and Portfolio Development	Dm	Ex, Dv, Dm	Ex, Dv	Ex	Ex		Dm	Dm
L	SYS 2470: Information Systems Issues and Trends	Dv, Dm	Ex, Dv, Dm	Dv, Dm	Ex, Dv	Ex			Dm
M	One of — SYS 2487: Information Systems Internship	Dm	Dm	Dm	Dm	Dm	Dm	Dm	Dm
N	One of — SYS 2497: Diploma Reflective Practicum in the Workplace	Dm	Dm	Dm	Dm	Dm	Dm	Dm	Dm
	Support Courses								
O	BUSM 1100: Intro to Business in Canada			Ex	Ex	Ex	Ex		
P	MARK 1115: Introduction to Marketing		Ex, Dv	Dv	Dv	Dv			Ex, Dv

		Exploring…	Developing…	Demonstrating…						

	= 12	= 18	= 12	= 17	= 10	= 8	= 8	= 19
	= 16	= 12	= 23	= 9	= 12	= 9	= 11	= 12
	= 13	= 6	= 12	= 13	= 3	= 4	= 7	= 6

Legend: Exploring = | Developing = | Demonstrating =

Program Curriculum Map: Diploma *in Information Systems Leadership – with Course Learning Outcomes*

Appendix I: Summary of accredited institutions in British Columbia with similar programs and universities that offer degree transfer options

Institution	Credential
Camosun College	Information Systems certificate Information Systems Worker diploma
Coast Mountain College	Information Systems certificate Information Systems Leadership certificate
College of New Caledonia	Information Systems certificate Information Systems with an Indigenous focus certificate Information Systems Worker diploma
College of the Rockies	Information Systems certificate Information Systems Worker diploma
Douglas College**	Information Systems Support diploma Information Systems certificate Bachelor of Information Systems
Langara College	Information Systems certificate Information Systems leadership diploma
Northern Lights College	Information Systems diploma Information Systems Leadership diploma
Okanagan College	Information Systems diploma
Selkirk College	Information Systems Worker certificate or diploma
Thompson Rivers University **	Information Systems diploma Bachelor Information Systems
University of British Columbia**	Bachelor of Information Systems
University of Victoria **	Bachelor of Information Systems

Appendix J: Faculty Reflective Practices & Professional Development

Faculty	**Professional Development & Reflective Practices**
Jane Doe	- Attending and contributing to professional conferences and workshops - Taking professional development (PD) training - Engaging in PD with peers from other institutions - Participating in provincial articulation committees - Engineering, physics, math, communications, systems theory, and English - Conducting course reviews and updates - Reviewing course content, delivery, tools, and student feedback - Advancing changes/improvements accordingly - Staying current on teaching & learning initiatives - Taking Professional Instructor Diploma Program (PIDP) courses and other courses on teaching methods - Staying current in the field of information systems - Monitoring developments in the subject areas and industry trends
John Dear	- Attending and contributing to professional conferences and workshops - Taking professional development (PD) training - Engaging in PD with peers from other institutions - Participating in provincial articulation committees - Engineering, physics, math, communications, systems theory, and English - Conducting course reviews and updates - Reviewing course content, delivery, tools, and student feedback - Advancing changes/improvements accordingly - Staying current on teaching & learning initiatives - Taking Professional Instructor Diploma Program (PIDP) courses and other courses on teaching methods - Staying current in the field of information systems - Monitoring developments in the subject areas and industry trends