

**Pathways into Community College Baccalaureate Degrees
in Washington**

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Executive Summary

- 91% of all CCB students had some prior enrollment in a Washington State community and technical college (CTC)
- 59% held an associate's degree from a Washington community and technical college before entry; only 30% earned it within one year of matriculating
- The majority of prior pathways split roughly in thirds: No prior Washington CTC award (36%), professional-technical programs (27%), and Direct Transfer Agreement (30%)
- Six of eight colleges where 45%+ of CCB students came from transfer pathways were rural, suggesting CCB fills a local access gap where four-year institutions are not nearby

Community College Baccalaureate (CCB) programs serve a different student population than the traditional four-year university sector—CCB students are typically older, more racially and ethnically diverse, more likely to be veterans, receive need-based aid, and have dependents (Meza & Love, 2023; Meza & Vo, 2026).

Washington has offered bachelor's degrees at community and technical colleges for over 20 years, beginning with Bachelor's of Applied Science (BAS) and Bachelor's of Science in Nursing (BSN) degrees. More recently, in 2021, state legislators passed Substitute Senate Bill 5401, allowing community and technical colleges to offer a Bachelor of Science (BS) in Computer Science. Despite this range of bachelor's degree pathways, little is still known about the educational trajectories students follow before entering or matriculating into CCB programs. Understanding these pathways is essential for strengthening enrollment management practices and supporting student success and equity, particularly for students in Computer & Information Sciences & Support Services program areas, where the employment landscape continues to evolve. The purpose of this brief is to provide a quantitative exploration and descriptive analysis of who students in CCB programs are overall and specifically, in Computer & Information Sciences & Support Services program areas. We explore the prior education and pathways leading to enrollment in CCB degrees overall and degrees in Computer & Information Sciences & Support Services programs specifically (i.e., as designed by Classification of Instructional Programs [CIP] Code 11).

Data

This report analyzed student-level data from 2017-18 through 2023-24 academic years. Within these seven academic years, this analysis focuses on all students who matriculated into a CCB program in Washington State (WA). Students are coded as matriculated when they declare an intent to pursue a BAS, BSN or BS degree and enroll in a 300-level (i.e. upper division) course.

Findings

Student Contexts and Backgrounds

Between 2017-18 and 2023-24, Washington state enrolled/matriculated 16,746 CCB students, with a notable concentration in Computer & Information Sciences & Support Services (will be referred

interchangeably as Computer & Information Sciences or CISSS), which accounted for 4,126 students or about 25% of all WA CCB enrollments. As displayed on Table 1, CCB students were majority female (58%) and predominantly white (49%), with Asian (13%), Multiracial (15%), and Latine (9%) students making up the next largest racial/ethnic groups. Black (7%), American Indian/Alaska Native (1%), Native Hawaiian or Pacific Islander (1%) comprise of a smaller share of the CCB student population.

One of the most distinctive features of the CCB population is its age profile: nearly two-thirds of students (65%) were 25 or older, reflecting a strong adult learner presence that sets CCB apart from the broader statewide population (see Table 1). CISSS students followed similar patterns in most respects, with two notable exceptions—in the CISSS CCB programs, male (73%), and Asian students were more represented (19%) than in CCB programs overall.

Table 1. Comparison of Characteristics of CCB Students Overall and Computer & Information Sciences (CIP 11): Gender, Race/Ethnicity, and Age Group (2017-18 through 2023-24)

	All CCB Matriculated Students (n = 16,746)	Computer & Information Sciences (11) (n = 4,126)	All Professional Technical or Transfer Intent Students (n=605,349)
Gender			
Female	58%	25%	52%
Male	40%	73%	43%
Not Listed	2%	2%	5%
Race/Ethnicity			
American Indian/ Alaska Native	1%	0%	1%
Asian	13%	19%	11%
Black	7%	7%	6%
Latine	9%	6%	10%
Multiracial	15%	13%	15%
Native Hawaiian or Pacific Islander	1%	0%	1%
white	49%	46%	49%
Not Listed	5%	7%	11%
Age Group			
< 25 years-old	35%	38%	70%
25+ years-old	65%	62%	45%
25-29 years-old	20%	23%	16%
30-39 years-old	27%	27%	17%
40+ years-old	18%	12%	12%

Across most dimensions, differences between CCB and CISSS students were statistically significant, but practically small in terms of percentage point differences. The one clear exception was gender: CISSS students were dramatically more male than CCB students overall (73% vs. 40%). This gender imbalance in computing programs is a well-documented national pattern, but its magnitude here

warrants attention for student enrollment, outreach, success, and equity efforts. A second notable finding emerged when comparing CCB students to professional/technical students statewide: CCB serves a substantially older population, with 65% of students aged 25 or older, compared to 45% of professional-technical students statewide, a difference that has real implications for how programs are designed and what support services students may need.

Across both groups, roughly 45% of CCB students and 41% of CISSS students received need-based financial aid, and the majority of students in both groups enrolled full-time (66% and 69%, respectively). Compared to all CCB students, CISSS students were somewhat less likely to receive need-based aid (41% vs. 45%) and somewhat more likely to enroll full-time (69% vs. 66%), but these differences are too small to be considered meaningful. In short, CISSS programs are enrolling students who look much like the typical CCB student in every respect except gender.

Table 2. Comparison of Characteristics of CCB Students Overall and Computer & Information Sciences (CIP 11): Financial Aid Status and Enrollment Intensity (2017-18 through 2023-24)

	All CCB Matriculated Students (n = 16,746)	Computer & Information Sciences (11) (n = 4,126)	All Professional Technical or Transfer Intent Students (n = 605,349)
Financial Aid Status			
Received Need-Based	45%	41%	34%
Did Not Receive	55%	59%	76%
Enrollment Intensity			
Part-Time Enrolled	34%	31%	N/A
Full-Time Enrolled	66%	69%	N/A

Note. Financial aid and enrollment intensity are based on students' status in first term of CCB entry.

Pathways into the CCB

Since 2017, CCB students' prior enrollment pathways remained fairly stable (see Table 3):

- About one-third had no prior award from a Washington CTC (36%)
- About one-third had an award receipt from a WA CTC professional-technical programs (27% Prof Tech AA, 3% Short Certificate, 1% Long Certificate)
- About one-third had an award receipt from WA CTC "Direct Transfer Agreement" (DTA) (30%)

Of the students who matriculated into a CCB program, 59% had an associate's degree on record prior to matriculating and 5% received an associate's degree after entry (see Table 3). The percentage of students in Computer & Information Sciences is slightly lower (53%), and this may reflect the effect of students in the B.S. computer science degree. That pathway is designed for students to directly enter without a prior degree. It is also important to note that while about one-third of students had not earned a degree in the Washington CTC system, 91% of CCB students had some prior enrollment in the CTC system.

Table 3. Comparison of Social Contexts and Backgrounds of CCB Students Overall and Computer & Information Sciences (CIP 11): Prior Community College Enrollment and Highest Attainment Prior to CCB Entry (2017-18 through 2023-24)

	All CCB Matriculated Students (n = 16,746)	Computer & Information Sciences (11) (n = 4,126)
Prior Community College Enrollment		
Yes	91%	91%
No	9%	9%
Highest Degree Attainment Prior to CCB Entry		
Prior Certificate	4%	4%
<i>Short Certificate</i>	3%	3%
<i>Long Certificate</i>	1%	1%
Prior Associate's Degree	59%	53%
<i>Associate's of Science – Transfer (AS-T)</i>	1%	2%
<i>Direct Transfer Agreement (DTA)</i>	30%	23%
<i>Professional-Technical Associate's of Arts (AA)</i>	27%	27%
<i>Transfer Non-DTA AA</i>	1%	0%
Prior No Postsecondary Degree on Record	36%	42%

Note. Prior community college enrollment and highest postsecondary degree attainment prior to CCB entry are based on records within the Washington state college and technical college system.

Prior Educational attainment and Pathway Intent

Student pathways into CCB programs reveal that students have roots within the community college system. Of the 16,746 matriculated students, 9,868 (59%) had earned an associate's degree at some point and only 5,087 (30%) had done so within one year of entering CCB programs (see Tables 3-4). This gap suggests that a substantial share of students are not coming directly from an associate's degree program but are instead returning to community colleges after a period away to pursue a bachelor's degree. This interpretation is further supported by the fact that 7,773 students (46%) had a prior community college transfer intent on record—indicating many had considered vertical transfer at some earlier point but ultimately chose to pursue their bachelor's degree through CCB instead.

Table 4. Comparison of Social Contexts and Backgrounds of CCB Students Overall and Computer & Information Sciences (CIP 11): Prior Community College Transfer Intent and Attained Associate's Degree Within One Year Prior to CCB Entry (2017-18 through 2023-24)

	All CCB Matriculated Students (n = 16,746)	Computer & Information Sciences (11) (n = 4,126)
Prior Community College (CC) Transfer Intent		
Yes	46%	51%
No	54%	49%
Attained CC Assoc Within One Year Prior to CCB Entry		
Yes	30%	31%
No	70%	69%

Note. Prior community college transfer intent and highest postsecondary attainment prior to CCB entry are based on records within the Washington state college and technical college system.

Social and Institutional Contexts/Backgrounds and Pathway Intent

A recent analysis conducted by the SBCTC research team (Kenesson, 2026) showed pathway intent varies meaningfully across social contexts, backgrounds, and pathways. Younger students were the most likely to be pursuing transfer: 40% of CCB enrollments from students aged 24 and under came from a transfer pathway, compared to lower rates among their 25 year-old or older counterparts—consistent with CCB's strong adult learner population, who more often enroll with workforce or professional-technical goals in mind. Female students were also more likely to be on a transfer pathway (34%) compared to male students (27%), with male students more concentrated in professional-technical programs. Among lower-income students, pathway intent was fairly evenly split, with 32% coming from a transfer pathway and 38% from a professional-technical pathway (Kenesson, 2026), a finding that may reflect a preference for faster workforce entry among students for whom time-to-employment is a practical priority.

Perhaps the most distinctive pattern emerged at the institutional level. Of the eight colleges where at least 45% of CCB enrollments came from students on a transfer pathway, six were rural institutions without a nearby four-year college or university. In these communities, CCB appears to be serving an access function—offering a locally available pathway to a bachelor's degree where traditional transfer options are limited (Kenneson, 2026). The programs these students pursued were concentrated in business, education, and health-related program areas rather than Computer & Information Sciences, reflecting local workforce and community needs more than the tech-driven demand seen at urban colleges. Further supporting this interpretation, DTA students at several rural colleges completed their degrees more quickly than their professional-technical peers, a pattern consistent with students who entered CCB with transfer-equivalent preparation and are using the bachelor's program as a direct substitute for transferring to a four-year institution, rather than as a workforce upskilling pathway.

Social Contexts, Backgrounds, and Pathways within Computer & Information Sciences & Support Services

To capture the nuances within the Computer & Information Sciences CIP codes, six-digit CIP codes under the two-digit CIP codes were examined. There are 10 CIP-6 codes under the Computer & Information Sciences' CIP-2 (11). This includes:

- 11.0103: Information Technology (n = 427)
- 11.0201: Computer Programming/Programmer, General (n = 591)
- 11.0202: Computer Programming, Specific Applications (n = 251)
- 11.0301: Data Processing and Data Processing Technology (n = 224)
- 11.0701: Computer Science (n = 530)
- 11.0802: Data Modeling/Warehousing and Database Administration (n = 302)
- 11.1001: Network and System Administration/Administrator (n = 228)
- 11.1002: System, Networking, and LAN/WAN Management/Manager (n = 146)
- 11.1003: Computer and Information Systems Security/Cybersecurity (n = 1,427)

Across these 10 six-digit CIP codes, gender was the most consistent and practically meaningful difference between CISSS students and the broader CCB student population (see Tables 5-6). This pattern holds across nearly every CISSS subfield, with women representing between 15% and 27% of students in most programs. The one notable exception is Data Modeling/Warehousing and Database Administration, where women comprise 47% of enrollees, nearly mirroring the broader CCB population across all CCB programs. Given the gender-balanced nature of these programs in the context of gender differences in other CISSS programs, this is a finding worth further exploration.

Beyond gender, most CISSS subfields enroll similar students relative to the broader CCB population in terms of race/ethnicity, age, financial need, and enrollment intensity (see Tables 5-6). However, two programs stand out as meaningfully distinct in additional ways: Computer Science and System, Networking, and LAN/WAN Management/Manager. Computer Science students differ from the broader CCB population in terms of gender and prior educational credentials. Only 31% of Computer Science students entered with a prior associate's degree, compared to 62% of all CCB students, and 67% had no prior degree on record at all—more than double the overall rate of 33%. Computer Science enrollees are also notably younger, with 52% age 24 or under compared to 35% of all CCB students. This highlights how Computer Science programs enroll different students compared to other subfields within the two-digit CIP—younger learners who are earlier in their educational journeys and have not yet completed a traditional community college credential before pursuing a bachelor's degree.

Students in System, Networking, and LAN/WAN Management/Manager present a contrasting picture (see Tables 5-6). This program serves a distinctly older, mid-career population: 45% of its students are between the ages of 30 and 39, compared to 27% of all CCB students, and 81% are adult learners age 25 or older, compared to 65% overall. Relative to all CCB programs, students in this subfield are

also considerably more likely to receive need-based financial aid (71% vs. 45%). Students in this subfield are also far less likely to have expressed transfer intent during their prior community college enrollment (22% vs. 46%) and have completed an associate's degree prior to entry (71% vs. 62%). This suggests that students within this program may be motivated by economic conditions and employment goals—where students are returning to college to pursue a bachelor's degree.

Table 5. Comparison of Social Contexts and Backgrounds of CCB Students Overall, Computer & Information Sciences (CIP 11), and CIP-6 of CIP 11 (2017-18 through 2023-24) [1 of 2]

		CIP2					CIP6				
	All CCB Matriculated Students	CISSS (11)	IT	Computer Programming, General	Computer Programming, Specific	Data Processing Technology	Computer Science	Data Warehousing and Database Administration	Network and System Administration	System, Networking, and LAN/WAN Management/Manager	Computer and Info Systems Cybersecurity
n-size	16,746	4,126	427	591	251	224	530	302	228	146	1,427
Gender											
Female	58%	25%	22%	27%	27%	29%	22%	47%	15%	21%	22%
Male	40%	73%	75%	73%	69%	71%	75%	51%	83%	77%	76%
Not Listed	2%	2%	2%	1%	4%	0%	2%	2%	1%	3%	1%
Race/Ethnicity											
Am Ind/AK Native	1%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%
Asian	13%	19%	11%	22%	22%	22%	28%	33%	5%	18%	15%
Black	7%	7%	7%	4%	13%	8%	4%	7%	4%	17%	9%
Latine	9%	6%	7%	5%	6%	7%	3%	3%	14%	3%	6%
Multiracial	15%	13%	14%	11%	11%	13%	12%	13%	14%	14%	15%
Native Hawaiian or Pacific Islander	1%	0%	0%	1%	1%	0%	0%	0%	0%	1%	1%
white	49%	46%	55%	48%	40%	42%	43%	34%	55%	43%	48%
Not Listed	5%	7%	6%	9%	7%	8%	9%	9%	7%	3%	6%
Age Group											
< 25 years-old	35%	38%	33%	43%	18%	36%	52%	43%	40%	19%	38%
25+ years-old	65%	62%	67%	57%	82%	64%	48%	57%	60%	81%	62%
25-29 years-old	20%	23%	24%	22%	26%	29%	28%	24%	18%	16%	22%
30-39 years-old	27%	27%	30%	26%	39%	25%	16%	24%	28%	45%	27%
40+ years-old	18%	12%	12%	9%	16%	11%	5%	9%	14%	20%	14%
Financial Aid Status											
Received Need-Based Aid	45%	41%	56%	40%	41%	33%	25%	24%	57%	71%	43%
Did Not Receive Need-Based Aid	55%	59%	44%	60%	59%	67%	75%	76%	43%	29%	57%
Enrollment Intensity											
Part-Time Enrolled	34%	31%	28%	33%	57%	31%	30%	31%	30%	32%	28%
Full-Time Enrolled	66%	69%	72%	67%	43%	69%	70%	69%	70%	68%	72%

Note 1. CIP names are abbreviated for visual display where **IT** = 11.0103: Information Technology; **Computer Programming, General** = 11.0201: Computer Programming/Programmer, General; **Computer Programming, Specific** = 11.0202: Computer Programming, Specific Applications; **Data Processing Technology** = 11.0301: Data Processing and Data Processing Technology; **Computer Science** = 11.0701: Computer Science; 11.0802: **Data Warehousing and Database Administration** = Data Modeling/Warehousing and Database Administration; **Network and System Administration** = 11.1001: **System, Networking, and LAN/WAN Management** = Network and System Administration/Administrator; 11.1002: System, Networking, and LAN/WAN Management/Manager; **Computer and Info Systems Cybersecurity** = 11.1003: Computer and Information Systems Security/Cybersecurity.

Note 2. Financial aid and enrollment intensity are based on students' status in first term of CCB entry.

Table 6. Comparison of Social Contexts and Backgrounds of CCB Students Overall, Computer & Information Sciences (CIP 11), and CIP-6 of CIP 11 (2017-18 through 2023-24) [cont., 2 of 2]

		CIP2						CIP6			
	All CCB Matriculated Students	CISSS (11)	IT	Computer Programming, General	Computer Programming, Specific	Data Processing Technology	Computer Science	Data Warehousing and Database Administration	Network and System Administration	System, Networking, and LAN/WAN Management/Manager	Computer and Info Systems Cybersecurity
n-size	16,746	4,126	427	591	251	224	530	302	228	146	1,427
Prior CC Enrollment											
Yes	91%	91%	92%	96%	90%	96%	79%	90%	96%	95%	91%
No	9%	9%	8%	4%	10%	4%	21%	10%	4%	5%	9%
Highest Degree Attainment Prior to CCB Entry											
Prior Certificate	4%	4%	4%	3%	3%	4%	2%	3%	5%	8%	5%
<i>Short Certificate</i>	3%	3%	1%	3%	3%	3%	1%	2%	4%	1%	5%
<i>Long Certificate</i>	1%	1%	3%	1%	1%	1%	1%	1%	1%	6%	0%
Prior Associate's Degree	59%	53%	67%	68%	68%	49%	30%	37%	67%	63%	55%
<i>Associate's of Science - Transfer</i>	1%	2%	1%	4%	4%	0%	6%	2%	0%	1%	1%
<i>Direct Transfer Agreement (DTA)</i>	30%	23%	23%	30%	30%	19%	22%	26%	19%	7%	25%
<i>Professional-Technical AA</i>	27%	27%	42%	34%	34%	29%	2%	9%	46%	55%	28%
<i>Transfer Non-DTA AA</i>	1%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%
Prior No Degree on Record	36%	42%	29%	28%	28%	46%	68%	58%	27%	29%	40%
Prior CC Transfer Intent											
Yes	46%	51%	42%	49%	43%	57%	62%	63%	54%	22%	50%
No	54%	49%	58%	51%	57%	43%	38%	37%	46%	78%	50%
Attained CC Assoc Within One Year Prior to CCB Entry											
Yes	30%	31%	41%	39%	39%	25%	15%	58%	42%	38%	34%
No	70%	69%	59%	61%	61%	75%	85%	42%	58%	62%	66%

Note 1. CIP names are abbreviated for visual display where **IT** = 11.0103: Information Technology; **Computer Programming, General** = 11.0201: Computer Programming/Programmer, General; **Computer Programming, Specific** = 11.0202: Computer Programming, Specific Applications; **Data Processing Technology** = 11.0301: Data Processing and Data Processing Technology; **Computer Science** = 11.0701: Computer Science; 11.0802: **Dare Warehousing and Database Administration** = Data Modeling/Warehousing and Database Administration; **Network and System Administration** = 11.1001: **System, Networking, and LAN/WAN Management** = Network and System Administration/Administrator; 11.1002: System, Networking, and LAN/WAN Management/Manager; **Computer and Info Systems Cybersecurity** = 11.1003: Computer and Information Systems Security/Cybersecurity.

Note 2. Prior community college enrollment and highest postsecondary degree attainment prior to CCB entry are based on records within the Washington state college and technical college system.

Note 3. CC = Community College; AA = Associate's Degree.

Note 4. Prior community college transfer intent and highest postsecondary attainment prior to CCB entry are based on records within the Washington state college and technical college system.

Conclusion

Washington State's CCB programs serve a distinct student population, predominantly adult learners returning to education with prior community college experience, that differs meaningfully from both traditional four-year university students and the broader community college population statewide. Across the 2017-18 through 2023-24 academic years, pathways into CCB programs were relatively stable, with students arriving through roughly equal shares of professional-technical, transfer, and non-credentialed routes.

Within CISSS programs, gender remains the most significant equity gap, with women comprising just 25% of enrollees compared to 58% across all CCB programs. This disparity is consistent across nearly every CISSS subfield, with the exception of Data Modeling/Warehousing and Database Administration. CISSS subfields also serve meaningfully different student populations from one another. Computer Science skews younger and less credentialed, while System and Networking programs serve older, mid-career students with greater financial need.

Rural institutions seem to emerge as a distinct context, where CCB functions as a local access point to bachelor's degrees, with enrollments concentrated in business, education, and healthcare rather than fields in CISS but more education is needed to determine whether other differences in rural context emerge.

Together, these findings suggest that CCB programs are not a monolithic. Students' social contexts, backgrounds, and pathways vary considerably by program area, subfield, and institution type. Effective program design and development, outreach, success, and equity efforts will require strategies tailored to these differences.

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