

ACADEMIC YEAR 2019-2020:
HIGH SCHOOL STUDENTS
ATTENDING CCCS COLLEGES

TABLE OF CONTENTS

System Overview of High School Students	2
Participation by Program.....	6
Credentials Earned.....	8
Demographics	12
Participation by Term	15
High School Students by College.....	16
Participation by Program and College.....	19
Credit Hours Attempted.....	20
Academic Studies and Outcomes.....	21
Comparison of Course Pass Rates by College	22
Credits Earned and Tuition Saved	23
Career and Technical Education	24
Matriculation Rates to CCCS Colleges	25
Enrollment in a Four-year University and Overall Matriculation	27
Effect of Concurrent Enrollment on Academic Success Measures	30
Average Time and Credits to Degree	33
Median Wage.....	36
Conclusion	39
Appendix: Methodology.....	40

SYSTEM OVERVIEW OF HIGH SCHOOL STUDENTS

The Colorado Community College System (CCCS) continues to see consistent growth in the number of high school students taking courses that award college credit, either on the college campus or in their own school. This trend is represented in Figure 1. Overall, 34,989 high school students enrolled in CCCS colleges in academic year (AY) 2019-2020, which represented a 16.4 percent growth over 2018-2019. In AY 2019-2020, high school students accounted for 28 percent of the annual headcount within CCCS colleges (Figure 2). High school students attempted 11.4 percent more credit hours than last year (Figure 3). In 2019-2020, 12.6 percent of all public high school students in Colorado earned some college credit via CCCS (Figure 4).

Figure 1: Number of Unique High School Students by Academic Year

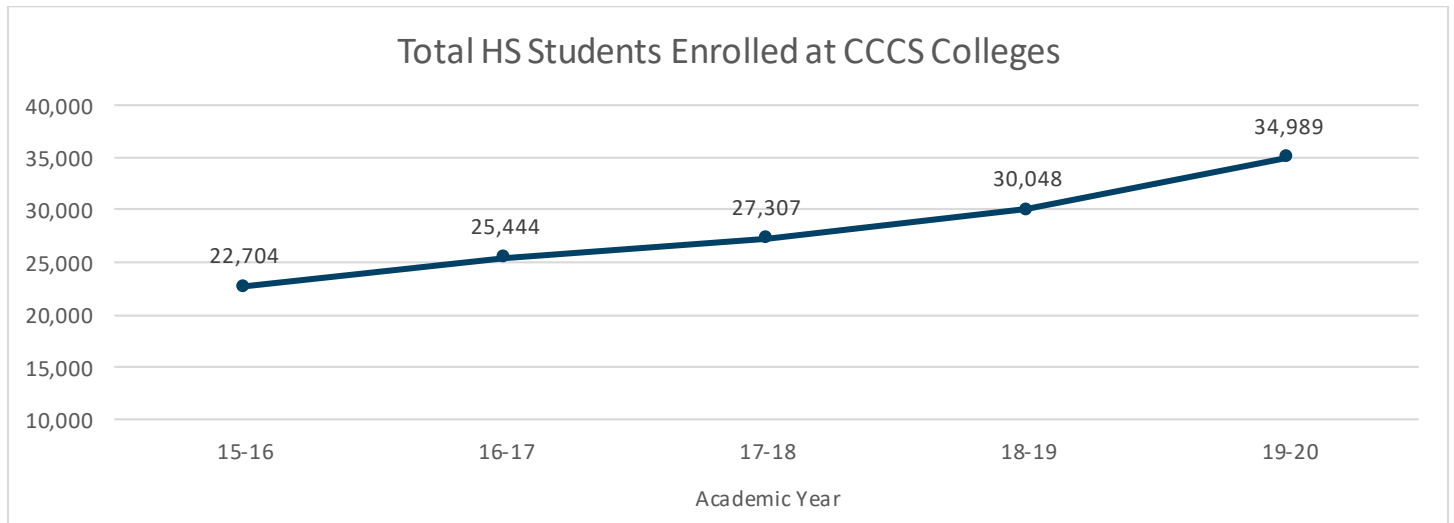


Figure 2: High School Students as a Percentage of Overall CCCS Headcount

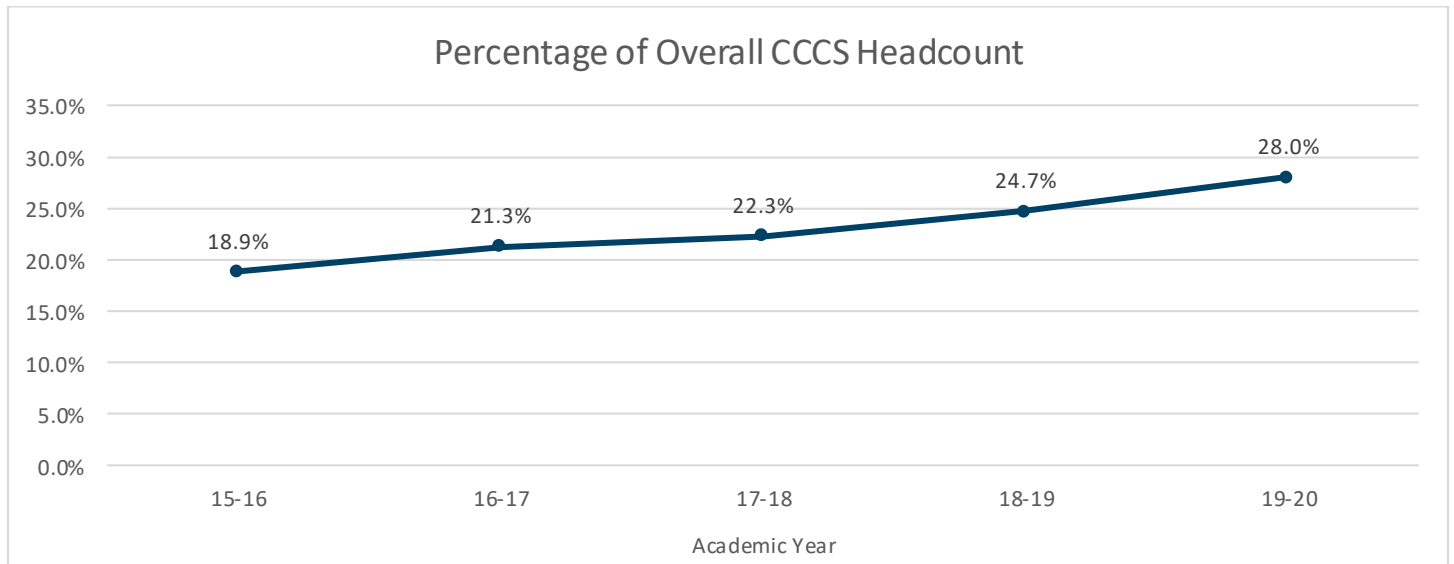


Figure 3 - Total Credit Hours Attempted by CCCS High School Students

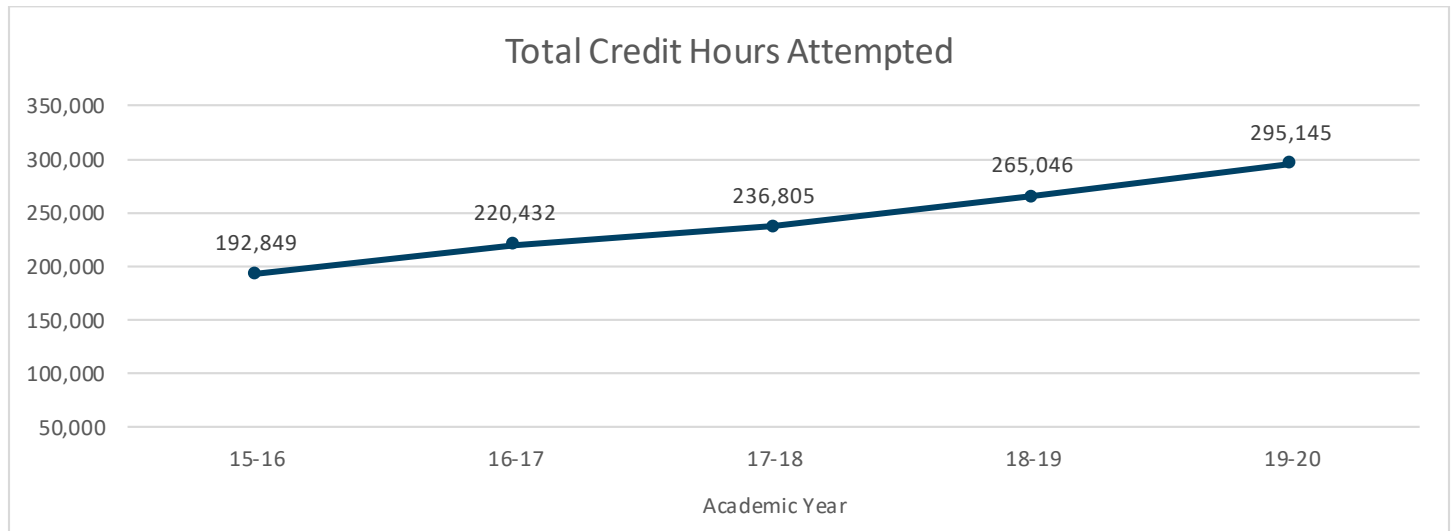


Figure 4 - CCCS High School Students Compared to all Colorado Public HS Students

	Fall 2015 Enrollment/ AY 15-16	Fall 2016 Enrollment/ AY 16-17	Fall 2017 Enrollment/ AY 17-18	Fall 2018 Enrollment/ AY 18-19	Fall 2019 Enrollment/ AY 19-20
Public High School¹					
Total Number of Students	260,743	265,329	270,190	273,519	276,730
Percent Change Year-to-Year	2.5%	1.8%	1.8%	1.2%	1.2%
CCCS HS Students					
Total Number of Students	22,704	25,444	27,307	30,048	34,989
Percent Change Year-to-Year	8.9%	12.1%	7.3%	10.0%	16.4%
CCCS as % of Public High School	8.7%	9.6%	10.1%	11.0%	12.6%

¹ Public high school data/totals based on published Colorado Department of Education pupil membership data at <https://www.cde.state.co.us/cdereval/pupilcurrent>.

High school students enrolled in 98,929 courses in 2019-2020, an increase of 14.2 percent from the previous year (Figure 5). Half of the high school students enrolled in one or two courses, and 28.4 percent enrolled in five or more courses (Figure 6). Compared to previous academic years, the percentage of students enrolled in different number of courses remained the same (Figure 7). Additionally, the average amount of credits earned by each student continues to hover around 8.7, as it has for the last five years (Figure 8). Figure 9 shows the top ten highest enrolled courses taken by CCCS high school students, with English Composition, College Algebra and English Composition II holding the top three spots.

Figure 5 - Total Courses Taken by CCCS High School Students

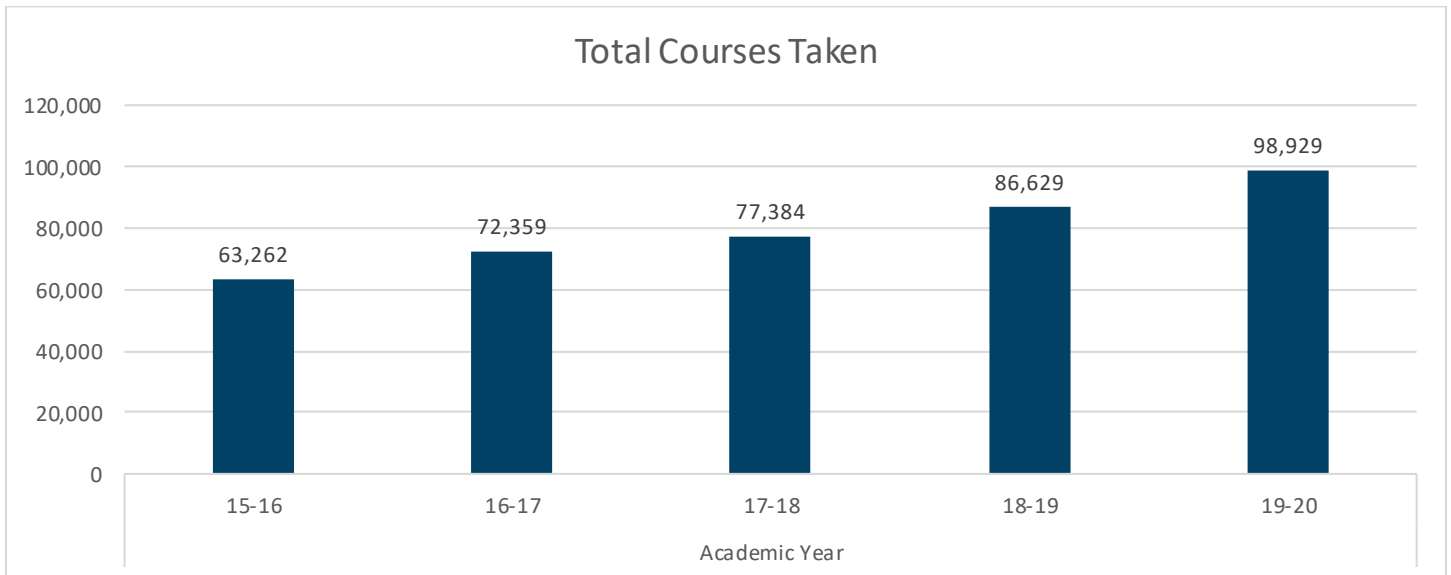


Figure 6: High School Students by Number of Courses Taken: AY 2019-2020

Number of Courses Taken During the Year	1 Course	2 Courses	3 Courses	4 Courses	5+ Courses	Total
Number of Students	12,496	8,603	4,261	3,384	6,245	34,989
Percentage of Students	35.7%	24.6%	12.2%	9.7%	17.8%	100.0%

Figure 7 - Number of Courses Taken by High School Students

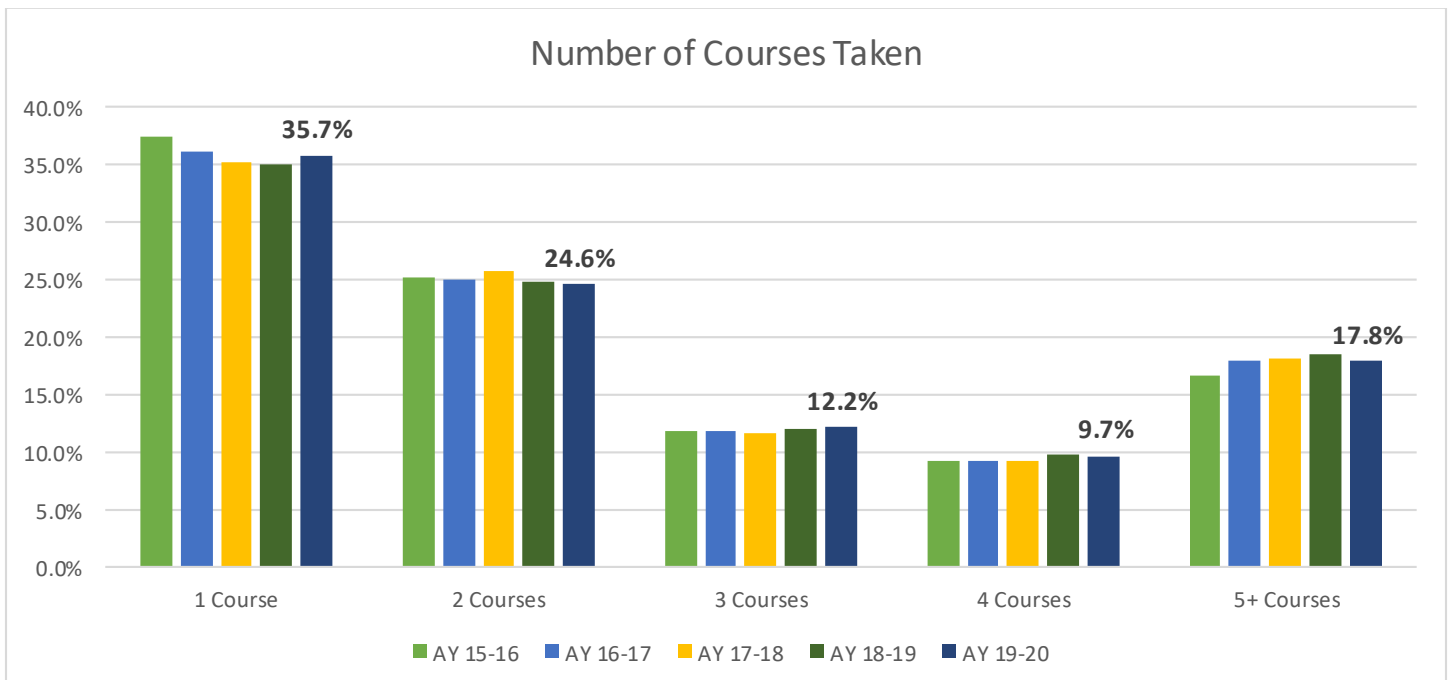


Figure 8 - Average Credit Hours Taken Per High School Student by Academic Year

	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20
Average Credits Taken by HS Students	8.6	8.8	8.8	8.9	8.7

Figure 9 - Top Ten Courses Taken by CCCS High School Students: AY 2019-2020

Courses	Number of Course Enrollments	Percentage of all HS Course Enrollments
ENG 121	8,609	8.7%
MAT 121	5,404	5.5%
ENG 122	4,833	4.9%
LIT 115	2,582	2.6%
PSY 101	2,169	2.2%
BUS 115	2,153	2.2%
COM 115	2,143	2.2%
MAT 122	2,117	2.1%
HIS 122	1,437	1.5%
HIS 121	1,278	1.3%

PARTICIPATION BY PROGRAM

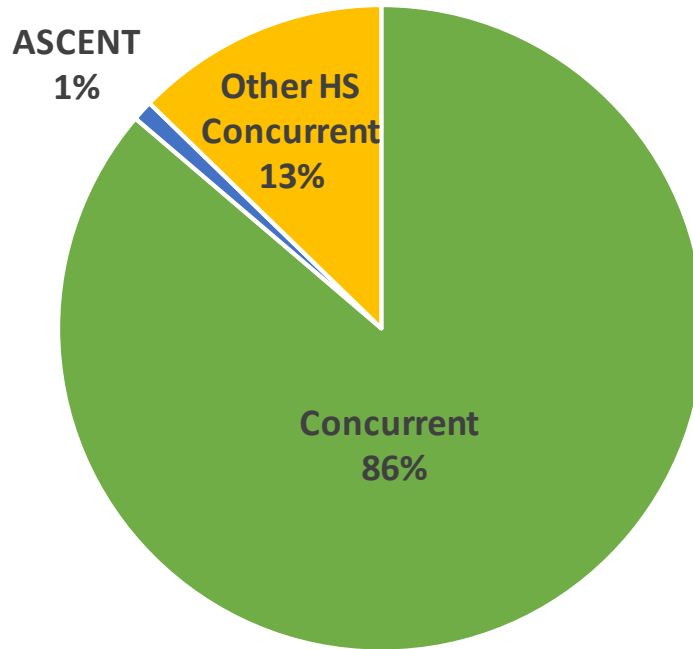
The two most common methods provided by Colorado law for high school students to earn college credit are the concurrent enrollment program and the “Accelerating Students through Concurrent Enrollment” or ASCENT program. However, high school students are not strictly limited to these two methods of enrollment and may participate in college courses through other methods as well.

The concurrent program provides high school students the opportunity to earn college credits at little or no cost. The concurrent enrollment program generally applies to students from public high schools and charter schools. Students at these institutions must receive permission from their local education provider to participate in the program. The local education providers must enter into cooperative agreements with the colleges with agreed-upon tuition rates. Colleges also receive state funding for these students via the College Opportunity Fund (COF).

The ASCENT program differs in that the state funds ASCENT students for an additional year of K-12 education. The number of participants in the program is limited by the state, and a student is only eligible if he or she completes or is on schedule to complete, twelve credit hours of credit-bearing, college-level postsecondary course work by the end of twelfth grade. Eligibility is also limited to the year immediately following a student’s twelfth grade year. Students who took CCCS courses outside the parameters of the concurrent and ASCENT programs are categorized as “other” forms of high school enrollment (namely Early College, P-Tech and self-pay). This method of categorizing students mirrors that of the Colorado Department of Education.

By far the most common method utilized by students to take college-level courses is the concurrent enrollment program, which accounted for 86 percent of high school enrollments system wide in AY 2019-2020 (Figure 10). The ASCENT program accounted for one percent of student enrollments. These are roughly the same percentages as in 2018-2019, a year in which 84.7 percent of high school participation was through the concurrent enrollment program.

Figure 10 - High School Students by Program Type: AY 2019-2020



CREDENTIALS EARNED

Overall, 2,276 high school students earned a credential in 2019-2020 (Figure 12), and a total of 2,950 awards were granted (Figure 11). Total number of students receiving a credential decreased 1.8 percent from AY 2018-2019. Compared with AY 2018-2019, a 15 percent increase was observed in summer and fall 2019, while a five percent decrease was found in spring 2020. Of all awards granted, 83.1 percent of them were certificates and the majority of those certificates were one-year awards (Figure 13). Even though only 1.6 percent of the credentials earned were AAS degrees, it's worth noting that the number of recipients increased by almost 50 percent over last year. In AY 2019-2020, the proportion of total high school students who earned a credential was 6.5 percent, which was 1.2 percentage points lower than AY 2018-2019.

Figures 14.1 and 14.2 provide number of credentials awarded and total headcount by college. In AY 2019-2020, one third of the students who received a credential were from Front Range Community College (36.2%), which accounts for 32.6 percent of total credentials awarded. In the same academic year (Figure 15.1), white students received the highest number of credentials (1,804, 61.2%), followed by Hispanic students (666, 22.6%). Students of color received 31.3 percent (924) of the total credentials in AY 2019-2020, first-generation students received 44.6 percent (1,316) of the credentials, and male students received 52.2 percent (1,539) of the credentials (Figure 15.2). Compared with population proportion, a higher percentage of white students (Population: 53% vs. Credentials Earned: 61.2%), first-generation students (Population: 38.6% vs. Credentials Earned: 44.6%), and male students (Population: 45.6% vs. Credentials Earned: 52.2%) received a credential. On the other hand, a smaller proportion of Hispanic students (Population: 24.6% vs. Credentials Earned: 22.6%) and Black or African American students (Population: 3.7% vs. Credentials Earned: 1.4%) received a credential.

Figure 11 - Number of Credentials Awarded to High School Students

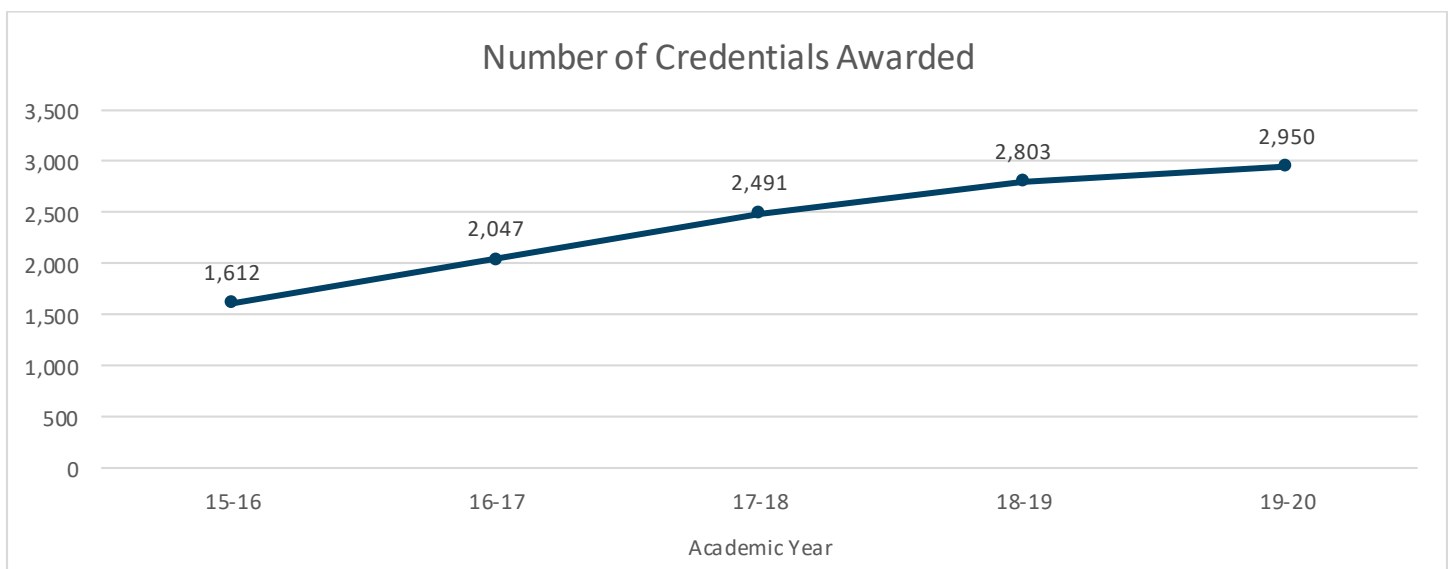


Figure 12 - Total Headcount of HS Students Receiving a Credential

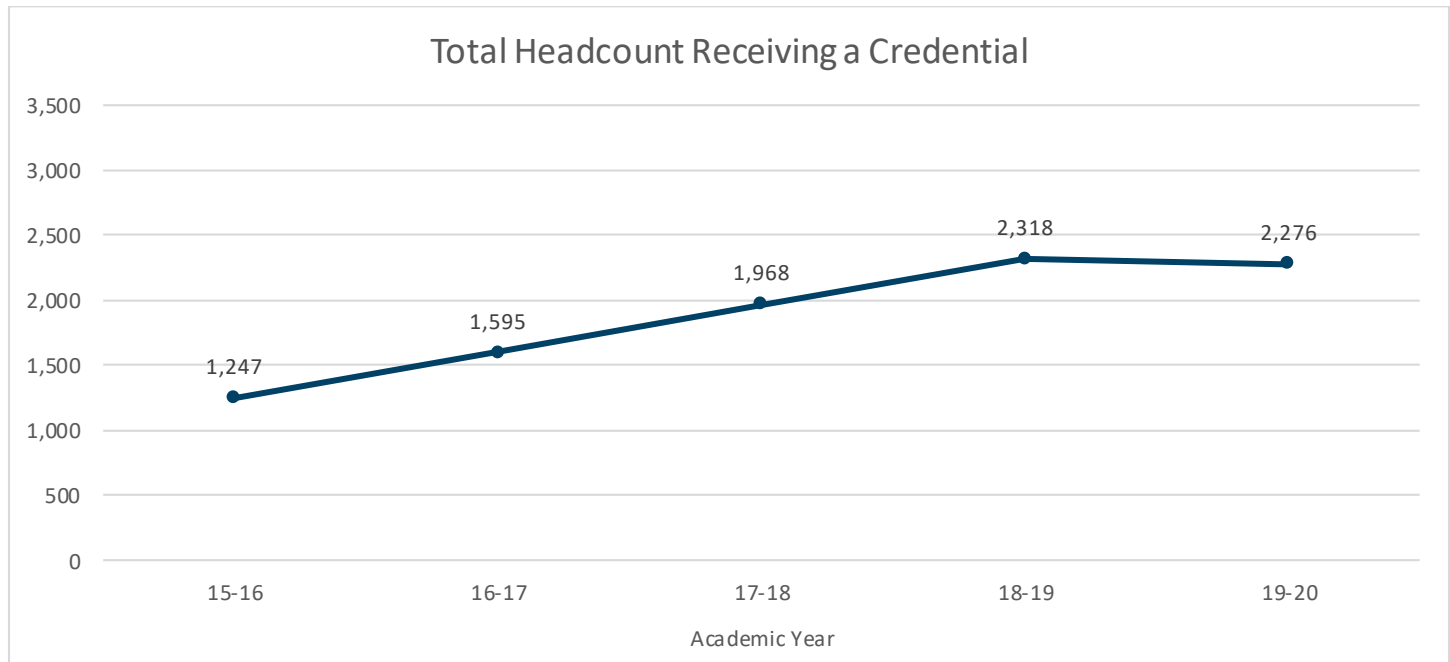


Figure 13 - Number and Type of Credentials Earned by High School Students

Award Type	18-19 Awards	19-20 Awards	Percent of all Awards Granted	Change from 18-19
1-year certificate	2,243	2,377	80.6%	6.0%
2-year certificate	98	74	2.5%	-24.5%
Total Certificates	2,341	2,451	83.1%	4.7%
Associate of Applied Science	32	46	1.6%	43.8%
Associate of Arts	215	240	8.1%	11.6%
Associate of Science	116	118	4.0%	1.7%
Associate of General Studies	99	95	3.2%	-4.0%
Total Degrees	462	499	16.9%	8.0%
Total Awards	2,803	2,950	100.0%	5.2%

Figure 14.1 - Number of Credentials Awarded by College

Number of Credentials Awarded	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20
ACC	73	117	211	274	187
CCA	38	26	40	27	34
CCD	50	34	70	81	68
CNCC	21	32	24	30	20
FRCC	429	703	761	776	1,067
LCC	33	22	48	30	37
MCC	72	87	89	46	30
NJC	6	2	3	11	10
OJC	39	32	28	31	14
PCC	117	136	251	237	271
PPCC	117	220	292	487	468
RRCC	586	581	620	721	697
TSJC	31	55	54	52	47
Total	1,612	2,047	2,491	2,803	2,950

Figure 14.2 - Total Headcount of HS Students Receiving a Credential: College Breakdown

Total Headcount Receiving a Credential	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20
ACC	71	115	206	268	185
CCA	37	26	40	27	34
CCD	50	34	70	80	64
CNCC	20	31	23	29	16
FRCC	285	465	484	600	743
LCC	30	21	37	28	33
MCC	50	71	65	37	25
NJC	6	2	3	8	8
OJC	35	28	28	31	14
PCC	102	119	212	216	208
PPCC	111	189	252	368	336
RRCC	422	452	508	582	569
TSJC	28	42	40	44	41
Total	1,247	1,595	1,968	2,318	2,276

Figure 15.1 - Number of Credentials Awarded by College and by Race/Ethnicity: AY 2019-2020

Colleges	American Indian or Alaskan Native	Asian	Black or African American	Hispanic	Multiple Races	Native Hawaiian and Other Pacific Islander	Non-Resident Alien (Int'l.)	Unknown	White	Students of Color
ACC	2	4	1	29	10	1		14	126	47
CCA		2	2	18			1	1	10	22
CCD		3	2	35	3		15	7	3	43
CNCC				2				3	15	2
FRCC	4	21	9	226	31	3	21	60	692	294
LCC				20	1		4		12	21
MCC			2	8	1			1	18	11
NJC								2	8	0
OJC				9	1				4	10
PCC	6	1	1	71	10		1	11	170	89
PPCC	1	16	19	81	34		5	28	284	151
RRCC	5	41	4	144	16	1	6	37	443	211
TSJC				23				5	19	23
CCCS	18	88	40	666	107	5	53	169	1,804	924

Figure 15.2 - Number of Credentials Awarded by College and by Demographic: AY 2019-2020

Colleges	Students of Color	Non-Students of Color	First-Generation	Not First Generation	Male	Female
ACC	47	140	59	128	55	132
CCA	22	12	22	12	11	23
CCD	43	25	57	11	20	48
CNCC	2	18	12	8	5	15
FRCC	294	773	435	632	647	420
LCC	21	16	23	14	12	25
MCC	11	19	18	12	9	21
NJC	0	10	7	3	7	3
OJC	10	4	12	2	3	11
PCC	89	182	160	111	173	98
PPCC	151	317	222	246	209	259
RRCC	211	486	273	424	373	324
TSJC	23	24	16	31	15	32
CCCS	924	2,026	1,316	1,634	1,539	1,411

DEMOGRAPHICS

Over the last five years, an average of 54 percent of the high school students identified as female (Figure 16). In AY 2019-2020, high school students at CCCS colleges self-reported as 53 percent white (down from 57.6 percent in 2015-2016; Figure 17). Community College of Denver had the highest proportion of Hispanic students (50.2%), followed by Otero Junior College at 45.8 percent (Figure 18). The percentage of students of color has stayed fairly flat, hovering around 36.3% to 37.4% for the last three years (Figure 19). First-generation college students has decreased seven percentage points from 45.6% in 2017-2018 to 38.6% in 2019-2020. The percentage of students of color and first-generation college students, in 2019-20, ranged from 14 to 64 percent at CCCS colleges (Figure 20). Community College of Denver had the highest proportion of students of color and first-generation students among all 13 colleges. In terms of age, over a third of the high school students were 17 years old (Figure 21).

Figure 16 - CCCS High School Students by Gender

Gender	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20	AY 15-16 %	AY 16-17 %	AY 17-18 %	AY 18-19 %	AY 19-20 %
Female	12,212	13,821	14,788	16,033	19,018	53.8%	54.3%	54.2%	53.4%	54.4%
Male	10,492	11,623	12,519	14,015	15,971	46.2%	45.7%	45.8%	46.6%	45.6%
Total	22,704	25,444	27,307	30,048	34,989	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 17 - Percent of CCCS High School Student Population by Race/Ethnicity

Race/Ethnicity	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20
American Indian or Alaskan Native	0.6%	0.5%	0.5%	0.5%	0.5%
Asian	3.5%	3.5%	3.6%	3.5%	3.9%
Black or African American	3.5%	3.5%	3.4%	3.6%	3.7%
Hispanic	22.8%	24.3%	24.4%	23.7%	24.6%
Multiple Races	4.0%	3.9%	4.2%	4.2%	4.5%
Native Hawaiian and Other Pacific Islander	0.3%	0.2%	0.3%	0.2%	0.3%
Non-Resident Alien (International)	2.1%	2.3%	2.3%	2.1%	2.6%
Unknown	5.6%	7.6%	9.9%	10.5%	7.0%
White	57.6%	54.0%	51.5%	51.6%	53.0%

Figure 18 - Percent of CCCS High School Student Population by Race/Ethnicity and by College, AY19-20

	American Indian or Alaskan Native	Asian	Black or African American	Hispanic	Multiple Races	Native Hawaiian and Other Pacific Islander	Non-Resident Alien (Int'l.)	Unknown	White	Students of Color
ACC	0.4%	4.5%	2.2%	12.9%	4.5%	0.2%	1.1%	8.2%	65.9%	24.8%
CCA	0.2%	6.7%	12.2%	33.8%	5.8%	0.6%	6.8%	5.8%	28.1%	59.3%
CCD	0.6%	2.9%	7.1%	50.2%	3.2%	0.1%	13.5%	5.4%	17.1%	64.0%
CNCC	0.5%	1.1%	0.2%	9.3%	2.7%	0.4%	0.5%	9.7%	75.5%	14.2%
FRCC	0.4%	4.0%	0.9%	24.0%	3.9%	0.2%	1.4%	6.8%	58.5%	33.4%
LCC	0.3%	0.0%	0.0%	38.4%	2.3%	0.0%	2.0%	0.9%	56.3%	40.9%
MCC	0.3%	0.4%	1.9%	26.6%	3.1%	0.0%	1.2%	4.7%	61.9%	32.3%
NJC	0.0%	0.6%	0.3%	16.9%	2.2%	0.0%	2.5%	5.3%	72.3%	19.9%
OJC	0.7%	0.7%	0.9%	45.8%	2.7%	0.2%	0.2%	9.2%	39.6%	51.1%
PCC	1.4%	0.9%	0.9%	30.7%	3.6%	0.0%	0.4%	3.2%	58.7%	37.6%
PPCC	0.5%	2.7%	4.8%	19.7%	7.3%	0.4%	0.7%	7.7%	56.2%	35.3%
RRCC	0.7%	4.2%	0.8%	18.8%	4.3%	0.3%	0.7%	7.4%	62.8%	29.2%
TSJC	0.7%	1.1%	0.4%	37.3%	2.1%	0.3%	0.3%	19.8%	38.0%	41.9%

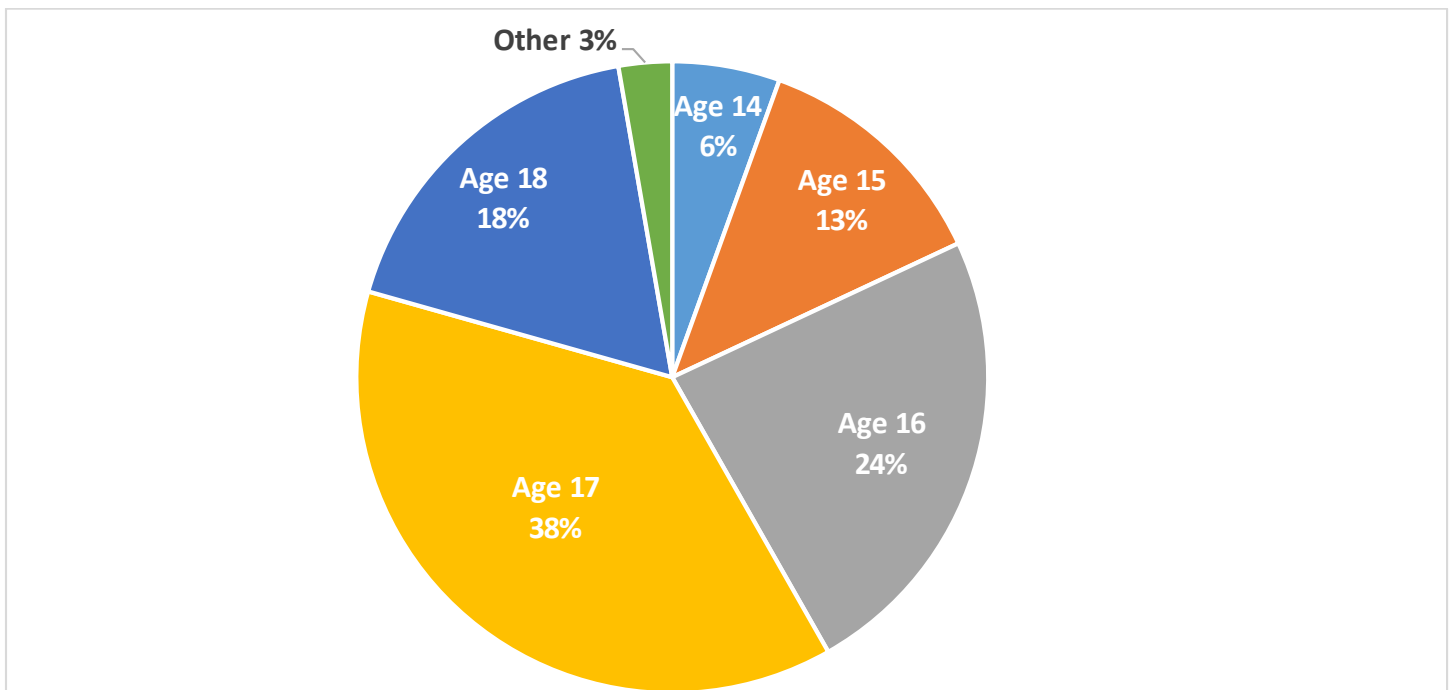
Figure 19 - Demographic Breakdown, Three-year Trend

	AY 17-18	AY 18-19	AY 19-20	AY 17-18 %	AY 18-19 %	AY 19-20 %
Race/Ethnicity:						
Students of Color	9,910	10,737	13,079	36.3%	35.7%	37.4%
Non-Students of Color	17,397	19,311	21,910	63.7%	64.3%	62.6%
First-Generation Status:						
First-Generation	12,462	12,777	13,494	45.6%	42.5%	38.6%
Not First-Generation	14,845	17,271	21,495	54.4%	57.5%	61.4%

Figure 20 - Number and Percentage of Demographic Characteristics by College: AY 2019-2020

College	Students of Color	Percent of Students of Color	First-Generation	Percent of First-Generation
ACC	2,004	24.8%	1,643	20.3%
CCA	3,297	59.3%	2,893	52.0%
CCD	1,212	64.0%	1,182	62.4%
CNCC	78	14.2%	252	46.0%
FRCC	2,582	33.4%	2,683	34.7%
LCC	144	40.9%	211	59.9%
MCC	222	32.3%	349	50.8%
NJC	72	19.9%	179	49.6%
OJC	279	51.1%	323	59.2%
PCC	921	37.6%	1,282	52.4%
PPCC	1,169	35.3%	1,331	40.2%
RRCC	798	29.2%	861	31.5%
TSJC	301	41.9%	306	42.6%

Figure 21 - High School Students by Age: AY 2019-2020



PARTICIPATION BY TERM

In general, more high school students were registered for college courses in the spring term than in the summer or fall terms (Figure 22), and the spring term accounted for the highest number of credit hours (Figure 24). College courses offered in high schools on a year-long basis help explain the higher spring numbers. Students in these courses are typically registered in the spring so the terms of registration and grading are the same. Compared with concurrent enrollment students, a higher proportion of ASCENT students were registered in the spring term (Figure 23).

Figure 22 - Number of High School Students by Term: AY 2019-2020

	Summer	Fall	Spring	Summer as % of Year	Fall as % of Year	Spring as % of Year
Number of HS Students	866	24,406	27,947	1.6%	45.9%	52.5%

Figure 23 - Number of High School Students by Term and Program: AY 2019-2020

Program	Summer	Fall	Spring	Summer as % of Year	Fall as % of Year	Spring as % of Year
Concurrent	371	20,484	24,079	0.8%	45.6%	53.6%
ASCENT	11	352	321	1.6%	51.5%	46.9%
Other HS Concurrent	484	3,570	3,547	6.4%	47.0%	46.7%
Total	866	24,406	27,947	1.6%	45.9%	52.5%

Figure 24 - Number and Percentage of Credit Hours by Term

Academic Year	Summer	Fall	Spring	Total	Summer as % of Year	Fall as % of Year	Spring as % of Year
AY 15-16	2,780.50	80,923.50	109,145.00	192,849.00	1.4%	42.0%	56.6%
AY 16-17	4,108.00	95,617.00	120,707.25	220,432.25	1.9%	43.4%	54.8%
AY 17-18	3,517.50	101,120.00	132,167.25	236,804.75	1.5%	42.7%	55.8%
AY 18-19	4,046.50	116,416.00	144,583.75	265,046.25	1.5%	43.9%	54.6%
AY 19-20	3,796.50	136,619.50	154,729.25	295,145.25	1.3%	46.3%	52.4%

HIGH SCHOOL STUDENTS BY COLLEGE

In AY 2019-2020, Arapahoe Community College had the largest number of high school students, followed by Front Range Community College (Figure 25). These two colleges also saw the biggest one-year increase in enrollments (Figure 26). Among CCCS colleges, the proportion of high school enrollments to overall enrollments ranged from a high of 45.6 percent at Community College of Aurora to 16.3 percent at Community College of Denver (Figures 27 and 28). High school enrollments in nine out of thirteen CCCS colleges comprised over a quarter of college enrollments. In most of the colleges, more high school students were registered for college courses in the spring term than in the summer or fall terms (Figure 29). At Red Rock Community College, high school enrollment in the spring semester was over 60 percent in AY 2019-2020.

Figure 25 - High School Students by College

College	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20
ACC	4,341	5,024	5,404	6,349	8,089
CCA	3,103	3,640	4,752	4,819	5,561
CCD	2,276	2,117	1,703	1,810	1,894
CNCC	499	462	535	622	548
FRCC	4,178	5,039	5,623	6,283	7,742
LCC	361	359	343	315	352
MCC	782	825	702	611	687
NJC	414	402	368	373	361
OJC	476	511	480	475	546
PCC	1,518	1,731	1,852	2,059	2,448
PPCC	2,254	2,449	2,602	2,982	3,307
RRCC	1,836	2,107	2,146	2,584	2,736
TSJC	666	778	797	766	718
CCCS Total	22,704	25,444	27,307	30,048	34,989

Figure 26 - One-Year Growth (Change from Previous Year) in Number of High School Students Enrolled

College	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20
ACC	21.2%	15.7%	7.6%	17.5%	27.4%
CCA	-2.7%	17.3%	30.5%	1.4%	15.4%
CCD	-11.0%	-7.0%	-19.6%	6.3%	4.6%
CNCC	0.8%	-7.4%	15.8%	16.3%	-11.9%
FRCC	26.7%	20.6%	11.6%	11.7%	23.2%
LCC	-6.0%	-0.6%	-4.5%	-8.2%	11.7%
MCC	-2.5%	5.5%	-14.9%	-13.0%	12.4%
NJC	-0.7%	-2.9%	-8.5%	1.4%	-3.2%
OJC	-16.2%	7.4%	-6.1%	-1.0%	14.9%
PCC	22.3%	14.0%	7.0%	11.2%	18.9%
PPCC	10.1%	8.7%	6.2%	14.6%	10.9%
RRCC	17.8%	14.8%	1.9%	20.4%	5.9%
TSJC	-5.3%	16.8%	2.4%	-3.9%	-6.3%
CCCS Total	8.9%	12.1%	7.3%	10.0%	16.4%

Figure 27 - HS Students as a Percentage of Overall Enrollment by Academic Year

College	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20
ACC	25.5%	30.2%	28.2%	32.7%	37.7%
CCA	29.5%	33.0%	40.3%	42.5%	45.6%
CCD	16.5%	16.3%	13.8%	15.4%	16.3%
CNCC	29.5%	27.4%	29.8%	35.5%	35.0%
FRCC	15.1%	17.8%	20.0%	22.4%	26.7%
LCC	37.4%	35.0%	33.8%	31.9%	33.7%
MCC	35.5%	42.4%	39.2%	37.7%	40.8%
NJC	18.8%	17.6%	16.6%	16.7%	18.2%
OJC	25.8%	27.5%	27.6%	29.3%	34.0%
PCC	17.0%	20.0%	18.7%	21.3%	25.3%
PPCC	11.8%	13.1%	14.0%	15.9%	17.3%
RRCC	14.7%	17.0%	18.1%	21.4%	23.7%
TSJC	29.0%	33.4%	34.3%	33.9%	31.3%
CCCS Total	18.8%	21.2%	22.3%	24.7%	28.0%

Figure 28 - HS Students as a Percentage of Overall Enrollment

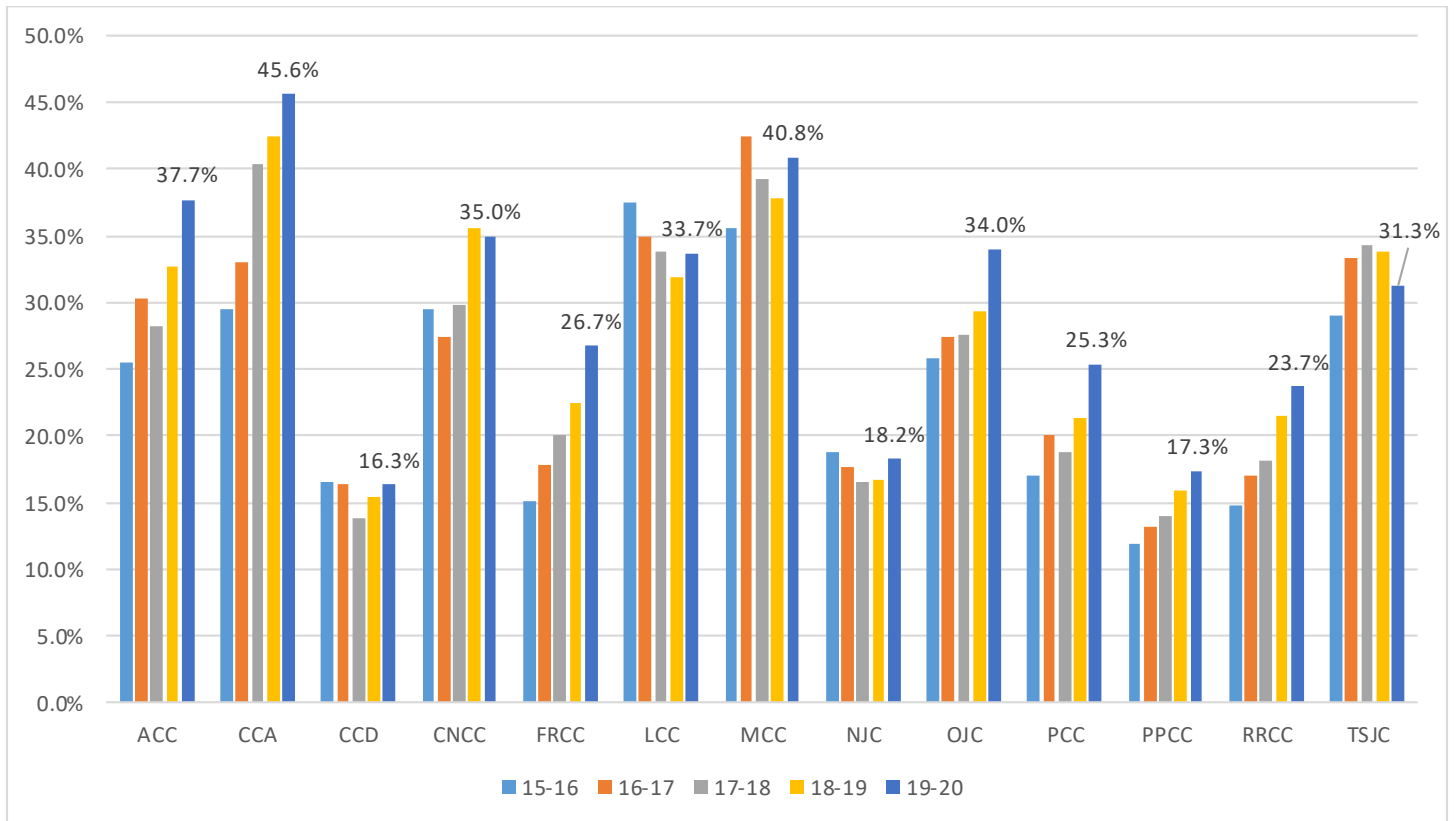


Figure 29 - HS Student Enrollment by Term and College: AY 2019-2020

College	Summer	Fall	Spring	Summer as % of Year	Fall as % of Year	Spring as % of Year
ACC	81	5,291	6,123	0.7%	46.0%	53.3%
CCA	32	3,884	4,825	0.4%	44.4%	55.2%
CCD	77	1,520	1,405	2.6%	50.6%	46.8%
CNCC	4	427	466	0.4%	47.6%	52.0%
FRCC	176	5,429	6,132	1.5%	46.3%	52.2%
LCC	10	314	295	1.6%	50.7%	47.7%
MCC	72	613	595	5.6%	47.9%	46.5%
NJC	8	315	305	1.3%	50.2%	48.6%
OJC	5	403	433	0.6%	47.9%	51.5%
PCC	24	1,747	1,851	0.7%	48.2%	51.1%
PPCC	307	2,783	2,833	5.2%	47.0%	47.8%
RRCC	62	1,189	2,086	1.9%	35.6%	62.5%
TSJC	8	491	598	0.7%	44.8%	54.5%
CCCS Total	866	24,406	27,947	1.6%	45.9%	52.5%

PARTICIPATION BY PROGRAM AND COLLEGE

Figure 30 provides college breakdown by program – concurrent, ASCENT, Early College, P-Tech and other. The vast majority of students (86.2 percent) enrolled in CCCS colleges through the concurrent enrollment program. The proportion of concurrent enrollments, in 10 out of 13 colleges, was over 90%. Arapahoe Community College had the highest number of students (7,317) in the concurrent program, followed by Front Range Community College (6,024). In terms of course level, a majority (97.2%) of the course enrollment was college level, with only 2.8% in developmental education (Figure 31).

Figure 30 - High School Students by Program and College: AY 2019-2020

College	Concurrent	ASCENT	Early College	P-Tech	Other HS Concurrent	% of Concurrent	% of ASCENT	% of Early College	% of P-Tech	% of Other HS
ACC	7,313	10	611	37	118	90.4%	0.1%	7.6%	0.5%	1.5%
CCA	5,479	58	0	0	24	98.5%	1.0%	0.0%	0.0%	0.4%
CCD	1,246	39	583	0	26	65.8%	2.1%	30.8%	0.0%	1.4%
CNCC	537	2	0	0	9	98.0%	0.4%	0.0%	0.0%	1.6%
FRCC	6,024	124	965	308	321	77.8%	1.6%	12.5%	4.0%	4.1%
LCC	337	9	0	0	6	95.7%	2.6%	0.0%	0.0%	1.7%
MCC	637	1	0	0	49	92.7%	0.1%	0.0%	0.0%	7.1%
NJC	350	1	0	0	10	97.0%	0.3%	0.0%	0.0%	2.8%
OJC	536	0	0	0	10	98.2%	0.0%	0.0%	0.0%	1.8%
PCC	2,306	24	0	0	118	94.2%	1.0%	0.0%	0.0%	4.8%
PPCC	2,154	75	983	0	95	65.1%	2.3%	29.7%	0.0%	2.9%
RRCC	2,543	15	69	0	109	92.9%	0.5%	2.5%	0.0%	4.0%
TSJC	710	0	0	0	8	98.9%	0.0%	0.0%	0.0%	1.1%
CCCS	30,172	358	3,211	345	903	86.2%	1.0%	9.2%	1.0%	2.6%

Figure 31 - HS Course Enrollment by Course Level: AY 2019-2020

Course Level	Course Enrollments	% of Total HS Courses
Developmental Ed	2,734	2.8%
College Level	96,195	97.2%
Total	98,929	100.0%

CREDIT HOURS ATTEMPTED

System-wide, students carried an average of 8.7 credit hours over the course of the AY 2019-2020 (Figure 32). Pikes Peak Community College's average of 13.2 credit hours per student was the highest among the thirteen colleges. The proportion of high school credit hours to total credit hours was highest at Morgan Community College, at 51.1 percent; Arapahoe Community College, Community College of Aurora, Colorado Northwestern Community College, Lamar Community College, and Morgan Community College also had rates that exceeded 35 percent. Front Range Community College high school students took the largest number of credit hours, followed by Pikes Peak Community College and Arapahoe Community College.

Figure 32 - CCCS High School Credits Attempted and Average Credits by College: AY 2019-2020

College	HS Credit Hours	All CCCS Credit Hours	HS as % of Total	Average Credit Hours Per Student
ACC	53,777	137,101	39.2%	6.7
CCA	44,027	88,472	49.8%	8.2
CCD	16,645	89,034	18.7%	9.2
CNCC	5,127	13,315	38.5%	9.4
FRCC	60,964	218,922	27.8%	8.0
LCC	4,394	10,048	43.7%	12.5
MCC	7,324	14,338	51.1%	10.8
NJC	3,513	17,070	20.6%	10.0
OJC	4,045	14,414	28.1%	7.5
PCC	22,873	75,073	30.5%	9.5
PPCC	42,521	164,800	25.8%	13.2
RRCC	23,997	88,852	27.0%	8.9
TSJC	5,940	20,109	29.5%	8.5
CCCS Total	295,145	951,546	31.0%	8.7

ACADEMIC STUDIES AND OUTCOMES

The course pass rates for all high school students across the Colorado Community College System have consistently been around 90 percent for the last five years (Figure 33). When broken down by program type (Figure 34), students in the concurrent program had a higher pass rate (91.3%) than students in ASCENT (85.4%) or other programs (85.6%). In examining the course pass rate, students of color, first-generation college students, and male students had a lower pass rate than their counterparts (Figure 35).

Figure 33 - System Wide Course Pass Rates for High School Students, AY 2015-2016 through 2019-2020

	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20
Number of Courses Passed	104,361	127,250	107,307	155,784	175,692
Total Courses	115,254	140,593	118,641	172,642	195,265
Pass Rate	90.5%	90.5%	90.4%	90.2%	90.0%

Figure 34 - High School Student Course Pass Rate by Program Type – AY 2019-2020

	Concurrent	ASCENT	Other HS Concurrent
Number of Courses Passed	558,749	17,836	93,809
Total Courses	611,935	20,895	109,565
Pass Rate	91.3%	85.4%	85.6%

Figure 35 - HS Course Pass Rates by Demographic Group by College: AY 2019-2020

Colleges	Students of Color	Non-Students of Color	First- Generation	Not First Generation	Male	Female
ACC	91.9%	94.3%	91.0%	94.7%	92.1%	95.0%
CCA	85.1%	87.8%	84.5%	88.7%	83.5%	88.3%
CCD	80.1%	83.4%	80.0%	85.1%	77.3%	84.2%
CNCC	89.1%	91.7%	89.7%	93.4%	90.6%	91.7%
FRCC	88.0%	91.3%	86.6%	92.7%	89.0%	91.5%
LCC	95.5%	96.3%	95.3%	96.8%	95.0%	96.7%
MCC	92.0%	95.6%	93.9%	95.5%	93.8%	95.2%
NJC	93.9%	95.5%	93.7%	96.5%	94.8%	95.5%
OJC	91.3%	92.7%	90.0%	95.0%	89.8%	93.6%
PCC	88.6%	91.9%	88.8%	93.3%	89.3%	91.9%
PPCC	85.6%	89.5%	84.7%	90.6%	86.3%	89.9%
RRCC	93.0%	94.9%	92.9%	95.6%	93.5%	95.3%
TSJC	91.6%	94.0%	91.6%	94.0%	92.2%	93.3%
CCCS Total	87.5%	91.9%	87.4%	92.7%	88.6%	91.6%

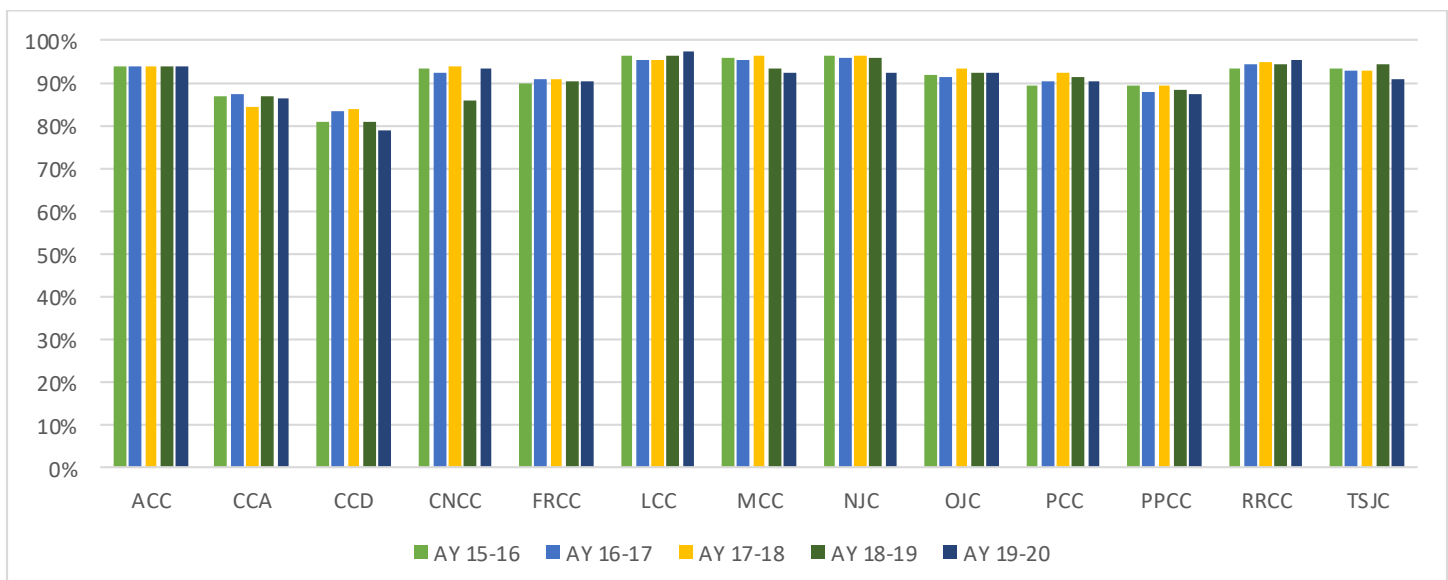
COMPARISON OF COURSE PASS RATES BY COLLEGE

Course pass rates at ten out of thirteen CCCS colleges met or exceeded the overall system level of 90 percent in 2019-20, while only three colleges had a pass rate of lower than 90 percent (Figures 36 and 37). Lamar Community College had the highest course pass rate at 97 percent, while Community College of Denver registered a 78.7 percent pass rate, similar to the preceding four-year numbers.

Figure 36 - Course Pass Rates of HS Students by College

Colleges	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20
ACC	93.6%	93.5%	93.6%	93.9%	93.7%
CCA	86.6%	87.3%	84.5%	86.6%	86.2%
CCD	80.8%	83.0%	83.6%	80.9%	78.7%
CNCC	93.1%	92.5%	93.8%	85.8%	93.4%
FRCC	90.0%	90.6%	90.6%	90.3%	90.2%
LCC	96.0%	95.1%	95.1%	96.4%	97.0%
MCC	95.6%	95.5%	96.0%	93.4%	92.2%
NJC	96.3%	95.7%	96.0%	95.9%	92.2%
OJC	91.6%	91.3%	93.4%	92.3%	92.2%
PCC	89.1%	90.5%	92.3%	91.4%	90.3%
PPCC	89.2%	87.8%	89.1%	88.5%	87.5%
RRCC	93.4%	94.2%	94.6%	94.3%	95.1%
TSJC	93.2%	92.7%	93.0%	94.3%	91.0%
CCCS Total	90.5%	90.5%	90.4%	90.2%	90.0%

Figure 37 - Comparison of Pass Rates by College



CREDITS EARNED AND TUITION SAVED

High school students earned 278,752 credits in 2019-2020, which was 94 percent of the 295,145 credit hours attempted. As with the number of course enrollments, the vast majority of credit hours were earned by concurrent enrollment students. In order to calculate cost savings for all high school students who took college classes in 2019-2020, we must also include ASCENT, Early College and P-Tech students. These programs, while separate from concurrent enrollment, afford students similar opportunities to earn tuition-free college credit while in high school. With resident tuition of \$148.9 (after COF) per credit hour in 2019-2020, concurrent enrollment, Early College, ASCENT and P-Tech students and their families potentially saved \$40.5 million in college tuition costs for earned credit hours, which has increased 46.5% from AY 2017-2018 (Figure 38).

Figure 38 - Tuition Saved by Academic Year

	AY 17-18	AY 18-19	AY 19-20
Concurrent Enrollment & ASCENT:			
Attempted Credit Hours	200,842	256,452	286,691
Earned Credit Hours	190,662	240,575	271,939
Tuition (after COF)	\$145.0	\$148.9	\$148.9
Tuition Saved	\$27,646,026.3	\$35,821,580.3	\$40,491,717.1

CAREER AND TECHNICAL EDUCATION

Career and technical education (CTE) accounted for 37.3 percent of high school course enrollments in 2019-20 (Figure 39). Success rates for students taking CTE courses, on average, was higher than the average for all high school students at 92.3 percent. Note that Red Rocks Community College had a significantly higher percentage of CTE courses due to their extensive work with Warren Tech in Jeffco Public Schools. The top three CTE courses taken by high school students, system-wide in 2019-20, were Introduction to Business, Personal Finance, and Introduction to PC Applications (Figure 40).

Figure 39 - CTE Course Enrollments and Completions Rates by College

College	AY 19-20 CTE Courses	All Courses Taken by HS Students	CTE as % of all HS Courses	Success Rate for CTE Courses
ACC	18,281	36,662	49.9%	94.0%
CCA	3,774	28,695	13.2%	89.6%
CCD	1,375	10,333	13.3%	84.7%
CNCC	674	3,302	20.4%	89.2%
FRCC	14,740	39,042	37.8%	90.9%
LCC	681	2,820	24.1%	97.7%
MCC	1,524	4,718	32.3%	93.4%
NJC	450	2,386	18.9%	92.4%
OJC	575	2,618	22.0%	87.8%
PCC	6,408	15,680	40.9%	91.9%
PPCC	10,611	28,048	37.8%	88.6%
RRCC	12,372	17,436	71.0%	96.8%
TSJC	1,315	3,525	37.3%	87.3%
CCCS Total	72,780	195,265	37.3%	92.3%

Figure 40 - Top CTE Courses Taken by High School Students: AY 2019-2020

AY 19-20 Course Total	Course	Course Description
4,237	BUS115	Introduction to Business
2,518	BUS116	Personal Finance
2,230	CIS118	Intro PC Applications
1,751	MAR216	Principles of Marketing
1,559	HPR178	Medical Terminology
1,499	CRJ110	Intro to Criminal Justice: SS3
1,208	NUA101	Nurse Aide Health Care Skills
1,125	NUA170	Nurse Aide Clinical Experience
1,108	CSC119	Intro to Programming
1,026	HWE100	Human Nutrition

MATRICULATION RATES TO CCCS COLLEGES

To ascertain the rate at which high school students later matriculate to CCCS colleges after high school, a four-year cohort model was used to allow for progression through high school for students at varying grade levels (freshman through senior). Thus, the cohort used in the following matriculation rates included high school students enrolled in CCCS courses during AY 2015-2016. Students were counted as having matriculated if they enrolled as a non-high school student in a CCCS college at any point from 2015-2016 through spring 2020.

A total of 7,411 unique high school students from the 2015-2016 cohort subsequently enrolled at any CCCS colleges over the next four academic years; a matriculation rate of 32.6 percent (Figure 42). It is important to note that the total number of students who matriculated has increased over the last few years, but the percentage decreased slightly (Figure 43).

Figure 41 and Figure 42 display high school student matriculation rates by college. When arrayed by college, high school students matriculate after graduation to the same CCCS college where they earned credit within four years 26.3 percent of the time. However, they were more likely to matriculate to any school in the Colorado Community College System, as this occurs, within four years, 32.6 percent of the time.

There was a marked disparity between the five metro-area colleges and the other eight schools in regard to matriculation rates. Thirty-five percent of high school students attending non-metro colleges matriculated to the same college after high school compared to 22 percent attending the five Denver metro colleges, indicating that location could have a significant impact on high school students' likelihood to return as an undergraduate student. Pikes Peak Community College, in particular, had the smallest gap between same college matriculation rate (33.7%) and any college matriculation rate (35.4%).

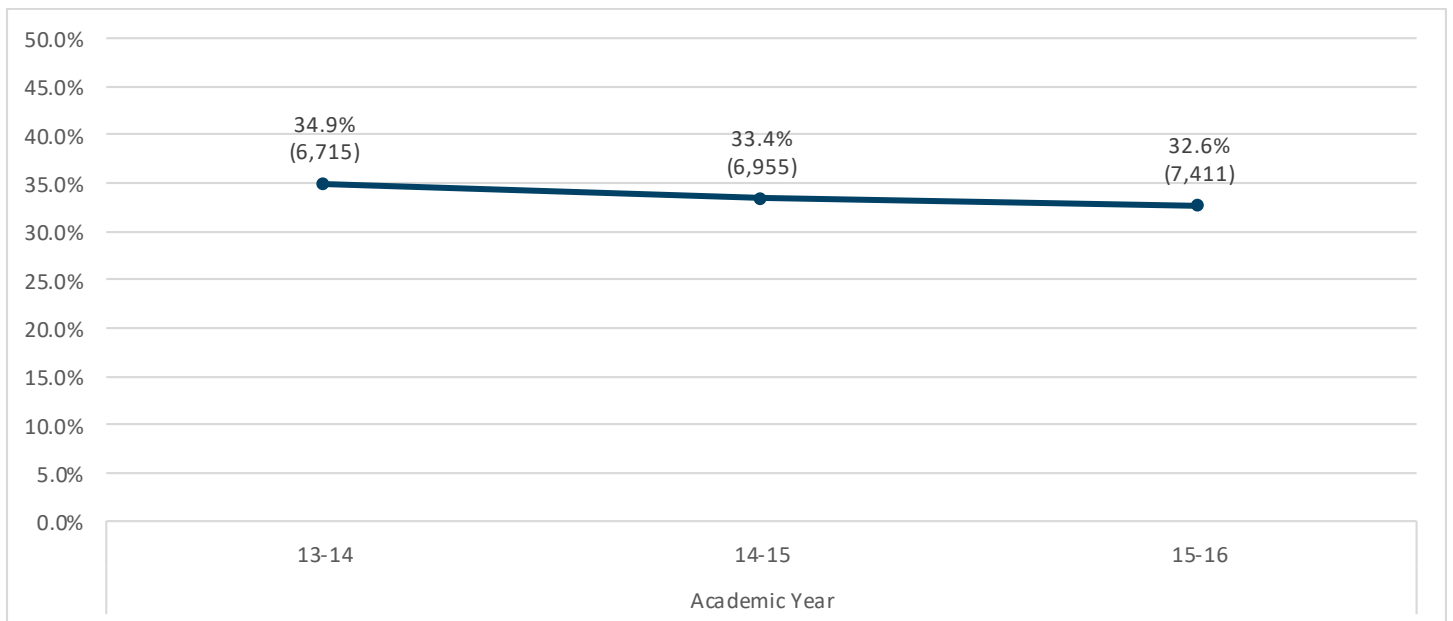
Figure 41 - High School Matriculation Rates at Same College within Four Academic Years, 2015-2016 HS Cohort

College	Total HS Students 15-16	Number of Students Matriculated to Same CCCS College Within Four Years	Four Years Matriculation Rate
ACC	4,341	629	14.5%
CCA	3,103	538	17.3%
CCD	2,276	491	21.6%
CNCC	499	133	26.7%
FRCC	4,178	1,343	32.1%
LCC	361	153	42.4%
MCC	782	291	37.2%
NJC	414	191	46.1%
OJC	476	191	40.1%
PCC	1,518	491	32.3%
PPCC	2,254	759	33.7%
RRCC	1,836	554	30.2%
TSJC	666	210	31.5%
CCCS Total	22,704	5,974	26.3%

Figure 42 - High School Matriculation Rates at any CCCS College within Four Academic Years, 2015-2016 HS Cohort

College	Total HS Students 15-16	Number of Students Matriculated to any CCCS College Within Four Years	Four Years Matriculation Rate
ACC	4,341	1,034	23.8%
CCA	3,103	850	27.4%
CCD	2,276	676	29.7%
CNCC	499	162	32.5%
FRCC	4,178	1,439	34.4%
LCC	361	171	47.4%
MCC	782	368	47.1%
NJC	414	206	49.8%
OJC	476	224	47.1%
PCC	1,518	556	36.6%
PPCC	2,254	799	35.4%
RRCC	1,836	683	37.2%
TSJC	666	243	36.5%
CCCS Total	22,704	7,411	32.6%

Figure 43 - Matriculation of HS Students to CCCS Colleges over Time



ENROLLMENT IN A FOUR-YEAR UNIVERSITY AND OVERALL MATRICULATION

In researching matriculation rates of high school students, we have widened the scope to include four-year universities. Using the cohort model described above, we know that 32.6 percent of students enroll at a CCCS college within four years after graduation. Additionally, 57.8 percent of those students go on to attend a four-year university (Figure 44). Combining those two groups of students, we now know that 76.2 percent of CCCS high school students went on pursue additional higher education opportunities at either a CCCS college or a four-year university. Figure 45 reflects that same information broken down by college, with Northeastern Junior College, Morgan Community College, Arapahoe Community College, and Trinidad State Junior College logging the highest composite matriculation rates of over 80 percent.

Figure 44 - Overall Matriculation of CCCS High School Students within Four Years

2015-2016 CCCS High School Cohort	Matriculated at CCCS College	Matriculated to Four- Year Universities	Overall Matriculation (Either CCCS or Four-Year)	CCCS Matriculation Rate	Four-Year School Matriculation Rate	Overall Matriculation Rate
22,704	7,411	13,133	17,311	32.6%	57.8%	76.2%

Figure 45 - Overall Matriculation of CCCS High School Students within Four Years, By CCCS College

	15- 16 High School Cohort	Matriculated to CCCS Colleges	Matriculated to Four-Year Universities	Overall Matriculation (Either CCCS or Four-Year)	CCCS Matriculation Rate	Four-Year School Matriculation Rate	Overall Matriculation Rate (CCCS or Four-Year)
ACC	4,341	1,034	3,300	3,672	23.8%	76.0%	84.6%
CCA	3,103	850	2,101	2,453	27.4%	67.7%	79.1%
CCD	2,276	676	829	1,284	29.7%	36.4%	56.4%
CNCC	499	162	246	353	32.5%	49.3%	70.7%
FRCC	4,178	1,439	2,311	3,266	34.4%	55.3%	78.2%
LCC	361	171	178	288	47.4%	49.3%	79.8%
MCC	782	368	461	663	47.1%	59.0%	84.8%
NJC	414	206	277	358	49.8%	66.9%	86.5%
OJC	476	224	225	357	47.1%	47.3%	75.0%
PCC	1,518	556	689	1,102	36.6%	45.4%	72.6%
PPCC	2,254	799	1,116	1,592	35.4%	49.5%	70.6%
RRCC	1,836	683	959	1,367	37.2%	52.2%	74.5%
TSJC	666	243	441	556	36.5%	66.2%	83.5%
CCCS	22,704	7,411	13,133	17,311	32.6%	57.8%	76.2%

In examining the demographics of those students who matriculated to either a CCCS college or a four-year university, first-generation college students and students of color were more likely to enroll in a CCCS college (Figure 46). Additionally, in Figure 47, non-resident aliens, Native Hawaiian and other Pacific Islander, and Hispanic students were more likely to attend a CCCS college. On the other hand, Asian students were more likely to matriculate to a four-year university. Colorado State University (11.8%) was the most popular 4-year college to which students matriculated (Figure 48), followed by University of Colorado Denver (10.8%) and University of Colorado Boulder (9.6%).

Figure 46 - Overall Matriculation within Four Years by Demographic Groupings: AY 2015-2016 High School Cohort

Demographic Grouping	% Matriculating to CCCS within Four-Years	% Matriculated to Four-Year Universities	Overall Matriculation Rate (CCCS or Four-Year School)
Students of Color	34.9%	53.2%	73.9%
Non-Students of Color	31.5%	60.3%	77.5%
First-Generation	35.8%	44.2%	67.5%
Not First-Generation	29.7%	70.3%	84.2%

Figure 47 - Overall Matriculation of CCCS High School Students within Four Years by Race/Ethnicity: AY 2015-2016 High School Cohort

College	15- 16 CCCS High School Cohort	Matric. to CCCS Colleges	Matric. to Four-Year Universities	Overall Matric. (Either CCCS or Four-Year)	CCCS Matric. Rate	Four-Year School Matric. Rate	Overall Matric. Rate (CCCS or Four-Year)
American Indian or Alaskan Native	125	33	54	75	26.4%	43.2%	60.0%
Asian	788	207	581	686	26.3%	73.7%	87.1%
Black or African American	805	220	505	618	27.3%	62.7%	76.8%
Hispanic	5,185	1,986	2,461	3,712	38.3%	47.5%	71.6%
Multiple Races	904	271	548	684	30.0%	60.6%	75.7%
Native Hawaiian and Other Pacific Islander	61	25	36	43	41.0%	59.0%	70.5%
Non-Resident Alien	488	201	119	261	41.2%	24.4%	53.5%
Unknown	1,267	257	677	828	20.3%	53.4%	65.4%
White	13,081	4,211	8,152	10,404	32.2%	62.3%	79.5%
CCCS Total	22,704	7,411	13,133	17,311	32.6%	57.8%	76.2%

Figure 48 - Top Four-Year Destinations of CCCS High School Students

Four-Year Universities Destination	Number of Students Matriculating	Percent of All Four-Year Matriculation
COLORADO STATE UNIVERSITY	1,545	11.8%
UNIVERSITY OF COLORADO DENVER	1,413	10.8%
UNIVERSITY OF COLORADO BOULDER	1,263	9.6%
METROPOLITAN STATE UNIVERSITY OF DENVER	1,213	9.2%
UNIVERSITY OF COLORADO-COLORADO SPRINGS	862	6.6%
UNIVERSITY OF NORTHERN COLORADO	718	5.5%
COLORADO STATE UNIVERSITY - PUEBLO	558	4.2%
COLORADO MESA UNIVERSITY	350	2.7%
COLORADO SCHOOL OF MINES	336	2.6%
ADAMS STATE UNIVERSITY	197	1.5%

EFFECT OF CONCURRENT ENROLLMENT ON ACADEMIC SUCCESS MEASURES

To examine the effect concurrent enrollment has on student outcomes after high school, retention and graduation rates are presented below. Outcomes are separated into groups based on whether or not students participated in a high school concurrent enrollment program prior to matriculating to a CCCS college as a non-high school student.

Retention rates are measured on a fall-to-fall basis and adjusted for graduations, and graduation rates are based on 150% time, or graduation within three academic years. For both retention and graduation, the most recent cohorts available are presented: the fall 2018 cohort for retention, and the fall 2017 cohort for graduation.

Students were more likely to both retain and graduate based on past participation in a concurrent enrollment program. Students who had previously enrolled at a CCCS college while still in high school retained 57.7 percent of the time, compared with 49.3 percent for those that never dual enrolled while in high school (Figure 49). Students who participated in a concurrent enrollment program at Morgan Community College and Northeastern Junior College had the highest retention rate at 70 and 69.2 percent respectively (Figure 50). In terms of graduation rate, students with previous concurrent enrollment graduated 35 percent of the time, compared with 19.6 percent for students with no concurrent enrollment (Figure 51). About 65 percent of the students who participated in a concurrent enrollment program at Trinidad State Junior College and Northeastern Junior College graduated within three academic years (Figure 52).

Figure 49 - Fall-to-Fall Retention Rates by Past HS Concurrent Enrollment

Past High School Concurrent Enrollment	Fall 2018 Cohort	Retained Fall 2019	Fall-to-Fall Retention Rate
Previous Concurrent Enrollment	2,004	1,156	57.7%
No Previous Concurrent Enrollment	9,983	4,925	49.3%
Total	11,987	6,081	50.7%

Figure 50 - Fall-to-Fall Retention Rates by Past HS Concurrent Enrollment and by College

College	Fall 2018 Cohort	Previous Concurrent Enrollment Retention Rate	No Previous Concurrent Enrollment Retention Rate
ACC	1,059	60.5%	48.1%
CCA	978	60.6%	53.4%
CCD	1,589	52.3%	46.4%
CNCC	198	53.7%	49.0%
FRCC	2,536	55.6%	50.2%
LCC	161	48.5%	43.8%
MCC	189	70.0%	53.8%
NJC	413	69.2%	61.1%
OJC	307	58.3%	53.1%
PCC	772	62.0%	48.9%
PPCC	2,206	52.6%	44.7%
RRCC	1,291	52.4%	52.4%
TSJC	288	60.0%	60.1%
CCCS Total	11,987	57.7%	49.3%

Figure 51 - Graduation Rates by Past HS Concurrent Enrollment

Past High School Concurrent Enrollment	Fall 2017 Cohort	Graduated by Summer 2020	Graduation Rate
Previous Concurrent Enrollment	2,076	726	35.0%
No Previous Concurrent Enrollment	9,815	1,924	19.6%
Total	11,891	2,650	22.3%

Figure 52 - Graduation Rates by Past HS Concurrent Enrollment and by College

College	Fall 2017 Cohort	Previous Concurrent Enrollment Graduation Rate	No Previous Concurrent Enrollment Graduation Rate
ACC	1,007	24.5%	14.3%
CCA	911	21.8%	13.7%
CCD	1,448	14.9%	10.0%
CNCC	177	23.5%	35.0%
FRCC	2,575	37.4%	19.9%
LCC	225	52.2%	32.6%
MCC	185	52.1%	27.7%
NJC	431	64.1%	37.8%
OJC	328	48.8%	31.0%
PCC	840	35.3%	18.9%
PPCC	2,029	38.8%	15.2%
RRCC	1,421	27.5%	27.4%
TSJC	314	65.2%	50.5%
CCCS Total	11,891	35.0%	19.6%

AVERAGE TIME AND CREDITS TO DEGREE

To understand how long it takes students to complete an associate degree, average years to degree and average credits to degree were assessed. Similar to retention and graduation rates, students who received an associate degree were separated into two groups based on whether or not they participated in a high school concurrent enrollment program in or before the semester they graduated.

The methodology of calculating years to degree and credits to degree was adopted from the Colorado Department of Higher Education's (CDHE) ROI report. Students who graduated with an associate degree in the most recent three academic years (AY 2017/2018 – AY 2019/2020) were used for both time to degree and credits to degree calculation. Reverse transfers were excluded. One academic year was divided into two terms, with summer and fall semesters in one term (0.5) and spring in another (0.5). Students who enrolled in both summer and spring semesters, for example, were counted as one academic year. Students enrolled more than 10 academic years were considered as an outlier and were removed from the final calculation. In each academic year, about three percent of the students were removed (222 out of 7,947 students in AY 2017-2018, 214 out of 7,596 students in AY 2018-2019, and 214 out of 7,596 students in AY 2019/2020). In the average credits to degree calculation, only institution-earned credits were included.

On average, it takes students who previously participated in a concurrent enrollment program 5.1 years to complete an associate degree (Figure 53). When students were no longer in a concurrent enrollment program and became college students, their average time to degree was 3.5 years. These students spent less time to complete an associate program after high school because they have earned some credit hours in their concurrent enrollment program. Students without concurrent enrollment, on the other hand, spent an average of 4.7 years in an associate program.

A small difference was found in average credits to degree. In AY 2019-2020, students who previously participated in a concurrent enrollment program cumulated 66 credits upon graduation, while students without concurrent enrollment cumulated 64.7 credits. The difference between these two groups was 1.3 credits.

Figure 53 – Average Time and Credits to Degree by Past HS Concurrent Enrollment

	AY 17-18	AY 18-19	AY 19-20
Average Time to Degree:			
Previous Concurrent Enrollment (Included concurrent enrollment semesters)	5.1	5.1	5.1
Previous Concurrent Enrollment (Excluded concurrent enrollment semesters) ²	3.4	3.5	3.6
No Previous Concurrent Enrollment	4.8	4.7	4.7
Average Credits to Degree:			
Previous Concurrent Enrollment	68.9	67.3	66.0
No Previous Concurrent Enrollment	66.5	65.8	64.7

² Students who obtained an associate degree before graduating from high school were excluded.

Figure 54 shows the breakdown by degree type. In AY 2019-2020, AAS students with concurrent enrollment (5.4 years) spent a longer time to complete a degree, compared to AA/AS (4.9 years) and AGS (5.2 years) students. The same result was observed when concurrent enrollment semesters were excluded. It's worth noting that, in AA/AS programs, students with and without concurrent enrollment spent similar amount of time (4.9 years vs. 4.6 years) and credits (62.2 credits vs. 62.3 credits) to complete their degrees. The gap between these two groups was larger in AAS programs (0.6 semester with 7.9 credit hours). Students who previously participated in a concurrent enrollment program at Community College of Denver, Northeastern Junior College, and Otero Junior College spent less than 5 years to complete a degree (Figure 55). At Colorado Northwestern Community College, Lamar Community College, and Morgan Community College, students with concurrent enrollment spent less than three years (2.9) to obtain an associate degree after high school. Students who previously participated in a concurrent enrollment program at Community College of Aurora, Community College of Denver, and Front Range Community College cumulated less credit hours than students without concurrent enrollment upon graduation (Figure 56).

Figure 54 – Average Time and Credits to Degree by Past HS Concurrent Enrollment and by Degree Type, AY 2019-2020

	AA/AS	AAS	AGS
Average Time to Degree:			
Previous Concurrent Enrollment (Included concurrent enrollment semesters)	4.9	5.4	5.2
Previous Concurrent Enrollment (Excluded concurrent enrollment semesters)	3.4	3.9	3.6
No Previous Concurrent Enrollment	4.6	4.8	4.5
Average Credits to Degree:			
Previous Concurrent Enrollment	62.2	77.4	61.4
No Previous Concurrent Enrollment	62.3	69.5	57.7

Figure 55 – Average Time to Degree by Past HS Concurrent Enrollment and by College, AY 2019-2020

College	Previous Concurrent Enrollment	Previous Concurrent Enrollment (Excluded high school semesters)	No Previous Concurrent Enrollment
ACC	5.1	4.1	5.0
CCA	5.1	3.7	4.7
CCD	4.8	3.8	4.6
CNCC	5.2	2.9	3.6
FRCC	5.2	3.6	4.9
LCC	5.0	2.9	3.0
MCC	5.4	2.9	4.3
NJC	3.9	3.2	3.4
OJC	4.8	3.3	3.4
PCC	5.2	3.8	4.9
PPCC	5.3	3.3	4.7
RRCC	5.0	4.0	4.7
TSJC	5.1	3.2	3.9

Figure 56 – Average Credits to Degree by Past HS Concurrent Enrollment and by College, AY 2019-2020

College	Previous Concurrent Enrollment	No Previous Concurrent Enrollment
ACC	63.6	63.3
CCA	63.4	64.0
CCD	62.3	62.8
CNCC	71.5	62.8
FRCC	63.3	64.6
LCC	68.7	57.2
MCC	74.2	61.1
NJC	66.2	65.9
OJC	64.1	53.8
PCC	72.3	68.9
PPCC	66.4	66.3
RRCC	67.8	63.1
TSJC	71.0	65.9

MEDIAN WAGE

Similar to average time and degree, the methodology of calculating median wage among graduates who previously participated in a concurrent enrollment program was also adopted from CDHE's ROI report. According to this report, wage data from the Colorado Department of Labor and Employment (CDLE) are inclusive of Colorado. Federal employees and self-employed are excluded. Since wage data are based on calendar year, graduation cohorts are established using calendar year. For example, cohort 2014 includes graduates from spring 2014, summer 2014, and fall 2014. Two thresholds are implemented: (1) number of quarters employed, and (2) state minimum wage (see Appendix for details). As a result, about 25% of the graduates were included in year one wage calculation, over 35% were included in year three wage calculation, and around 44% were included in year 5 wage calculation (Figure 57).

Over 70 percent of the graduates who previously participated in a concurrent enrollment program were employed, with an average of 78.6% employed in year one after graduation, 74.2% employed in year three, and 72.3% employed in year five (Figure 57). The median wage for all graduates started in the \$20,000s in year one after graduation and increased over 85% in year five (Figure 58).

Figure 57 – Employment Status by Calendar Year

Employment Status	Calendar Year 2012	Calendar Year 2013	Calendar Year 2014	Calendar Year 2012 %	Calendar Year 2013 %	Calendar Year 2014 %
1-Year						
Employed & Met Threshold	403	491	673	25.1%	25.2%	25.9%
Employed & Didn't Meet Threshold	854	1,043	1,369	53.3%	53.5%	52.7%
Not Employed or No Wage Data	346	416	557	21.6%	21.3%	21.4%
3-Year						
Employed & Met Threshold	594	746	982	37.1%	38.3%	37.8%
Employed & Didn't Meet Threshold	591	698	957	36.9%	35.8%	36.8%
Not Employed or No Wage Data	418	506	660	26.1%	25.9%	25.4%
5-Year						
Employed & Met Threshold	744	845	N/A ³	46.4%	43.3%	N/A
Employed & Didn't Meet Threshold	429	546	N/A	26.8%	28.0%	N/A
Not Employed or No Wage Data	430	559	N/A	26.8%	28.7%	N/A
Total Number of Students	1,603	1,950	2,599			

³ Wage in the second quarter of 2020 is not available

Figure 58 – Median Wage by Year

Years after Graduated	Calendar Year 2012	Calendar Year 2013	Calendar Year 2014
1-Year	\$20,508	\$22,085	\$23,415
3-Year	\$27,469	\$29,189	\$34,332
5-Year	\$38,065	\$41,853	N/A
Pct. Change from 1-Year to 3-Year	33.9%	32.2%	46.6%
Pct. Change from 1-Year to 5-Year	85.6%	89.5%	N/A

AAS graduates had the highest median wage (Figure 59) among five different credentials. Year one median wage of 2014 AAS graduates was \$37,439, compared with \$20,803 among AA or AS graduates. About \$7,500 wage difference was observed between less than one-year certificate graduates (\$21,543) and one-year and less than two-year certificate graduates (\$30,516) in 2014. Health Professions and Related Clinical Sciences (e.g., Phlebotomy, Nursing Assistant, Veterinary Assistant, Medical Assisting) was the most popular certificates for students who previously participated in a concurrent enrollment program, followed by Mechanic and Repair Technologies/Technicians certificates (e.g., Auto Technician, Engine Performance Technician, Diesel Mechanics) (Figure 60). The median wage of graduates from both programs started in the lower \$20,000s in year one and almost doubled (\$39,000) in year five.

Figure 59 – Median Wage by Credential Type

Type of Credential	Calendar Year 2012	Calendar Year 2013	Calendar Year 2014
Certificate (< 1 Year)⁴			
1-Year	\$19,147	\$19,820	\$21,543
3-Year	\$23,174	\$24,798	\$31,522
5-Year	\$35,218	\$39,344	N/A
Pct. Change from 1-Year to 3-Year	21.0%	25.1%	46.3%
Pct. Change from 1-Year to 5-Year	83.9%	98.5%	N/A
Certificate (1-2 Year)⁵			
1-Year	\$23,785	\$28,742	\$30,516
3-Year	\$33,354	\$36,289	\$39,972
5-Year	\$41,364	\$43,251	N/A
Pct. Change from 1-Year to 3-Year	40.2%	26.3%	31.0%
Pct. Change from 1-Year to 5-Year	73.9%	50.5%	N/A

⁴ Certificate (< 1 Year) includes CER1 and CER1N

⁵ Certificate (1-2 Year) includes CER, CER2 and CER2N

Figure 59 – Median Wage by Credential Type (Cont.)

Type of Credential	Calendar Year 2012	Calendar Year 2013	Calendar Year 2014
AAS			
1-Year	\$31,067	\$31,287	\$37,439
3-Year	\$37,251	\$40,539	\$43,450
5-Year	\$46,025	\$51,182	N/A
Pct. Change from 1-Year to 3-Year	19.9%	29.6%	16.1%
Pct. Change from 1-Year to 5-Year	48.1%	63.6%	N/A
AA/AS			
1-Year	\$19,824	\$19,220	\$20,803
3-Year	\$27,651	\$26,041	\$34,119
5-Year	\$37,338	\$40,926	N/A
Pct. Change from 1-Year to 3-Year	39.5%	35.5%	64.0%
Pct. Change from 1-Year to 5-Year	88.3%	112.9%	N/A
AGS			
1-Year	\$18,035	\$23,668	\$24,149
3-Year	\$30,150	\$34,057	\$43,233
5-Year	\$36,363	\$42,197	N/A
Pct. Change from 1-Year to 3-Year	67.2%	43.9%	79.0%
Pct. Change from 1-Year to 5-Year	101.6%	78.3%	N/A

Figure 60 – Median Wage by Classification of Instructional Programs (CIP) Code, Certificates only

Program	Calendar Year 2012	Calendar Year 2013	Calendar Year 2014
Health Professions and Related Clinical Sciences (CIP: 51xxxx)			
1-Year	\$18,466	\$19,022	\$20,156
3-Year	\$21,845	\$22,992	\$28,489
5-Year	\$35,486	\$39,004	N/A
Pct. Change from 1-Year to 3-Year	18.3%	20.9%	41.3%
Pct. Change from 1-Year to 5-Year	92.2%	105.0%	N/A
Mechanic and Repair Technologies/Technicians (CIP: 47xxxx)			
1-Year	\$21,461	\$19,773	\$22,380
3-Year	\$27,367	\$26,337	\$33,969
5-Year	\$34,984	\$39,361	N/A
Pct. Change from 1-Year to 3-Year	27.5%	33.2%	51.8%
Pct. Change from 1-Year to 5-Year	63.0%	99.1%	N/A

CONCLUSION

The purpose of compiling data on high school students is to identify emerging trends and monitor student success. With the fifth successive year of similar data collection and analysis, we note that the number of high school students continues to grow at a rapid rate. In AY 2019-2020, a total of 34,989 high school students enrolled in CCCS colleges, which accounts for 28 percent of total CCCS enrollment and 12.6 percent of total public high school students in Colorado. These students enrolled in 98,929 courses, a 14.2 percent increase from AY 2018-2019. High school students continue to successfully complete their courses at high rates (over 90%). Concurrent enrollment students, particularly, had a higher pass rate (91.3%) than students in ASCENT (85.4%) or other programs (85.6%). With a total of 228,769 credit hours earned by concurrent enrollment and ASCENT students in AY 2019-2020, students and their families potentially saved \$34.1 million in college tuition costs.

An increasing number of students are earning credentials while still in high school. In academic year 2019-2020, 2,234 high school students received a total of 2,903 credentials. Career and technical education courses are maintaining their popularity, and students are succeeding in them at a higher rate than the rate for all courses.

The Colorado Department of Higher Education reports that, on average, participation in concurrent enrollment is associated with an increase in the likelihood of enrolling in college immediately after high school; a decrease in the likelihood of needing remedial education in the first year of college; and higher credit hour accumulation, grade point average, and retention in the first year of college, all of which have been linked to successful degree attainment. This report shows that system-wide, 32.6 percent of AY 2015-2016 high school students matriculated to a CCCS college after graduating from high school. Moreover, 57.8 percent of these students matriculated to a four-year university. Consequently, a total of 76.2 percent of the AY 2015-2016 students continued their higher education after high school. Compared with students who never dual enrolled while in high school, students with concurrent enrollment had a higher retention (57.7% vs. 49.3%) and graduation rate (35.0% vs. 19.6%). In terms of average time and average credits to an associate degree, students with and without concurrent enrollment spent about the same amount of time and earned similar credit hours in their associate programs. Students with concurrent enrollment spent an average of 3.5 years to obtain an associate degree after graduating from high school.

Based on CDLE's data, this study revealed that over 70 percent of the graduates who previously participated in a concurrent enrollment program were employed, with an average employment rate of 78.6% in year one after graduation, 74.2% in year three, and 72.3% in year five. The median wage of all credential types was in the lower \$20,000s in year one and lower \$40,000s in year five. Students with an AAS degree had the highest median wage (\$37,439 among 2014 graduates) one year after graduation. Because of these positive benefits of concurrent enrollment, ASCENT and other programs, and the number of students involved, CCCS and institution leadership believe continued scrutiny of the success of high school students at CCCS colleges and beyond is crucial to understanding the dynamics of the high school student population and strategically planning for its success.

APPENDIX: METHODOLOGY

DATA SOURCE:

High school students report data were pulled from the operational data store (ODS) at the Colorado Community College System office. Populations in majority of the sections were pulled from freeze tables for consistency, and are reflective of the end-of-term freeze for a given academic term. The end-of-term freeze dates allow time for data entry and cleanup after the actual end of the semester. End-of-term freeze dates are as follows:

- Summer – October 10
- Fall – February 10
- Spring – July 10

Credentials earned and graduation data were extracted from live tables to reflect the most recent award records.

METHODOLOGY:

Average credit hours taken: Average credit hours are calculated by summing all credit hours taken and dividing by unduplicated headcount in an academic year.

Average credits to degree: Credits to degree cohort includes all graduates with an associate degree in an academic year. Reverse transfers are excluded. Students received more than one associate degrees are unduplicated, with the earliest graduation term retained. Average credits to degree is calculated as an average credit hours that cohort students earned upon completion of an associate degree.

Average time to degree: Time to degree cohort includes all graduates with an associate degree in an academic year. Reverse transfers are excluded. Students received more than one associate degrees are unduplicated, with the earliest graduation semester retained. One academic year is divided into two terms, with summer and fall semesters in one term (0.5) and spring in another (0.5). Average time to degree is calculated as an average of the total amount of academic years that cohort students spend upon completion of an association degree.

Career and technical education (CTE): CTE courses are identified using course attribute.

CCCS headcount: Unduplicated headcount of overall CCCS population, including students taking non-countable courses.

Course level: Developmental education courses include CCR (formerly REA), ENG with course number less than 100, MAT106, and MAT with course number less than 102. College level courses are any courses that are not developmental education.

Course pass rate: Pass in this report entails receiving a grade of 'C' or better. Fail courses include with draws. Pass rate is calculated by dividing the number of students passed (any grade of A, B, C, S/A, S/B, S/C, S) by total number of enrolled students (any student who received a grade, including W).

Courses taken: Number of courses taken by high school students. Students who take the same course multiple times are counted the number of times they occur.

Credential awarded: Number of degrees and certificates awarded to students. Students receiving more than one credentials are counted multiple times.

Credits attempted: Number of credit hours enrolled by high school students.

Fall-to-fall retention rate: Fall cohort includes new, first-time degree-seeking students enrolled in fall, or enrolled in fall term and first-time degree seeking in the summer directly preceding fall. Both full-time and part-time students were included for purposes of this study. Students are counted as retained if they enroll in the following fall semester or are awarded with a credential between the fall term of entry and the following summer term. Retention rate is calculated as the sum of students retaining divide by the total number of students in the cohort.

Graduation rate: Fall cohort includes new, first-time degree-seeking students enrolled in fall, or enrolled in fall term and first-time degree seeking in the summer directly preceding fall. Both full-time and part-time students are included for purposes of this study. Students are counted as graduated if they are awarded with a credential between the fall term of entry and summer of the third year. Graduation rate is calculated as the sum of graduates divide by the total number of students in the cohort.

Headcount of students receiving a credential: This is an unduplicated headcount of students who receive an associate degree or a certificate. Students receiving more than one credentials are counted once.

High school program: Program information is based on the high school attributes: (1) concurrent enrollment – HSC, (2) ASCENT – HSA, (3) other high school concurrent – any other HS attributes, GTC attributes or student population type is L or H.

High school students: Starting 2020, high school students are identified based on population type and high school attributes. Students who are coded as L or H in population type or have any high school attribute are considered as high school students.

Matriculation to CCCS colleges: Matriculation cohort includes all high school students enrolled in an academic year. A student is counted as having matriculated if he/she enrolls in CCCS colleges as a non-high school student at any point from the cohort year through spring of the fourth year.

Matriculation to four-year universities: Matriculation cohort includes all high school students enrolled in an academic year. A student is counted as having matriculated if he/she enrolls in a four-year university at any point from the cohort year through spring of the fourth year.

Median wage: Median wage cohort includes all students received a credential in a calendar year. Students received more than one credentials in a given year are unduplicated, with highest degree retained. Median wage is the median of earnings in year one, year three and year five. According to CDHE’s ROI report, the calculation of wage earnings begins two quarters after the graduation quarter. Therefore, year one wage is the sum of earnings from 3rd quarter to 6th quarter after graduation. Year three wage is the sum of earnings from 11th quarter to 14th quarter after graduation. Year five wage is the sum of earnings from 19th quarter to 22nd quarter (Q) after graduation. For example, spring 2012 cohort graduated in May 2012 (Figure 61). Their median year one wage is the median of earnings from Q1 2013 to Q4 2013, median year three wage is the median of earnings from Q1 2015 to Q4 2015, and median year five wage is the median of earnings from Q1 2017 to Q4 2017.

Two thresholds are implemented: (1) number of quarters employed and (2) state minimum wage. Graduates who are employed less than four quarters by the end of 6th quarter after graduation are excluded from year one wage calculation; graduates who are employed less than five quarters by the end of 14th quarter or by the end of 22nd quarter are excluded in year three wage and year five wage calculation. Graduates earned less than the state minimum wage were also excluded.

Figure 61 – Wage calculation for spring 2012 cohort

Calendar Year	Q1	Q2	Q3	Q4
2012		Graduated	1 st Quarter	2 nd Quarter
2013 (1-Year Wage)	3 rd Quarter	4 th Quarter	5 th Quarter	6 th Quarter
2014	7 th Quarter	8 th Quarter	9 th Quarter	10 th Quarter
2015 (3-Year Wage)	11 th Quarter	12 th Quarter	13 th Quarter	14 th Quarter
2016	15 th Quarter	16 th Quarter	17 th Quarter	18 th Quarter
2017 (5-Year Wage)	19 th Quarter	20 th Quarter	21 st Quarter	22 nd Quarter

Race/ethnicity: IPEDS’s definition of race/ethnicity is used in this report.

Students of color: All race/ethnicity except for non-resident alien, unknown and white.