

B.C. BACHELOR'S DEGREE COMPLETERS OF 2013/2014

A Longitudinal Research Study from
the Student Transitions Project

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Executive Summary

About this Research

This report provides key research findings from a recent analysis of 22,655 students who completed a Bachelor's degree in the B.C. public post-secondary system in academic year 2013/2014. The study was conducted by the Student Transitions Project (STP), a collaborative research partnership involving B.C.'s education and advanced education ministries and post-secondary institutions.

The study addresses a number of research questions about the background and qualifications of these students, with a primary focus on their complex pathways through other post-secondary institutions, programs and credentials in their journey towards earning a Bachelor's degree in 2013/2014.

Quick Facts

What is the demographic profile of 2013/2014 Bachelor's degree completers? With an average age of 24.8 in 2013/2014, 59% of these students were female and 41% were male; 3% were Aboriginal students; and 13% were international students ([page 8](#)).

What are the B.C. K-12 backgrounds and qualifications of the 2013/2014 Bachelor's degree completers? Nearly three-quarters (73%) had previously attended the B.C. K-12 system, including 69% with a B.C. grade 12 graduation Dogwood Diploma and 0.6% with a B.C. Adult Graduation diploma. The average high school iGPA for the full cohort was 81.8. Four-year Bachelor's completers had higher iGPA scores (86.3) than 5-year (84.6) and 6-year completers (82.5) ([page 9](#), and comparison between groups on [pages 21-22](#)).

At which institutions did students complete their Bachelor's degree in 2013/2014? These degrees were completed in 22 of B.C.'s 25 public post-secondary institutions. The majority (16,000 or 71%) were completed at B.C. research-intensive universities. Other Bachelor's degrees were awarded at teaching-intensive universities (20%), colleges (5%) and institutes (4%) ([page 10](#)).

Who are the 2013/2014 bachelor's degree completers in this study?

This study includes 22,655 students who completed a Bachelor's degree in one of B.C.'s public post-secondary institutions in academic year 2013/2014 – in Fall 2013, Spring 2014 or Summer 2014. These Bachelor's degree recipients represent about 40% of all 58,500 students who earned a post-secondary credential in that year.

Both domestic and international students are included; students without a Personal Education Number (PEN) are excluded.

Where can I find more detailed information?

More detailed information at the institution and program level is available to authorized users at post-secondary institutions.

This report was prepared by Joanne Heslop, Manager, Student Transitions Project. The report is available on the public Student Transitions Project web site at: http://www.aved.gov.bc.ca/student_transitions

About the Student Transitions Project

The Student Transitions Project is British Columbia's collaborative research project that measures student success from the K-12 to post-secondary systems. This effective system-wide partnership, involving B.C.'s education and advanced education ministries and public post-secondary institutions, is tracking student success by reporting on student transition rates to post-secondary education, student mobility among post-secondary institutions, and post-secondary completion and retention rates. STP is managed by a steering committee with representation from the two education ministries, public institutions and the B.C. Council on Admissions and Transfer (BCCAT).

STP Steering Committee Members:

Robert Adamoski, Associate Director, BCCAT.

Brian Beacham, Director, Institutional Research, Vancouver Community College.

Tony Eder, Director, Institutional Planning and Analysis, University of Victoria.

Claire Miller, Director, Knowledge Management Branch, Ministry of Education.

Jacqui Stewart, Executive Director, Post-Secondary Audit and Accountability, Ministry of Advanced Education

[In which regions of B.C. did students complete their Bachelor's degree in 2013/2014?](#) About two thirds (66%) of the Bachelor's degrees were awarded in Lower Mainland/Southwest institutions; 21% on Vancouver Island; 11% in the Thompson-Okanagan-Kootenays and 3% in Cariboo-North ([page 11](#)).

[Did students earn their Bachelor's degree in the same region where they graduated from high school?](#) Among the roughly 16,000 B.C. high school graduates who earned a Bachelor's degree, about 82% completed their degree in the same region where they completed high school and this tendency was higher among Lower Mainland graduates (89%) than graduates from other regions of the province (60% to 77%) ([page 11](#)).

[In which program areas did students complete their 2013/2014 Bachelor's degree?](#) Nearly half of the students (45%) earned their Bachelor's degrees in Arts and Sciences programs, 19% in Business and Management, 12% in Engineering and Applied Sciences, 9% in Health and 15% in other program areas ([page 12](#)).

[What was the length of time to completion for the 2013/2014 Bachelor's degree recipients?](#) Among those 13,395 Bachelor's completers who first entered the B.C. public post-secondary system directly from a B.C. high school, the average number of elapsed years from time of entry to time of completion was 6.1 years. Students who attended just one institution (5.4 years) or completed no additional credentials (5.8 years) took less time, on average, to complete their degree ([page 13](#)).

[Was the time to degree completion longer for students who earned additional credentials along the way to their Bachelor's degree?](#) The average elapsed degree completion time increases with the number of credentials completed: completion of one credential (Bachelor's degree only) took 5.8 years, versus completion of two credentials (7.4 years) or three credentials (8.0 years) ([page 13](#)).

[When did "direct from high school" Bachelor's degree completers of 2013/2014 first register in the B.C. public post-secondary system?](#) Among 13,395 former B.C. high school students who earned Bachelor's degree in 2013/2014, 30% first registered in post-secondary in 2009/2010 and completed in five years, 20% entered in 2008/2009 to complete in six years and 12% entered in 2007/2008 to complete in seven years ([page 14](#)).

[What are the registration and stop out patterns of students who achieved their Bachelor's degree in 2013/2014?](#) These 22,655 students registered in a total of 849 different combinations of academic years, between 2002/2003 to 2013/2014. The most common annual registration patterns were evident among 57% of the cohort. These students registered in at least one term per academic year, in each of a sequential series of four (15%), five (24%), six (13%) or seven (6%) years. When registration terms,

institutions and programs are then overlaid on these patterns, it is evident that the number of student registration pathways are endless (page 15).

Did students stop out or have any terms of non-registration between the time of first entry and time of Bachelor's degree completion? About 70% of students stopped out for one to five terms over the duration of their degree, either as a continuous sequence of non-registration terms or non-contiguous count of non-registration terms: 12% stopped out for one term, 17% for two terms, 17% for three terms, 14% for four terms and 9% for five terms in total. About 27% stopped out for six or more terms in total, with only 3% of students registering in every single term from start to finish (page 15).

How many institutions and institution types did students attend in their journey towards earning a Bachelor's degree in 2013/2014? Students may attend multiple institutions, simultaneously or sequentially, and some students earned additional credentials at other institutions. On average, students attended 1.24 institutions. More than half (55%) attended just one institution, 30% attended two institutions, 11% attended three and 4% attended five to nine institutions. Of those students who attended multiple institutions, staying within a single sector was more common among Bachelor's completers at TIUs (66%) than RIUs (60%) or college/institutes (46%) (page 16).

Did 2013/2014 Bachelor's completers earn additional credentials prior to their degree? A total of 4,792 or 21% of 2013/2014 Bachelor's recipients earned at least one other preceding or simultaneous credential. Although two students earned as many as eight credentials, earning two was most common among multi-credential earners, who typically earned a Diploma, Associate Degree or Certificate, in addition to the 2013/2014 Bachelor's degree (page 17).

What do the two-credential completion pathways of 3,699 Bachelor's degree completers of 2013/2014 look like? A Sankey diagram is provided in this report to offer a visual perspective on student credential completion pathways. Diploma to Bachelor's degree is the most common pathway of two-credential completers (page 18).

What do the three-credential completion pathways of 836 Bachelor's degree completers of 2013/2014 look like? The total number of different pathways expands as the number of credentials completed increases. The largest group of students who completed their Bachelor's degree as their third credential in 2013/2014 had previously or simultaneously completed a diploma as their first or second credential (page 19).

Which credential completion pathways between types of institutions do two- and three-credential completers follow? A common pathway of 2013/2014 RIU Bachelor's degree recipients with multiple credentials was to earn the preceding credential(s) at a B.C. college (page 20).

Credential Categories by Study Level

The post-secondary study levels and credential categories used by the STP across the B.C. public post-secondary system are listed below in descending order of entry qualifications for the study level and credential category.

Graduate

- Doctorate
- Master's Degree
- Graduate Diploma
- Graduate Certificate

Undergraduate

- Post-Degree Diploma
- Post-Degree Certificate
- First Professional Degree

Bachelor's Degree

- Advanced Diploma
- Advanced Certificate
- Associate Degree
- Diploma
- Certificate
- Apprenticeship
- Short Certificate
- Other
- None

Developmental

The classification of credentials within this study level varies across institutions, but may include a variety developmental certificates, short certificates, "other" or "none". The developmental study level is commonly used at B.C. colleges, institutes and teaching-intensive universities. Research-intensive universities do not submit any "developmental" student records to the STP.

Introduction

Overview

This report highlights key research findings from a recent analysis of 2013/2014 Bachelor's degree completers in the B.C. public post-secondary education system. The study was conducted by the Student Transitions Project (STP), a collaborative research partnership involving B.C.'s education and advanced education ministries and post-secondary institutions. This is the second in a series of two STP reports focusing on Bachelor's degree students.

In the first report, [A Longitudinal Study of Entrants to Bachelor's Degree Programs in B.C.](#)¹ (December, 2013) students who began Bachelor's degree programs in the Fall of 2005 were followed over a period of 19 terms, or just over six years. Their education pathways, activities and outcomes were explored and followed *forward* from their point of entry, until Fall 2011.

In this second report, [B.C. Bachelor's Degree Completers of 2013/2014: A Longitudinal Research Study](#), the education pathways of 2013/2014 Bachelor's degree completer's are traced *backwards* from completion to first entry, at least as far back as 2002/2003, for a maximum of 12 years or 36 terms². A number of research questions are addressed in this study and results are summarized in this report at a provincial level. More detailed information at the institution and program level may be obtained from institution or government STP representatives.

SFU Students Assembling for Convocation



Photo: https://www.sfu.ca/content/sfu/50/news/special-convocations/_jcr_content/main_content/image.img.png/1425668736127.rendition-large.png

¹ http://www.aved.gov.bc.ca/student_transitions/documents/Longitudinal_Highlights_2014-01-10.pdf

² 2002/2003 is the first year of post-secondary enrollments collected by the STP. Any enrollment records prior to this year are not available to the STP for this study.

Which students are included in this study?

This study includes 22,655 students who completed a Bachelor's degree in one of B.C.'s 25³ public post-secondary institutions in academic year 2013/2014. These Bachelor's degree recipients represent the largest proportion (about 40%) of all 58,500 students who received a post-secondary credential⁴ in B.C. public post-secondary institutions in that year. Selecting the cohort of Bachelor's degrees completers for this study was relatively simple and the goal was to be as inclusive as possible. The following categories of students were included:

- Any student with a Personal Education Number who received a Bachelor's degree in the academic year 2013/2014.
- Both domestic and international students are included in this study.
- The 22,655 Bachelor's degrees were awarded to students in the Fall, Spring or Summer terms of 2013/2014. The majority (69%) were awarded in the Summer of 2014, the time when most convocation ceremonies are held in B.C. public post-secondary institutions. The remaining Bachelor's degrees were awarded earlier in the academic year, in Fall 2013 (20%) and Spring 2014 (11%) terms.
- Of the roughly 1,300 students who earned multiple Bachelor's degrees in 2013/2014, this study focuses on their first Bachelor's degree awarded in the academic year; however, any additional Bachelor's degrees or other credentials awarded to these students are also examined as part of this study.

Which students are excluded from this study?

The number of students excluded from this study is minimal.

- To ensure the most accurate tracking of student pathways throughout the B.C. public post-secondary system via STP data, students without a Personal Education Number (PEN) are excluded from this study.
- Due to the exclusion of unPENned students and the distinction between counting unique *students* versus unique *credentials*, the 22,655 unique *headcount* of Bachelor's degree completers in this study is understandably lower than the 23,959 Bachelor's *credential* completion counts officially reported by the STP⁵.

³ Among the 25 B.C. public post-secondary institutions, 22 institutions were represented among the 2013/2014 bachelor's degree completers. Only three colleges, Northwest Community College, Northern Lights College and College of New Caledonia, did not award any bachelor's degrees to students in this academic year.

⁴ The total 58,507 credentials awarded in all B.C. public post-secondary institutions in 2013/2014 include developmental and undergraduate certificates and diplomas, bachelor's degrees, first professional degrees, advanced certificates and diplomas, post-degree credentials and all graduate-level credentials, such as doctorates and master's degrees.

⁵ According to credential completion data submitted to the STP and reported by the STP, a total of 23,959 Bachelor's degree credentials were awarded in 2013/2014. Some students earn multiple Bachelor's degrees, thus reducing the unique headcount (based on institutional student identifiers) to 23,909 students. After excluding the students without PENs, this reduces the unique headcount Bachelor's completers in this study to 22,655 unique students with PENs.

Research Results

What is the demographic profile of 2013/2014 Bachelor's degree completers?

A demographic summary of the group of 22,655 Bachelor's degree completers of 2013/2014 is provided below, including a breakdown by gender, aboriginal status, international status and age.

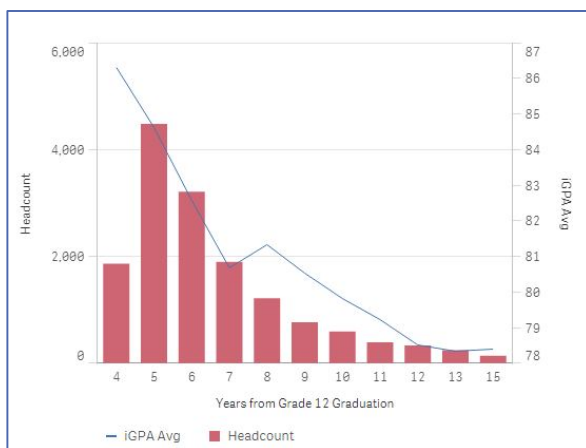
- The Bachelor's degree completers of 2013/2014 were represented by more females (59%) than males (41%). This is consistent with the proportion of female registrants seeking Bachelor's degree programs in 2013/2014 in all B.C. public post-secondary institutions in 2013/2014 (57%).
- The proportion of Aboriginal students in this group was relatively small (3%), but again consistent with the proportion of 2013/2014 female registrants seeking Bachelor's degree programs in 2013/2014 (3.6%). While roughly 6% of 2013/2014 registrants were Aboriginal students, it should be noted that Aboriginal students are more inclined to enrol in other credential levels, such as developmental (19% Aboriginal representation), certificates (10%) and trades/apprenticeship programs (9%).
- A total of 2,930 international students, representing 13% of the Bachelor's degree completers, were included in this study. The majority of these international students (1,426 or 49%) were from China. Other significant countries represented were: United States (222 or 8% of international students), South Korea (180 or 6%) and India (98 or 3%). Research- and teaching-intensive universities awarded proportionately more Bachelor's degrees (13% and 10% respectively) to international students than community colleges (3%) and institutes (2%).
- The average age of the 2013/2014 Bachelor's degree completers was 24.8. The majority of these students (64%) were in the 20-24 age group, 24% were age 25-29, 6% age 30-34 and the remaining Bachelor's completers (6%) were 35 years and older.

What are the B.C. K-12 backgrounds and qualifications of the 2013/2014 Bachelor’s degree completers?

The STP links post-secondary student enrollments to B.C. K-12 enrollment information, in a way that protects the privacy of individuals. This allows us to learn more about the secondary school background of the 2013/2014 Bachelor’s degree completers.

- In total, 16,465 (73% of Bachelor’s degree recipients) had previously attended the B.C. K-12 system, including 15,675 (69% of the cohort) with traditional B.C. grade 12 graduation (Dogwood diploma), 129 (0.6%) with a B.C. adult graduation diploma and 760 (3%) with no record of B.C. grade 12 graduation⁶.
- In this study, a total of 6,091 students (or 27% of the cohort) had no previous B.C. K-12 record. Students without a K-12 enrollment record include those who may have attended the B.C. K-12 system before 1991/1992, plus domestic students (who could have completed grade 12 in non-B.C. high schools), plus 2,416 international students who completed high school outside of B.C. (representing 82% of all international students in this study).
- Among the 15,804 B.C. grade 12 graduates (Dogwood plus Adult graduates) in this study:
 - More than half (56%) finished high school in one of three college regions of B.C.: Kwantlen (24%), Douglas (17%) and Vancouver/Langara (13%). Grade 12 grads from every college region of B.C. were represented in this study.
 - The length of time between grade 12 graduation to Bachelor’s degree completion was 7.8 years, on average – it was at least five years for the vast majority of the students (88%), with only 12% taking four years or less after grade 12 graduation to earn their degree. This achievement measure does not account for students taking time off from school before enrolling in post-secondary or students who entered later on with transfer credits from outside of B.C. About 28% of the grade 12 graduates in this study finished their Bachelor’s degree within five years of graduating from grade 12, while 20% finished in six years, 12% in seven years and 28% in eight years or more.
 - In terms of academic qualifications when they left high school, the STP calculates an inclusive GPA score (iGPA)⁷. The overall average iGPA of all B.C. grade 12 graduates who completed their Bachelor’s degree in 2013/2014 was 81.8 percent. Students with lower iGPA scores took more time from grade 12 graduation to Bachelor’s degree completion than students with higher iGPAs (see **Figure 1**). For example, 1,863 students who completed their degree in four years had an average iGPA of 86.3, compared to 82.5 for those 3,212 who completed in six years.

FIGURE 1: iGPA BY # YEARS FROM GR12 GRADUATION TO BACHELOR’S DEGREE COMPLETION



# Years from Gr12 to Bach	# Stu	Stu %	iGPA Avg
2	2	0.0%	86.7
3	20	0.1%	81.4
4	1,863	11.8%	86.3
5	4,477	28.3%	84.6
6	3,212	20.3%	82.5
7	1,896	12.0%	80.6
8	1,213	7.7%	81.3
9	768	4.9%	80.5
10	583	3.8%	79.8
10+	1,760	11.1%	78.3
Total	15,804	100.0%	81.8

⁶ It is possible that the “non-graduates” completed grade 12 at a later date and/or in another jurisdiction.

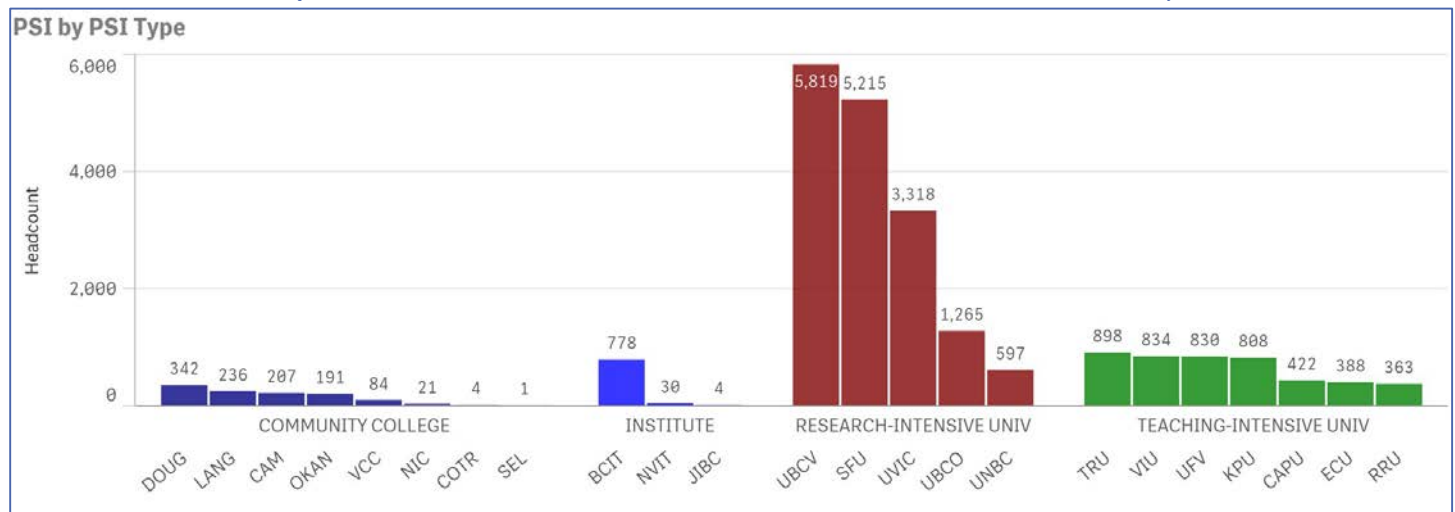
⁷ The iGPA is derived from student course grades in up to 12 completed high school subject areas, from courses required for grade 12 graduation. The average iGPA score for all 2008/2009 grade 12 graduates, many of whom sought and completed a degree in 2013/2014, was 77.5 percent.

At which institutions did students complete their Bachelor's degree in 2013/2014?

The 22,655 students completed their Bachelor's degrees in 22 of B.C.'s 25 public post-secondary institutions (see [Figure 2](#)).

- The majority (over 16,000 or roughly 72%) were awarded at B.C. research-intensive universities (RIUs). Until recently, B.C. research-intensive universities were the exclusive public post-secondary institutions in B.C. with authority to award Bachelor's degree.
- Over the last decade, Bachelor's degrees are increasingly being offered and awarded by B.C. teaching-intensive universities, colleges and institutes, such that nearly all B.C. public post-secondary institutions are now offering Bachelor's degrees in B.C. In 2013/2014, 20% of Bachelor's degrees were awarded at teaching-intensive universities (TIUs), 5% at B.C. colleges and 4% at B.C. institutes.
- Among the seven TIUs awarding Bachelor's degrees, four institutions (Thompson Rivers University, Vancouver Island University, University of the Fraser Valley and Kwantlyn Polytechnic University) each awarded between 800 and 900 Bachelor's degrees in 2013/2014, while approximately half as many were awarded at each of the remaining three TIUs (Capilano University, Emily Carr University and Royal Roads University).
- In the Institute sector, BCIT awarded significantly more Bachelor's degrees than the other two institutes that have a minimal focus on baccalaureate credentials (Nicola Valley Institute of Technology and Justice Institute of BC). BCIT actually awarded more Bachelor's degrees than the University of Northern British Columbia (UNBC) and about as many Bachelor's degrees as the four larger TIUs.
- The B.C. community colleges did not play a significant role in awarding Bachelor's degrees in 2013/2014, however four colleges did award 200 to 300 bachelor's degrees each, including Douglas College, Langara College, Camosun College and Okanagan College.

FIGURE 2: HEADCOUNT 2013/2014 BACHELOR DEGREE COMPLETERS IN B.C. PUBLIC POST-SECONDARY INSTITUTIONS, BY INSTITUTION TYPE

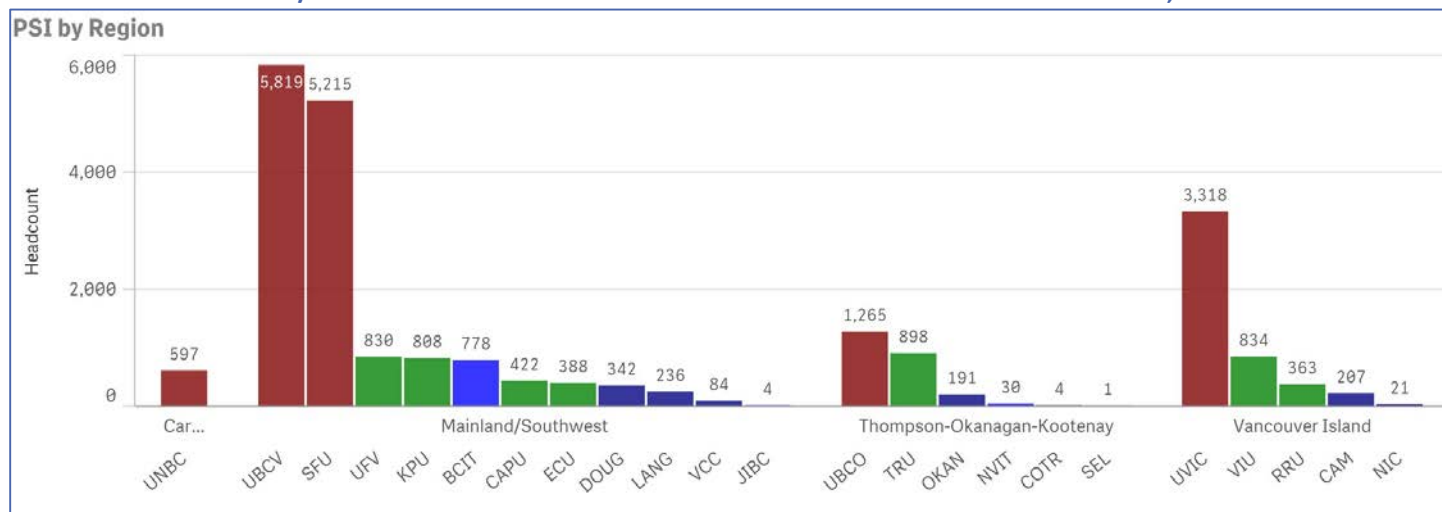


In which regions of B.C. did students complete their Bachelor's degree in 2013/2014?

The province of B.C. is divided into four large regions, with several post-secondary institutions providing education in each of these regions. In 2013/2014, Bachelor's degrees were awarded in all four regions of the province, although three colleges in the Cariboo-North region (Northern Lights College, Northwest Community College and College of New Caledonia) did not award any Bachelor's degrees in that year.

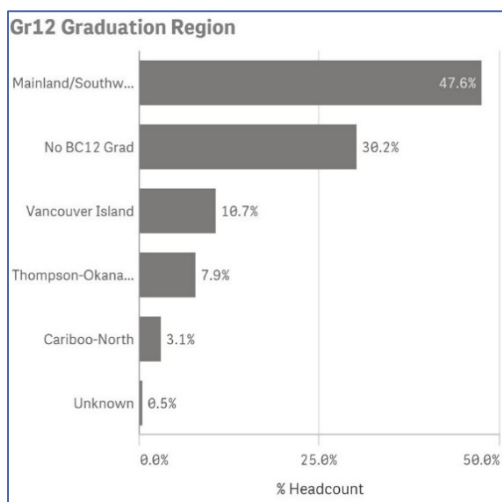
- Of the 22,655 Bachelor's degrees awarded in 2013/2014, 66% were awarded in Lower Mainland/Southwest institutions, 21% on Vancouver Island, 11% in the Thompson-Okanagan-Kootenays and 3% in Cariboo-North (see **Figure 3**).

FIGURE 3: HEADCOUNT 2013/2014 BACHELOR DEGREE COMPLETERS IN B.C. PUBLIC POST-SECONDARY INSTITUTIONS, BY REGION



- Given that the largest share (or about 11,000 Bachelor's degrees in 2013/2014) were awarded in the Lower Mainland/Southwest region of the province, it is not surprising that nearly half (48%) of the Bachelor's degree completers previously graduated from a B.C. secondary school in the Lower Mainland (see **Figure 4**).

FIGURE 4: % DISTRIBUTION OF 2013/2014 BACHELOR'S DEGREE RECIPIENTS, BY B.C. GRADE 12 GRADUATION REGION



- Nearly 5,000 of the Bachelor's degree completers **graduated from high schools outside of the Lower Mainland** (in the B.C. interior, Northern B.C. or Vancouver Island), with the majority of these students (80%) completing their bachelor's degree outside of the Lower Mainland (although not necessarily in the same region where they graduated).
- Nearly 7,000 Bachelor's degree completers **did not graduate from a B.C. secondary school** (although many probably completed their grade 12 education in other jurisdictions). The majority of these students (63%) earned their bachelor's degree in a Lower Mainland post-secondary institution.
- Among roughly 16,000 Bachelor's degree completers who **previously graduated from grade 12 in B.C.**, about 82% completed their degree in the same region where they completed high school. This tendency to complete a degree in the same region as grade 12 graduation was higher for Lower Mainland graduates (89%) and Vancouver Island graduates (77%) than graduates from the Thompson-Okanagan-Kootenay (58%) and Cariboo-North (50%) regions.

In which program areas did students complete their 2013/2014 Bachelor's degree?

Baccalaureate graduates of 2013/2014 completed their degree in a cross-section of different program areas (see [Figure 5](#)).

- Nearly half of the students (45%) earned their Bachelor's degree in Arts and Sciences.
- Other popular program areas for these Bachelor's degree students were Business and Management (19%), Engineering and Applied Sciences (12%) and Health (9%).
- The remaining 15% of Bachelor's degree completers studied Education, Human & Social Services and Visual & Performing Arts, with roughly equal numbers (1,100 students) completing each of these programs.
- A more granular look at the top ten programs completed by these Bachelor's degree recipients is provided in [Figure 6](#) (by 2-digit CIP code). These ten programs account for 16,676 or nearly three-quarters of all Bachelor's degree recipients.

FIGURE 5: 2013/2014 BACHELOR DEGREE COMPLETERS IN B.C. PUBLIC POST-SECONDARY INSTITUTIONS, BY PROGRAM (BC CIP CLUSTER)

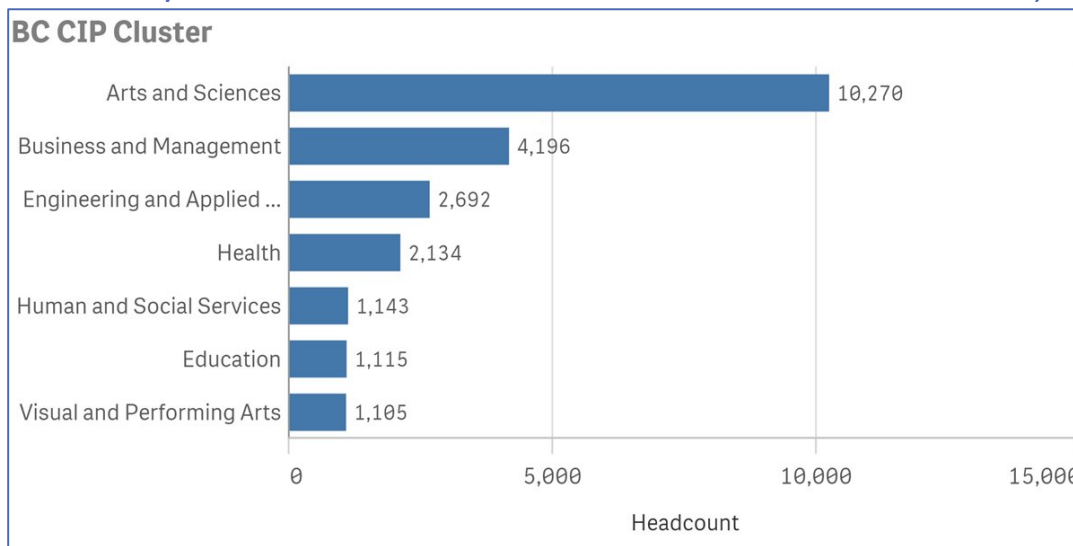
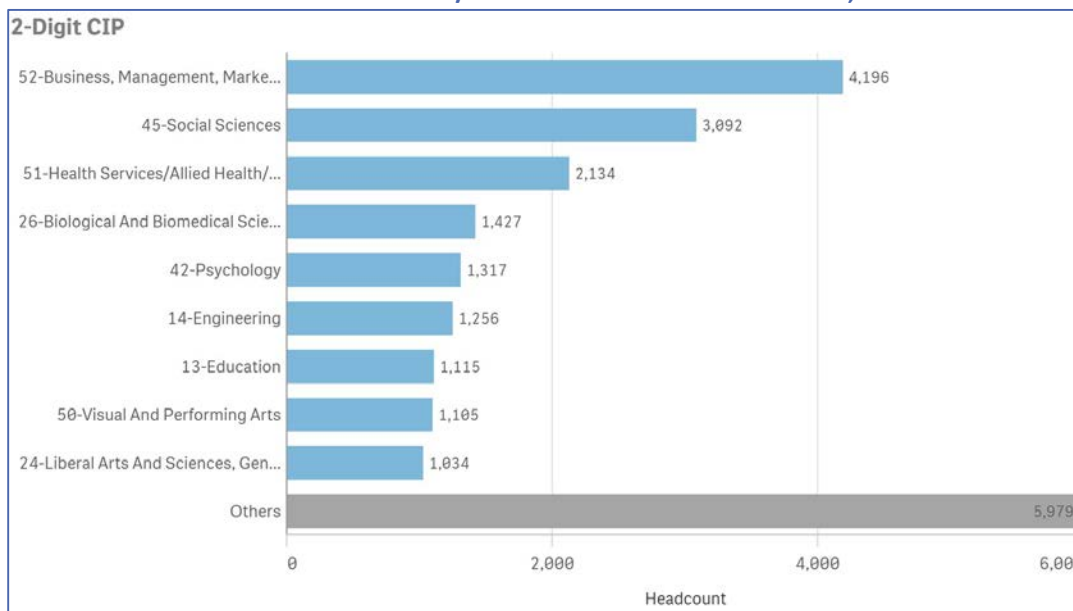


FIGURE 6: TOP 10 PROGRAM AREAS OF 2013/2014 BACHELOR DEGREE COMPLETERS, BY 2-DIGIT CIP



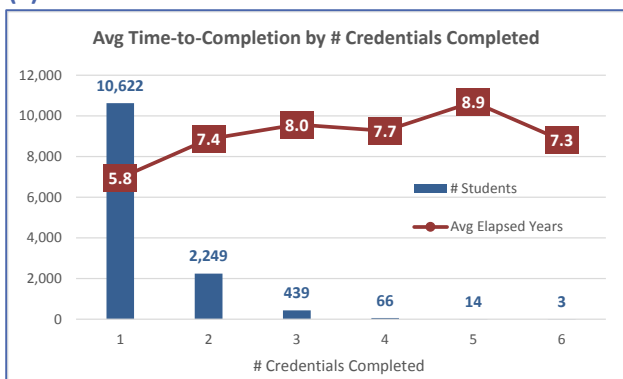
What was the length of time to completion for the 2013/2014 Bachelor’s degree recipients?

Calculating the elapsed time to complete a Bachelor’s degree requires that we know each student’s time of entry and whether they entered the system with post-secondary credits. Since the STP contains post-secondary enrollments dating back to 2002/2003, but without data on accumulated credits, the average time to degree completion in this study is calculated on a 60% subset of the full cohort. This “direct from high school” subpopulation consists of 13,395 former B.C. secondary school students (graduates and non-graduates) who entered the B.C. public post-secondary system as “new” students in 2002/2003 or later and subsequently completed their Bachelor’s degree in 2013/2014⁸.

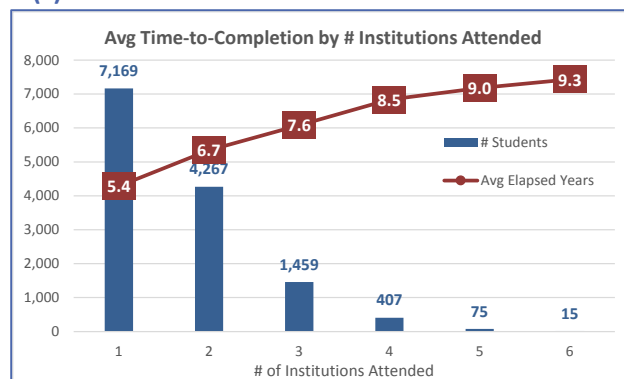
- The average number of elapsed years from time of entry to 2013/2014 Bachelor’s degree completion was **6.1 years** (median 5.7 years), or an average of 14.7 registration terms (4.9 years) when stop out periods of non-registration are excluded from the average. This time to completion measure includes students who began in 2002/2003 or later and assumes they had no post-secondary credits upon entry. Note that this measure of degree completion time focuses only on the time in post-secondary education for “new” students and is different from the rough measure provided earlier that quantified the amount of time between grade 12 graduation and Bachelor’s degree completion (7.8 years).
- Students may **complete additional credentials** simultaneously or preceding their 2013/2014 Bachelor’s degree and this appears to affect their Bachelor’s degree completion time (see **Figure 7a**). The average elapsed degree completion time increases with the number of credentials completed: one credential completed or bachelor’s degree only (5.8 years), versus two credentials completed (7.4 years) or three credentials (8.0 years).
- Students may **attended multiple institutions** in their journey to complete a Bachelor’s degree and this also affects their Bachelor’s degree completion time (see **Figure 7b**). The average elapsed completion time increases with the number of institutions attended: one institution (5.4 years), two (6.7 years), three (7.6 years) and four institutions (8.5 years).
- The length of time to complete their Bachelor’s degree also varied slightly, by **program area**. Bachelor’s completers in Arts and Sciences finished more quickly (5.9 years on average), than students in all programs combined (6.1 years). Students in most other program areas completed in 6.0 to 6.4 years, but students who earned their Bachelor’s degree in Health (6.8 years) or Education (7.6 years) took more time to complete and these students were also more inclined to attend more than one institution throughout their education (67%), compared to students completing degrees in other program areas (43%).
- There are a number of possible reasons why students who completed multiple credentials or attended multiple institutions took longer, on average, to complete their Bachelor’s degree, such as: student qualifications, student resources, student intentions, program/institution capacity, change in student’s plans in response to personal or academic challenges, etc.

FIGURE 7: AVERAGE BACHELOR’S DEGREE COMPLETION TIME BY:

(A) NUMBER OF CREDENTIALS COMPLETED



(B) NUMBER OF INSTITUTIONS ATTENDED



⁸ This subpopulation was chosen because these direct entry and early entry students from B.C. high schools likely started their post-secondary education in B.C. with zero post-secondary credits; however, omitting former BC K-12 students who first entered the B.C. public post-secondary system before 2002/2003 (estimated at fewer than 200 students) will marginally reduce the average time to degree completion.

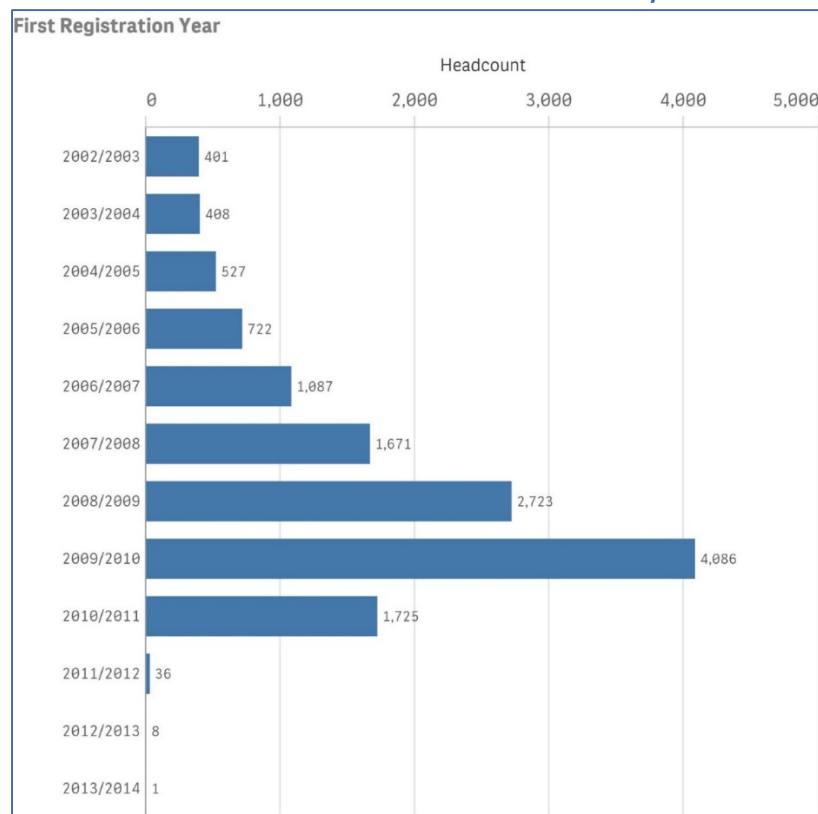
When did “direct from high school” Bachelor’s degree completers of 2013/2014 first register in the B.C. public post-secondary system?

By limiting the cohort to the 13,395 “direct from high school” students who first entered the B.C. public post-secondary system as “new” students in 20002/2003 or later, and subsequently completed a Bachelor’s degree in 2013/2014, **Figure 8** shows that the majority (87%) first registered in post-secondary 2009/2010 or earlier, which allows at least five years of elapsed time before completing their bachelor’s degree.

- The largest group (4,086 or 30% of students) first registered in 2009/10, thus they completed their degree in five years.
- About 20% or 2,723 students first registered in 2008/2009, thus completing their degree in six years.
- Seven-year degree completers comprised 12% of the “direct from high school” group.

An alternative to measuring the elapsed time from entry to exit is to measure the proportion of registration terms between start and finish, or term persistence rate. For example, of the 4,086 students who first entered in 2009/10, the elapsed degree completion time was about five years, but these students, on average, were registered for only 12 out of the 15 possible terms over the five years, thus resulting in a term persistence rate of 80%. By comparison, the term persistence rate of the 1,087 students who first entered in 2006/2007 is 74% because these students registered less frequently (about 17 terms out of a possible 24 terms) over the longer (eight-year) time horizon.

FIGURE 8: DISTRIBUTION OF “DIRECT FROM HIGH SCHOOL” 2013/2014 BACHELOR’S DEGREE COMPLETERS BY FIRST REGISTRATION YEAR



What are the registration and stop out patterns of students who achieved their Bachelor's degree in 2013/2014?

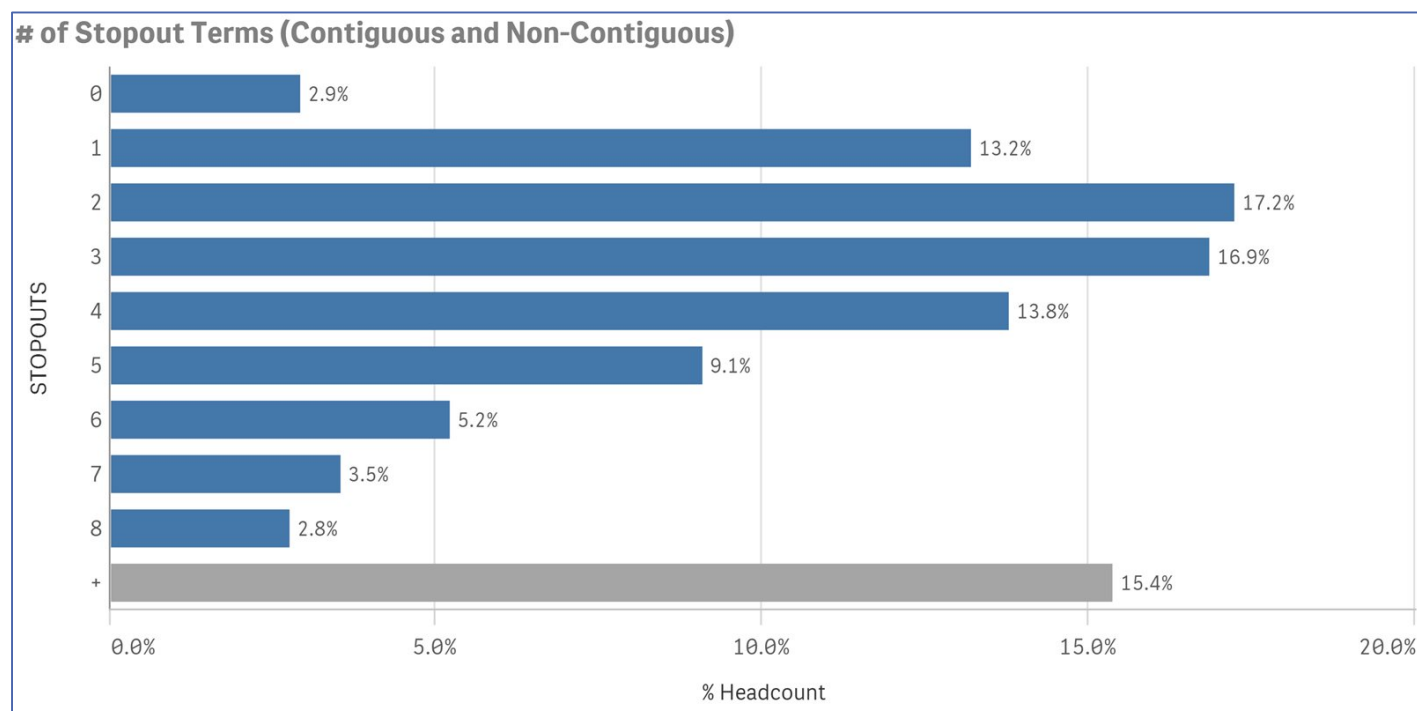
All 22,655 Bachelor's degree completers registered in a total of 849 different combinations of academic years between 2002/2003 to 2013/2014 in order to complete their Bachelor's degree. The top four most common patterns of annual registrations account for more than half (57%) of all students in the cohort, with students registering at least once in each academic year for a period of four to seven years:

- 15% registered in at least one term per academic year, in each of the **four** academic years, beginning in 2010/2011;
- 24% registered in at least one term per academic year, in each of the **five** academic years beginning in 2009/2010;
- 13% registered in at least one term per academic year, in each of the last **six** academic years, beginning in 2008/2009;
- 6% registered in at least one term per academic year, in each of the last **seven** years, beginning in 2007/2008.

A stop out is a term of non-registration. Students traditionally register in the Fall and Spring terms and then stop out in the summer for other activities, such as employment. Students in this study stopped out for up to 36 terms (contiguously or non-contiguously) during the pursuit of their Bachelor's degree, sometime between the term of first entry and the term of Bachelor's completion in 2013/2014 (see [Figure 9](#)).

- It is relatively unusual for students to register in every single term throughout the pursuit of their entire Bachelor's degree. Only 3% of students followed this pattern of not stopping out for a single term between entry and completion.
- A surprisingly large proportion (70%) of students stopped out for one to five terms over the duration of their Bachelor's degree, including 12% who stopped out for just one term, 17% for two terms, 17% for three terms, 14% for four terms and 9% for five terms in total. Whether students were registered full-time or part-time cannot currently be measured by the STP.
- Roughly 27% of 2013/2014 Bachelor's degree completers stopped out for a total of 6 or more non-contiguous or contiguous terms during the pursuit of their Bachelor's degree.

FIGURE 9: FREQUENCY DISTRIBUTION OF CONTIGUOUS AND NON-CONTIGUOUS STOPOUT TERMS OF 2013/2014 BACHELOR'S COMPLETERS



How many institutions and institution types did students attend on their journey to earn a Bachelor's degree in 2013/2014?

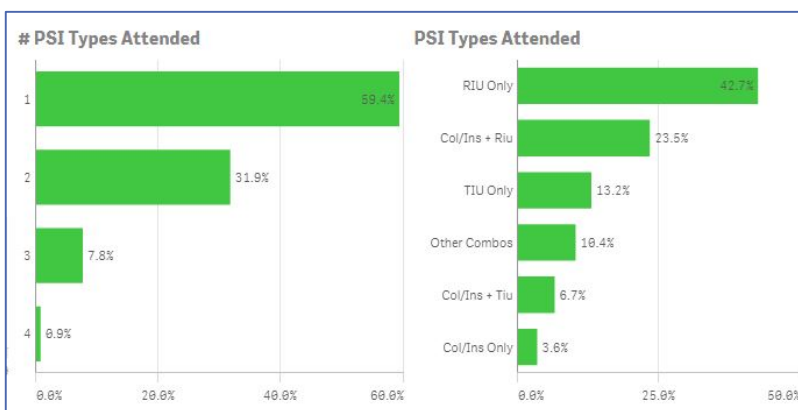
While pursuing their 2013/2014 Bachelor's degree, students often attended numerous institutions along the way, either sequentially or simultaneously. In many cases they earned a credential at these other institutions, but for many students, they simply attended (and presumably accumulated credits at) other institutions as a route to earning their degree. Student intentions are not always evident in enrollment data, so it is possible that students attended some institutions prior to earning their Bachelor's degree that are completely separate and unrelated to their 2013/2014 degree.

- On average, Bachelor's degree completers attended 1.24 B.C. public post-secondary institutions from the time of first entry to Bachelor's degree completion in 2013/2014. See [Figures 10](#) and [11](#) for the number of institutions and institution types attended.

FIGURE 10: NUMBER OF INSTITUTIONS ATTENDED

# Institutions Attended	Headcount	%
1	12,543	55.4%
2	6,813	30.1%
3	2,388	10.5%
4	716	3.2%
5	151	0.7%
6	34	0.2%
7	5	0.0%
8	3	0.0%
9	2	0.0%
Total	22,655	100.0%

FIGURE 11: FREQUENCY AND COMBINATIONS OF PSI TYPES ATTENDED



- Students who attended multiple institutions were much more likely to earn multiple credentials (65%) than students who attended only one institution from start to finish of their Bachelor's degree (with 10% earning multiple credentials).
- Students who attended two or more institutions, were much more likely (91%) to have done so in different institution types⁹; only 9% attended multiple institutions within a single sector. Of the 925 students who attended multiple institutions within a single sector, switching institutions exclusively within the RIU or exclusively within the TIU sector were common activities.
- By focusing on the groups of students who completed their 2013/2014 Bachelor's degree in each of the different sectors, it is evident that a larger proportion of Bachelor's completers at TIU's remained in the TIU sector exclusively (66%) compared to RIU Bachelor's completers (60% remained in the RIU sector). It is also evident that 2013/2014 Bachelor's degree completers at colleges/institutes were least likely to remain exclusively in that sector from start to finish of their degree.
 - Among the 16,214 students who completed their Bachelor's degree at a **research-intensive university** in 2013/2014, 60% attended RIU(s) exclusively, while 40% attended multiple institution types, including College-RIU (19%), TIU-RIU (11%) and others.
 - Among the 4,543 students who completed their Bachelor's degree at a **teaching-intensive university** in 2013/2014, 66% attended only TIU(s), while 34% attended multiple institution types, including College-TIU (16%), RIU-TIU (6%) and others.
 - Among the 1,898 students who completed their Bachelor's degree at a **college or institute** in 2013/2014, nearly half (46%) remained exclusively in the college and/or institute sector. Approximately equal proportions, at 22% each, attended a TIU or RIU before earning their 2013/2014 Bachelor's degree at a college or institute.

⁹ B.C. has four post-secondary institution types: Colleges, Institutes, Teaching-Intensive Universities (TIUs) and Research-Intensive Universities (RIUs).

Did 2013/2014 Bachelor’s completers earn additional credentials prior to their degree?

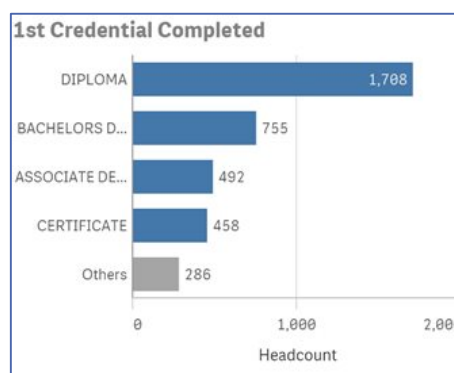
Among the 22,655 Bachelor’s degree completers, the majority (17,863 students or 79%) completed just one credential – the Bachelor’s degree in 2013/2014. The remaining 4,792 or 21% of students completed one or more credentials, preceding or simultaneous with the Bachelor’s degree (see **Figure 12**).

- Completion of **two** credentials was most popular among multiple credential completers – a total of 3,699 or 16% of all 2013/2014 Bachelor’s completers preceded their degree with one other credential (see **Figure 13** for a distribution of the first credential completed by these two-credential recipients). Earning a diploma prior to the Bachelor’s degree was most common and a total of 755 students completed two Bachelor’s degrees, sequentially or simultaneously.

FIGURE 12: NUMBER OF CREDENTIALS COMPLETED

# Credentials Completed	Headcount	%
1	17,863	78.8%
2	3,699	16.3%
3	836	3.7%
4	167	0.7%
5	52	0.2%
6	29	0.1%
7	7	0.0%
8	2	0.0%
Total	22,655	100.0%

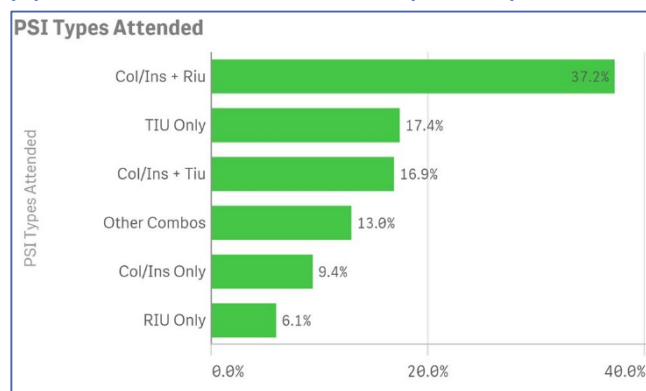
FIGURE 13: FIRST CREDENTIAL COMPLETED BY TWO CREDENTIAL COMPLETERS



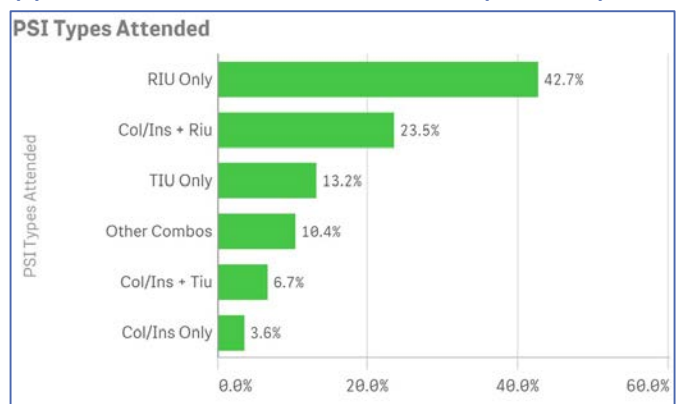
- A total of 836 students (4%) completed **three** credentials (the Bachelor’s degree preceded by two other credentials) and 167 students completed **four** credentials in total. The remaining 90 students (< 1% of the full cohort) completed five to eight credentials in total (see **Figure 12**).
- Among the 4,792 students who completed multiple credentials, they primarily remained within one or two CIP program clusters in two or fewer institutions and primarily in one region of B.C. The largest group of these students (48%) attended two institution types, 33% attended one, 17% attended three and 3% attended four. The combination of institution types attended is shown in **Figure 14 (a)** for multi-credential recipients vs. **(b)** the full cohort. The B.C. college transfer system facilitates students in their numerous pathways. The most popular route taken by more than half of the multi-credential recipients was to attend a B.C. college or institute before moving to a university (RIU or TIU).

FIGURE 14: COMBINATIONS OF INSTITUTION TYPES ATTENDED –

(A) MULTI-CREDENTIAL RECIPIENTS (N=4,792)



(B) ALL 2013/2014 BACHELOR’S COMPLETERS (N=22,655)

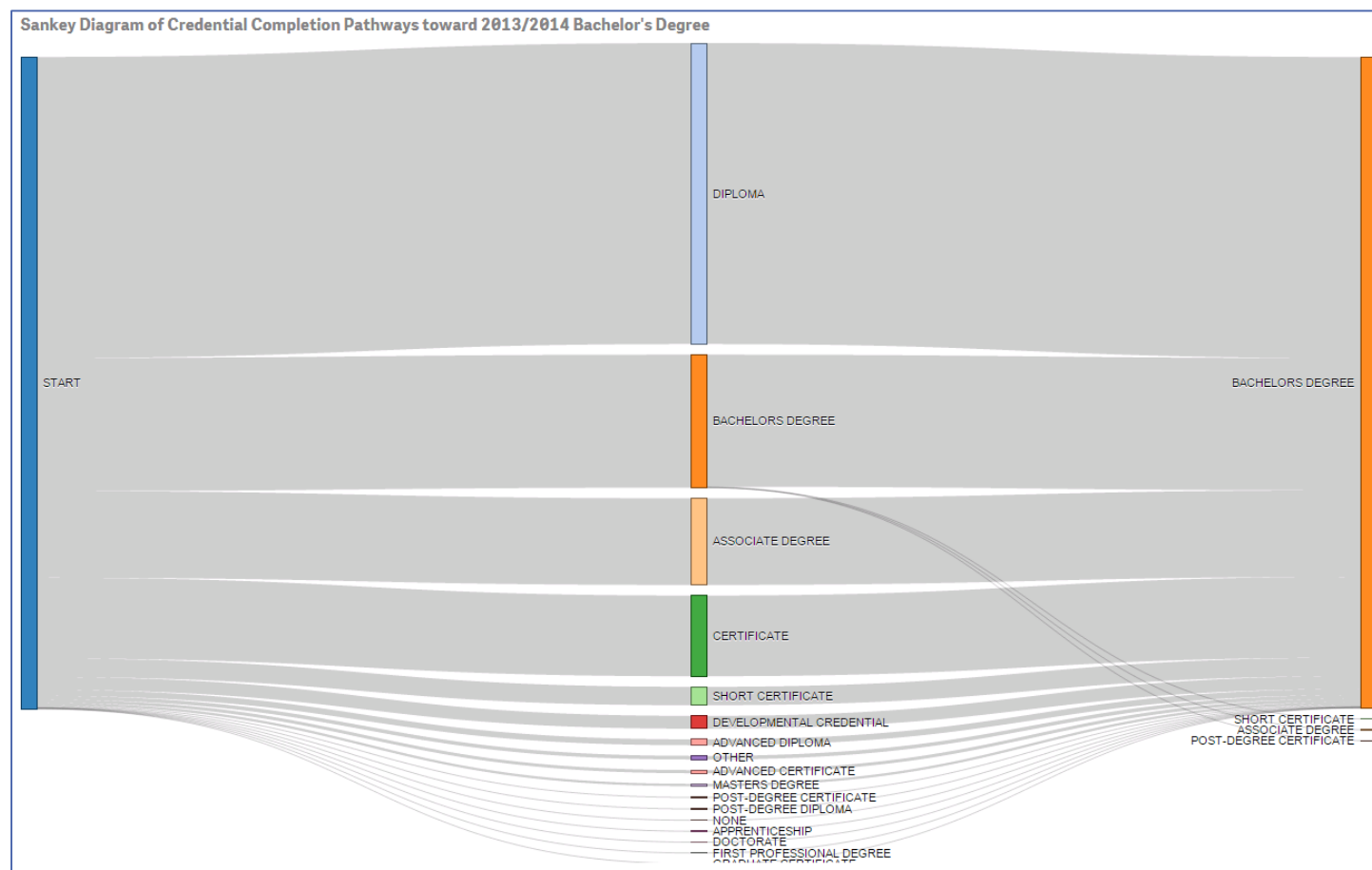


What do the two-credential completion pathways of 3,699 2013/2014 Bachelor's degree completers look like?

The Sankey diagram (see [Figure 15](#)) shows the pathways and flows of students from initial entry, to the first and second credentials completed. The size of each pathway visually provides the relative proportions of students who flowed along those pathways.

- The diploma to Bachelor's degree was the most common pathway for those who completed two credentials (1,708 students).
- Other popular pathways prior to the 2013/2014 Bachelor's degree were: another Bachelor's degree (755), associate degree (492) and certificate (458).
- Less common pathways leading to a Bachelor's degree were short certificates, developmental credential, advanced diploma, etc.
- Depending upon the type of institution where the 2013/2014 Bachelor's degree was completed, students had different patterns in their credential pathways. Those who completed their Bachelor's degree at an RIU followed similar pathways to those shown in [Figure 15](#) for all students, but students who completed their Bachelor's degree at a college, institute or TIU were much more likely to complete a diploma first and less likely to precede their Bachelor's degree with other credential categories¹⁰.

FIGURE 15: SANKEY DIAGRAM OF CREDENTIAL COMPLETION PATHWAYS OF TWO-CREDENTIAL COMPLETERS



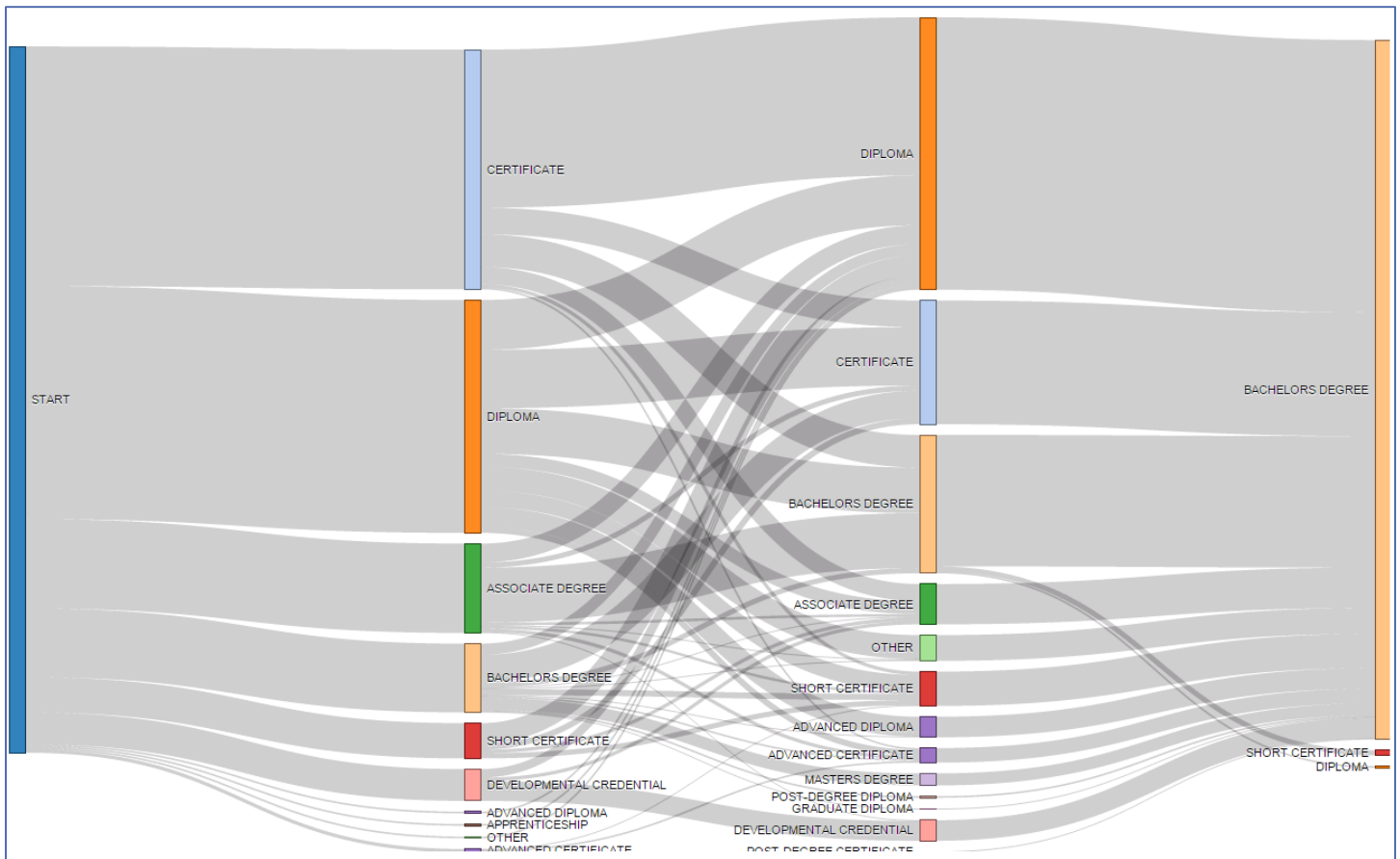
¹⁰ Sankey diagrams may be created on-the-fly for other sub-populations of 2013/2014 Bachelor's degree completers using Qlik Sense

What do the three-credential completion pathways of 836 2013/2014 Bachelor's degree completers look like?

In this Sankey diagram (see [Figure 16](#)) the pathways and flows of students are shown from initial entry, to the first, second and third credentials completed. These credentials may have been completed at any time between 2002/2003 and 2013/2014, with the final Bachelor's degree completed in 2013/2014.

- The total number of different pathways expands as the number of credentials completed increases and the pathways between the first and second credential become increasingly more complex.
- The most popular first-to-second credential pathways are (a) certificate to diploma; (b) diploma to certificate, (c) Associate Degrees to Bachelor's degree, (d) diploma to diploma, and (e) diploma to Bachelor's degree.
- The largest group of students who completed their Bachelor's degree as their third credential in 2013/2014 had previously or simultaneously completed a diploma as their first or second credential earned.

FIGURE 16: SANKEY DIAGRAM OF CREDENTIAL COMPLETION PATHWAYS OF THREE-CREDENTIAL COMPLETERS



Which credential completion pathways between institution types do two- and three- credential completers follow?

Among the 3,699 Bachelor’s degree completers of 2013/2014 who preceded their degree with one other credential (see **Figure 17**) or two other credentials (see **Figure 18**), the Sankey diagrams reveal some interesting patterns.

- A common pathway to a Bachelor’s degree at an RIU was often via another credential earned at a community college.
- Multi-credential completers who earned their Bachelor’s degree at a TIU often preceded their 2013/2014 degree with another credential from a TIU, thus indicating that TIU’s are successful in retaining lower-level credential recipients through subsequent Bachelor’s degree completion at the same institution. This is also evident in institution-level Sankey diagrams for the TIU sector.
- Although completion of the 2013/2014 Bachelor’s degree at a B.C. college was the least chosen route, the pathway to a college Bachelor’s degree was often achieved by earning additional credentials at college(s) first. This is seen when looking backwards from right to left in the Sankey diagram – start at the final institution type where the 2013/2014 Bachelor’s degree was earned and scan backwards to see the significant pathways between types of institutions where students earned prior credential(s).

FIGURE 17: SANKEY DIAGRAM OF PATHWAYS BETWEEN INSTITUTION TYPES WHERE CREDENTIALS COMPLETED (TWO-CREDENTIAL COMPLETERS)

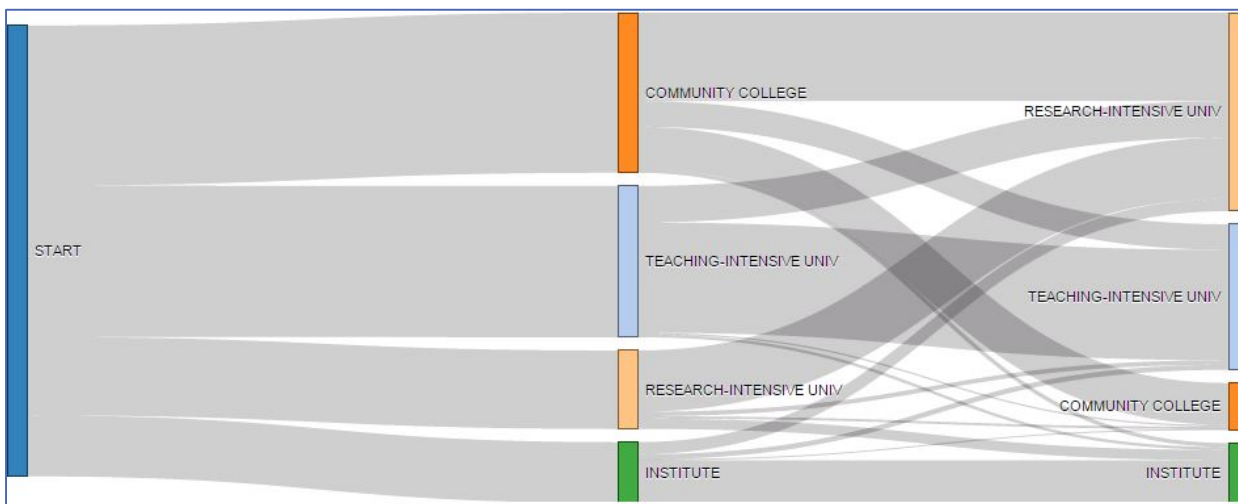
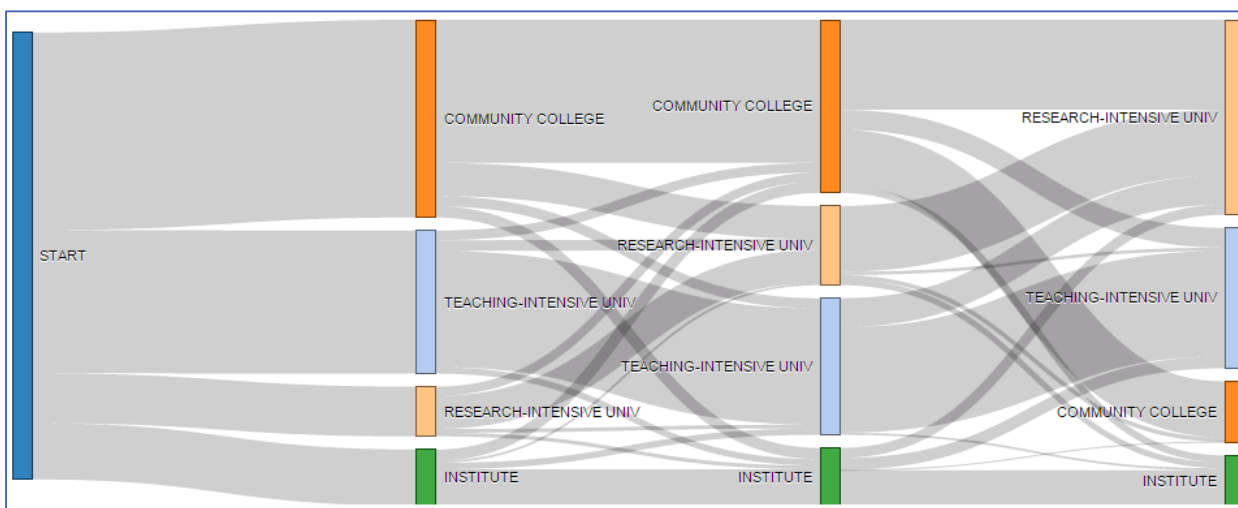


FIGURE 18: SANKEY DIAGRAM OF PATHWAYS BETWEEN INSTITUTION TYPES WHERE CREDENTIALS COMPLETED (THREE-CREDENTIAL COMPLETERS)



Are there any differences in Bachelor's degree achievement patterns between students with different B.C. K-12 backgrounds?

For comparison across demographic and education achievement dimensions, the cohort of 22,655 Bachelor's degree graduates of 2013/2014 are divided into the following four mutually exclusive groups, each with similar K-12 backgrounds.

B.C. Dogwood Graduates - students who attended and completed grade 12 at a B.C. secondary school;

B.C. Adult Graduates – students who earned their B.C. Adult Graduation diploma before earning their Bachelor's degree in B.C.;

B.C. Non-Graduates – students who attended the B.C. K-12 system, with no record of their B.C. grade 12 graduation in the STP;

Not from B.C. K-12 – students for whom the STP has no record of their attendance/graduation in the B.C. K-12 system.

FIGURE 19: COMPARISON OF 2013/2014 BACHELOR'S DEGREE COMPLETERS, BY B.C. K-12 BACKGROUND

Description	B.C. Dogwood Graduates	B.C. Adult Graduates	B.C. Non-Graduates	Not From B.C. K-12
Number of 2013/2014 Bachelor's Degree Graduates	15,675	129	760	6,091
% Female	58.6	53.6	61.2	57.8
% International	2.0	9.3	9.5	35.8
% Aboriginal Students	3.0	10.9	7.2	2.1
Institution Type of First Post-Secondary Registration (% Distrib.):				
Research-Intensive University	51.4	28.9	34.3	59.7
Teaching-Intensive University	24.5	25.6	22.5	21.9
College or Institute	24.2	53.2	43.2	18.3
% First PSI Registration at Developmental Level	3.3	13.2	20.1	10.0
Institution Type where Bachelor's Degree Received (% Distrib.):				
Research-Intensive University	71.6	54.3	64.3	72.9
Teaching-Intensive University	19.7	27.9	21.8	20.7
College or Institute	8.7	17.8	13.9	6.4
1st Registration vs. Bachelor's Degree Awarded:				
% Same Institution Type	68.2	52.7	57.1	81.4
% Same Institution	63.5	51.2	52.5	63.5
% Same Program Area	60.5	51.9	49.1	68.2
Average Elapsed Years to Bachelor's Degree Completion	6.0	7.1	6.8	5.0
Average Number of Credentials Earned, incl. Bach Degree	1.6	1.8	1.8	1.5
Average Number of Institutions Attended	2.0	2.1	2.3	1.7
% Earned Multiple Credentials	23.4	31.8	29.6	14.1
% Attended Multiple Institutions	44.9	62.8	54.3	30.7
Bachelor's Degree Program Area (% Distribution):				
Arts and Sciences	46.9	30.2	41.7	42.1
Business and Management	16.5	31.8	16.4	23.6
Education	5.6	3.1	3.9	3.4
Engineering and Applied Sciences	11.3	7.0	13.2	13.2
Health	10.2	17.1	12.2	6.9
Human and Social Services	4.9	7.8	7.0	5.1
Visual and Performing Arts	4.6	3.1	5.5	5.6

The table in **Figure 19** reveals a number of differences between groups of students with different B.C. K-12 backgrounds:

- Compared to other groups, non-graduates are represented by the largest proportion of female students (61.2%).
- International students represent more than one third (35.8%) of the students with no previous B.C. K-12 education experience, compared to 2.0% of Dogwood graduates and nearly 10% of the other two groups.
- Compared to other groups, a greater share of Aboriginal students (10.9%) are found among B.C. Adult Graduates with a Bachelor's degree.
- Upon first registration in the B.C. public post-secondary system, a larger proportion of students with no B.C. K-12 experience (59.7%) and B.C. Dogwood graduates (51.4%) enrolled in research-intensive universities, compared to B.C. non-graduates (34.3%) and B.C. Adult graduates (28.9%). The latter two groups were more inclined to enroll in a college or institute (43.2% and 53.2% respectively), especially in developmental education (20.1% and 13.2%).
- Regardless of B.C. K-12 experience, the majority of Bachelor's recipients completed their degree at a research-intensive university (RIU). However, compared to Dogwood graduates and students from outside of the B.C. K-12 system, Adult grads and non-graduates received proportionately more Bachelor's degrees at TIUs, colleges and institute.
- The majority of students who enrolled in B.C. public post-secondary education from outside of the B.C. K-12 system completed their Bachelor's degree in the same institution type (81.4%), same institution (63.5%) and same program area (68.2%) as the one where they first registered at the outset of their education in 2002/2003 or later. They may have switched institutions along the way, but their starting and ending points were generally consistent. By comparison, roughly half of B.C. non-graduates and B.C. adult graduates began and ended their Bachelor's degrees in the same institution type, institution and program.
- B.C. Adult graduates and B.C. non-graduates took longer to complete their Bachelor's degrees (at 7.1 and 6.8 years respectively), compared to B.C. Dogwood graduates (6.0 years) and students from outside of the B.C. K-12 education system (5.0 years).
- On average, students from outside of the B.C. K-12 system earned attended fewer institutions (1.7) and earned fewer credentials (1.5), compared to students with other B.C. K-12 backgrounds. B.C. non-graduates earned the most credentials (1.8) and attended the most institutions (2.3), on average.
- While pursuing their Bachelor's degree, Adult graduates and non-graduates from B.C. were about twice as likely to earn multiple credentials and attend multiple institutions, compared to students from outside of the B.C. K-12 system.
- B.C. Adult graduates who earned a Bachelor's degree in 2013/2014, earned proportionately more degrees in Business and Health, when compared to other groups of students. Business degrees were also more common among students from outside of the B.C. grade 12 system, a group dominated by international students who tend to enroll in Business at higher rates than domestic students.

Conclusion

The 22,655 Bachelor's degree graduates of 2013/2014 in this study mainly completed their degrees in research-intensive universities, but the contribution of the other institution types, including teaching-intensive universities, colleges and institutes is becoming increasingly significant. These other institutions are now offering and awarding Bachelor's degrees to B.C. students in growing numbers and they continue to offer alternative pathways for students via B.C.'s robust transfer system.

This B.C. transfer system allows students to earn credits, as well as other credentials in a variety of program areas, during their education journey towards a Bachelor's degree. This study shows that the number of pathways that students may follow between institutions, credentials and programs are numerous and complex.

Regardless of the institution where students earn their degree, [B.C. Student Outcomes Research](#) surveys indicate that the vast majority of B.C.'s Bachelor's degree completers gain employment and subsequently make important contributions to the B.C. economy and society.

For More Information

A wealth of additional information is also available to post-secondary institutions seeking more detailed information on 2013/2014 Bachelor's degree graduates.

STP Highlights newsletters and reports are available on the public Student Transitions Project web site at:

http://www.aved.gov.bc.ca/student_transitions

