Dual Credit in Idaho's Public Postsecondary Institutions: 2019

Executive Summary

Idaho students are increasingly pursuing dual credit.[1] Between FY2015 and FY2019, the number of Idaho students earning dual credits more than doubled. Over half of Idaho's 2019 high school graduates earned some dual credits prior to high school graduation. The vast majority of students who participate in Idaho's Advanced Opportunities[2] program do so by enrolling in dual credit courses.

As more students participate in dual credit, understanding how students who participate in dual credit compare to students who do not is becoming increasingly more important. In this report, we provide descriptive statistics on both the prevalence of dual credit in Idaho's public postsecondary institutions as well as the characteristics and academic outcomes of the students who participate.

First, we report the extent of dual credit in Idaho's public postsecondary institutions in FY2019. The vast majority of dual credits earned are academic rather than career technical credits. Second, we document the growth in the number of Idaho secondary students earning dual credits in Idaho's public postsecondary institutions between FY2015 and FY2019.

Third, we show that, in every year of our analysis, students who earn dual credits in high school differ along several demographic characteristics from those who do not. Students who earn dual credits are more likely to be female, less likely to be economically disadvantaged, and more likely to be white or Asian than students who do not earn dual credit. Students who earn dual credits are less likely to be American Indian, black, or Hispanic than students who do not earn dual credit. These findings are consistent with findings for the 2019 Advanced Opportunities program managed by the Idaho State Department of Education (SDE).

Finally, in this report, we examine the outcomes of students after high school graduation and find that students who earn more dual credits in high school are more likely to go on to college, persist through college, and earn college degrees in fewer years than students who earn no or few dual credits in high school.

Methodology

We collected data from three different sources for this study: (1) the annual dual credit reports submitted by Idaho's public postsecondary institutions to the Office of the State Board of Education to show dual credits earned and students served at each of those institutions; (2) data from the Statewide Longitudinal Data System (SLDS) to characterize secondary student demographics, go on rates[3], postsecondary retention rates, college degree attainment and the number of dual credits earned prior to the 2014-15 academic year; and (3) data compiled from a State Board of Education data request to

[1] Dual credit courses are college level courses taken by junior high/high school students. A student receives both high school and college credit for a dual credit course.

[2] Advanced Opportunities encompasses Advanced Placement, International Baccalaureate, Technical Competency Credit, College Level Examination Program, Overload Courses, and Dual Credit. Furthermore, Advanced Opportunities includes students taking dual credit at private postsecondary institutions.

[3] The go on rate is the rate at which high school graduates go on to college. Go on rates as measured at several intervals – the fall immediately after high school graduation, within one year of high school graduation, and within three years of high school graduation.

the public postsecondary institutions for the dual credits earned in the 2014-15 through 2018-19 academic years.

In conducting this study, we used a z-test to determine whether or not differences between groups were statistically significant and report differences as statistically significant for levels of 0.01 or lower.[4] Our aim is to provide descriptive statistics in this report to characterize dual credit in Idaho's public postsecondary institutions.

The results from the analysis on student outcomes should not be interpreted as *causal*. While students who earn more dual credits are more likely to go on, be retained in college, and earn an associate or bachelor degree than students who earn no or fewer dual credits, these differences are not necessarily *caused* by the differences in dual credits earned. Students who are more likely to go on, be retained, and earn a degree may also be more likely to earn dual credits. In-depth statistical modeling will be necessary to better understand the degree to which the relationship observed is causal versus correlative. This will be the focus of our future research.

Background

Idaho's Advanced Opportunities program was instituted in its current form on July 1, 2016. It merged several already existing programs (specifically, 8 in 6; Dual Credit for Early Completers; Fast Forward; and the Mastery Advancement Program). The current Advanced Opportunities program authorizes for every public secondary student in grades 7 through 12 up to $4,125 to spend on Advanced Opportunities.[5] All local education agencies (LEAs) are required to offer at least one Advanced Opportunity program.[6] Not all LEAs offer all programs. Therefore, students may be constrained in their choice of which Advanced Opportunities program to pursue based on the school district or charter school they attend.

According to the SDE's annual Advanced Opportunities Program report, 27,920 students enrolled in dual credit courses out of the 37,497 total students who participated in the Advanced Opportunities program.[7] Furthermore, 88% of the dual credits attempted (189,562 out of 215,815) were attempted at Idaho's public postsecondary institutions.[8]

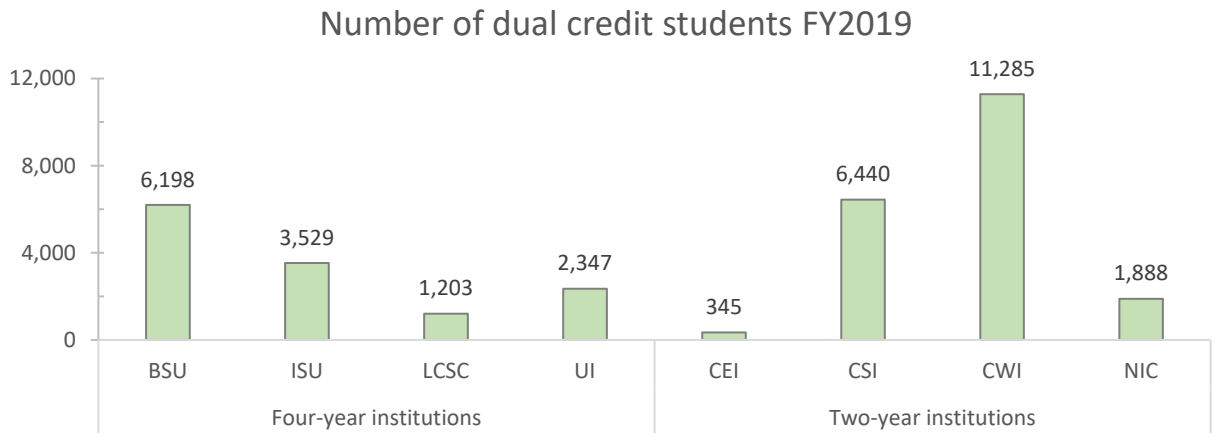
The data used in this analysis includes dual credits earned through the Advanced Opportunities program as well as dual credits earned by Idaho secondary students which were not paid for out of the student's Advanced Opportunities funds.

[4] A z-test is used instead of a t-test because the differences between groups are differences in proportions (such as the proportion female or the proportion who go on to college).
[5] Programs that constitute Advanced Opportunities are identified in Section 33-4602, Idaho Code.
[6] Pursuant to IDAPA 08.0203.106 as defined in IDAPA 08.0203.007.
[7] Advanced Opportunities, Annual Totals FY 19, https://www.sde.idaho.gov/student-engagement/advanced-ops/files/reporting/FY2019-Advanced-Opportunities-Program-Totals.pdf, downloaded December 19, 2019.
[8] Ibid.

Dual Credit in FY2019

Figure 1 shows the number of students who earned dual credits at each institution in FY2019.[9] More students earned dual credits at two-year institutions than at four-year institutions (19,958 at two-year institutions versus 13,277 at four-year institutions), and the most students earned dual credits at the College of Western Idaho, specifically. Of the four-year institutions, Boise State University had the most dual credit earners.

Figure 1: Number of Idaho students who earned dual credit at each institution, FY2019 (duplicated headcount)



In FY2019, there were 184,924 dual credits earned at Idaho's public postsecondary institutions (see Figure 2). Consistent with the fact that they serve the majority of dual credit students, two-year postsecondary institutions awarded the majority of dual credits (students earned 116,767 dual credits at two-year institutions and 68,157 at four-year institutions). The College of Western Idaho alone accounted for one-third of the total dual credits earned in FY2019.

Most of the dual credits earned in FY2019 were academic dual credits (see Figures 3 and 4). Approximately 96 percent of dual credits earned were academic. Two-year institutions awarded the most academic dual credits and career technical dual credits. While the College of Western Idaho provided the most academic dual credits across all institutions, it provided the fewest career technical dual credits across institutions that provided them. The College of Southern Idaho and North Idaho College provided the most earned career technical dual credits. Those two institutions accounted for two-thirds of the career technical dual credits earned in FY2019.

[9] Students may earn dual credits at more than one institution. Therefore, aggregating students across institutions will overstate the number of unique students who earned dual credits.

Figure 2: Number of total dual credits earned by institution, FY2019

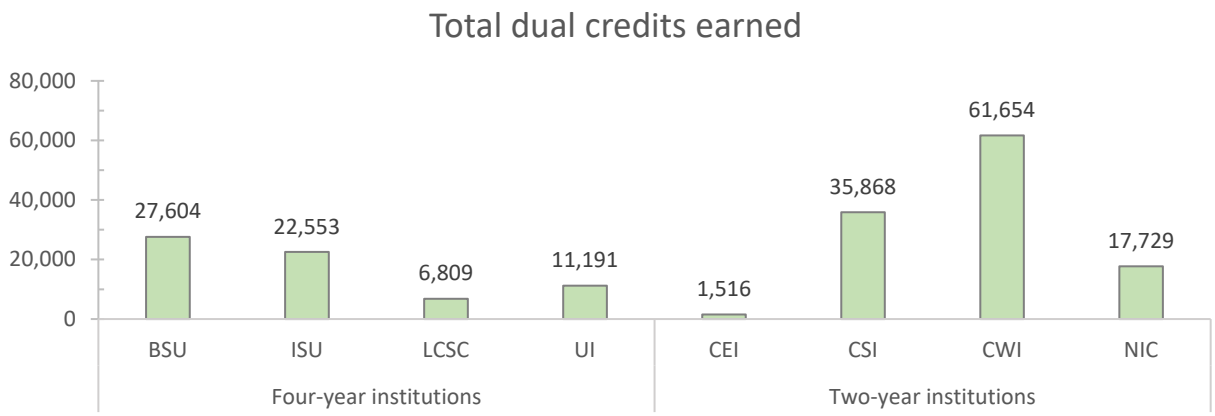


Figure 3: Number of academic dual credits earned by institution, FY2019

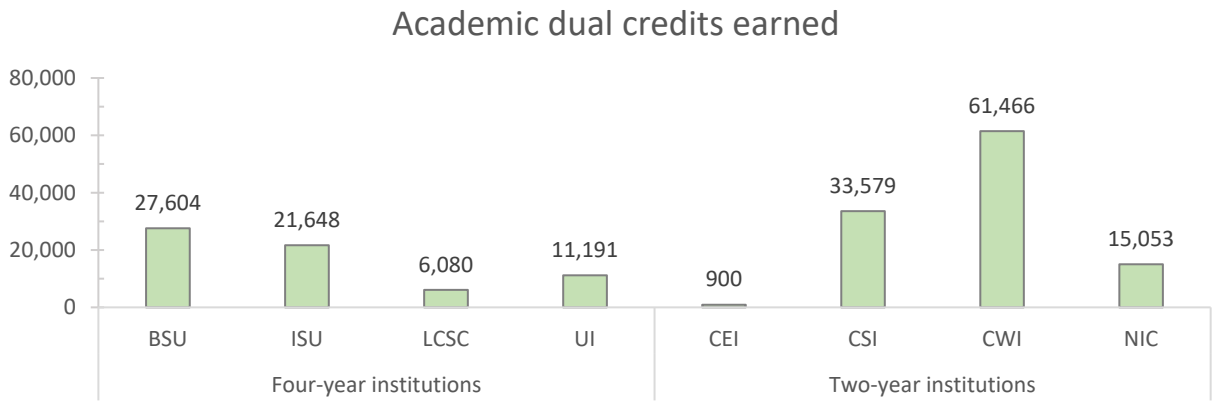
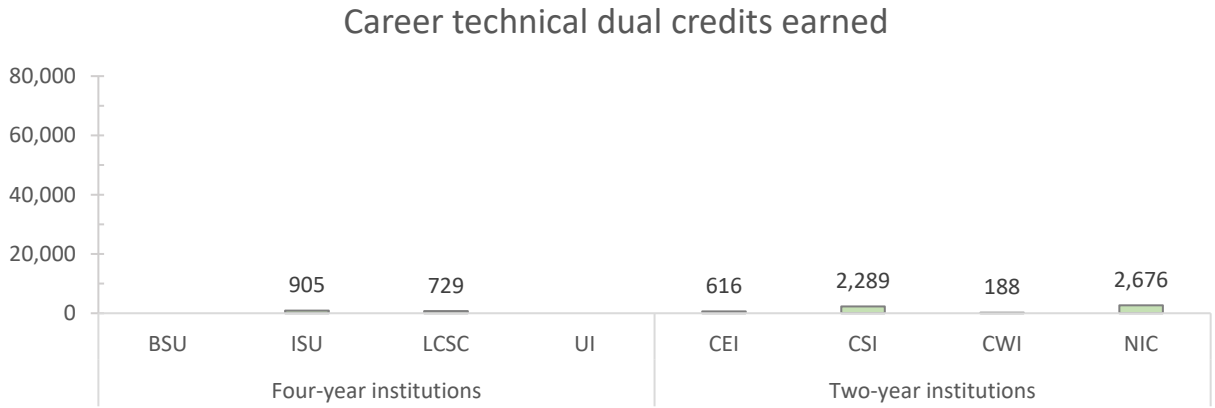


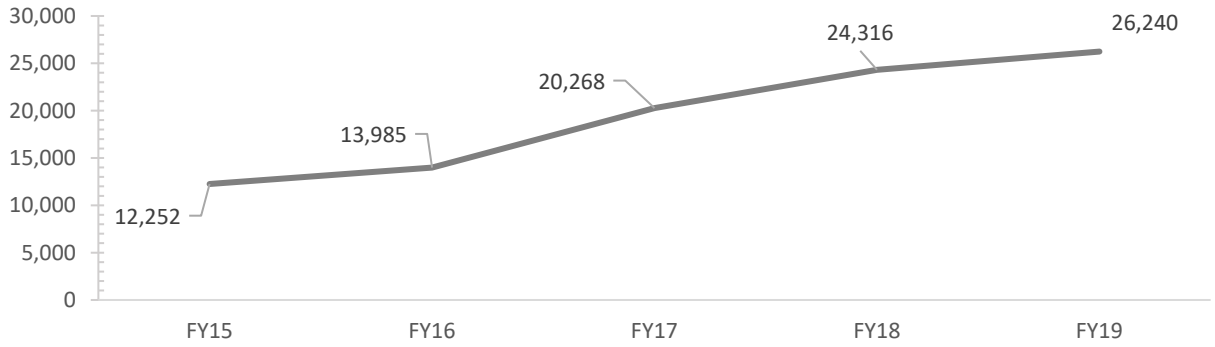
Figure 4: Number of career technical dual credits earned by institution, FY2019



Growth in Dual Credit

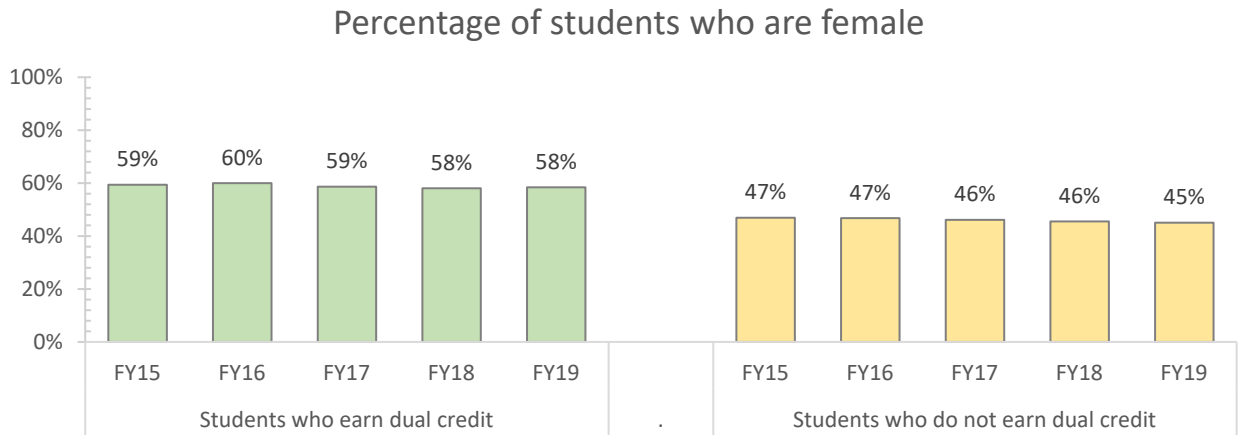
Since FY2015, the number of students participating in dual credit has more than doubled (see Figure 5). This represents the unique (i.e. unduplicated) student count across institutions (the sum of students served by each institution as shown in Figure 1 includes students who earn credits at more than one institution). The increase has been most pronounced since the implementation of the Advanced Opportunities program in FY2017.

Figure 5: Number of Idaho secondary students participating in dual credit at Idaho's postsecondary institutions, FY2015 through FY2019 (unique headcount)



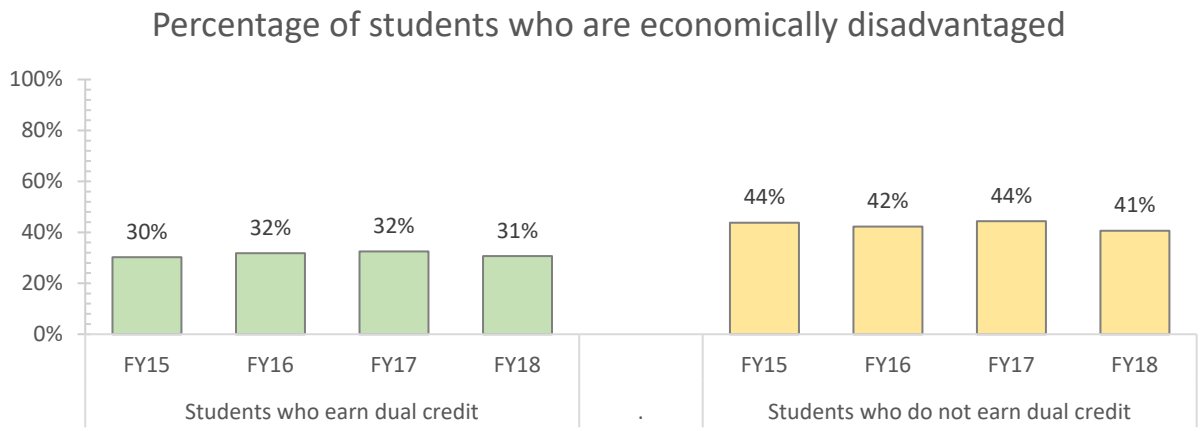
With regards to several demographic characteristics, students who earn dual credits consistently differ from students who do not earn dual credit. Dual credit students are more likely to be female than students who do not earn dual credits (see Figure 6). Dual credit students are also less likely to be economically disadvantaged than students who do not earn dual credit (see Figure 7).[10]

Figure 6: Percentage of dual credit students who are female compared to students who do not earn dual credit, FY2015 through FY2019



[10] The differences between the dual credit population and the non-dual credit population is statistically significant for both gender as well as economic disadvantage at the 0.001 level in every year.

Figure 7: Percentage of dual credit students who are economically disadvantaged compared to students who do not earn dual credit, FY2015 through FY2019



In terms of race and ethnicity, dual credit students are more likely to be white and Asian and less likely to be Hispanic, black, or American Indian than students who do not earn dual credit (see Figure 8 and Table 1).[11] Dual credit students are about as likely to be Hawaiian/Pacific Islander and multiple races as students who do not earn dual credit.[12]

[11] The difference between the dual credit population and the underlying population is statistically significant at the 0.001 level between FY2017 and FY2019 for Asian students and is statistically significant at the 0.001 level for all years for white students, Hispanic students, black students, and American Indian students.

[12] The difference between the dual credit population and the underlying population is statistically significant at the 0.001 level for only a few years.

Figure 8: Percentage of dual credit students by race/ethnicity compared to students who do not earn dual credit, FY2015 through FY2019

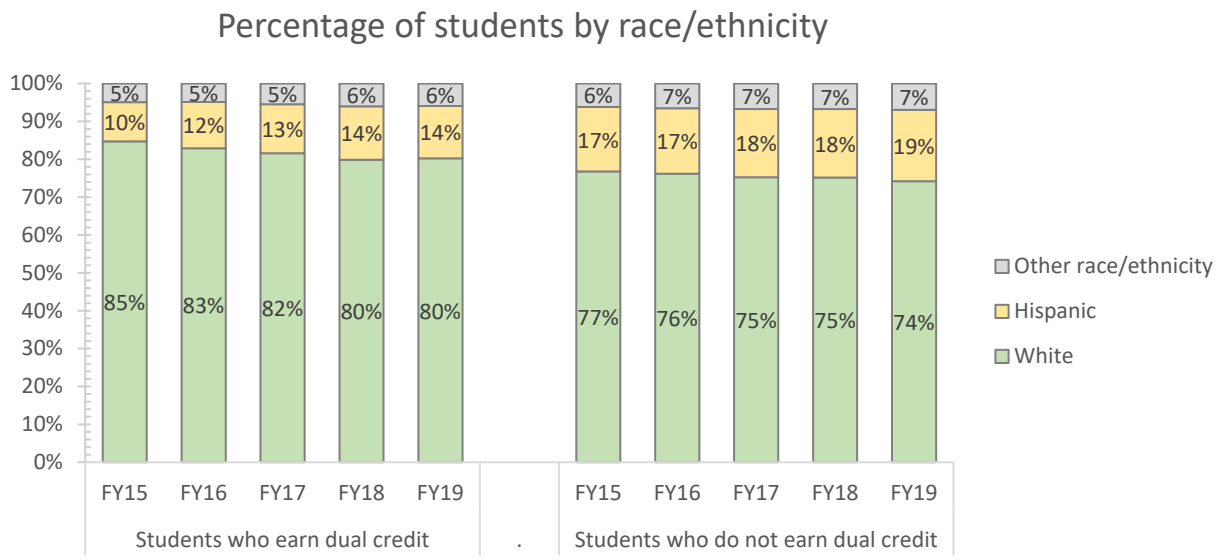
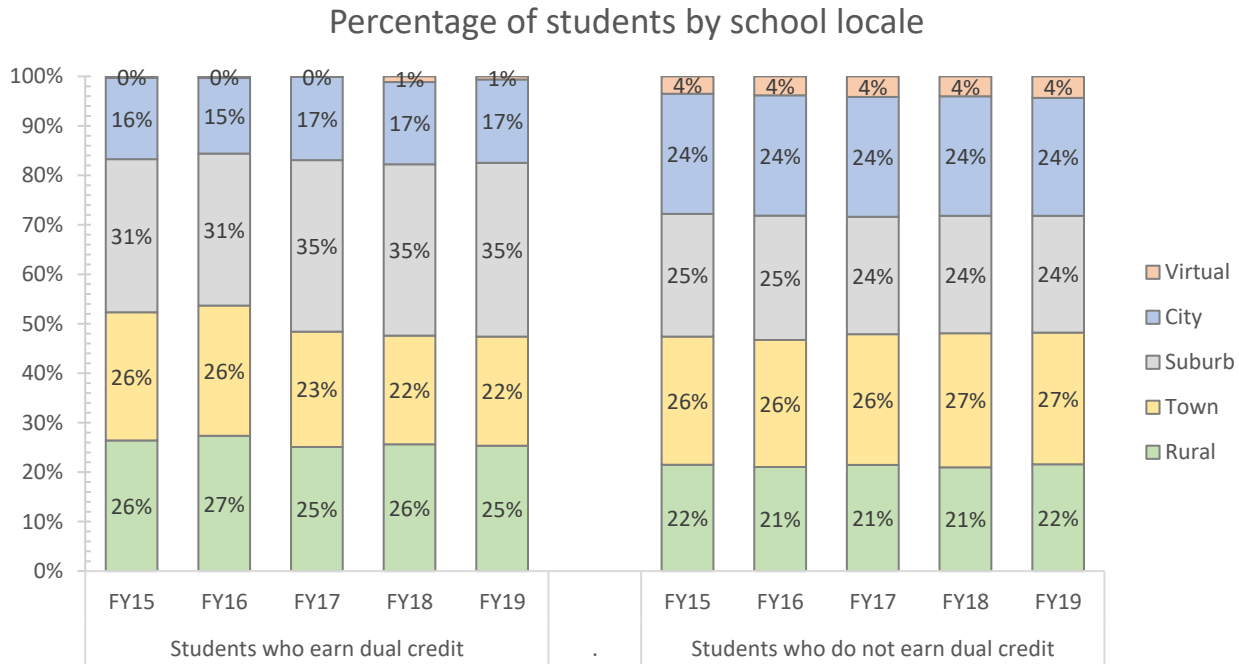


Table 1: Percentage of dual credit students by race/ethnicity compared to students who do not earn dual credit, FY2015 through FY2019

	FY2015	FY2016	FY2017	FY2018	FY2019
Students who earned dual credit					
White	84.7%	82.9%	81.6%	79.9%	80.2%
Hispanic	10.3%	12.2%	12.9%	14.1%	13.8%
Other race/ethnicity					
Multiple races	1.9%	2.0%	2.0%	2.3%	2.4%
Asian	1.4%	1.4%	1.8%	1.9%	1.8%
Black	0.9%	0.6%	0.7%	0.8%	0.8%
American Indian	0.6%	0.6%	0.6%	0.8%	0.6%
Hawaiian/Pacific Islander	0.3%	0.2%	0.3%	0.3%	0.3%
Students who did not earn dual credit					
White	76.8%	76.2%	75.3%	75.2%	74.2%
Hispanic	17.0%	17.3%	18.0%	18.1%	18.8%
Other race/ethnicity					
Multiple races	2.0%	2.3%	2.4%	2.5%	2.6%
Asian	1.4%	1.4%	1.4%	1.3%	1.2%
Black	1.2%	1.3%	1.3%	1.3%	1.4%
American Indian	1.2%	1.2%	1.2%	1.2%	1.3%
Hawaiian/Pacific Islander	0.3%	0.4%	0.4%	0.4%	0.4%

Finally, dual credit students are more likely to attend schools in rural and suburb locales than students who do not earn dual credit (see Figure 9).[13] Dual credit students are less likely than students who do not earn dual credits to attend schools in town, city, and virtual (i.e. online) locales.[14] See the appendix for a more detailed breakdown of school locales.

Figure 9: Percentage of dual credit students by school locales compared to students who do not earn dual credit, FY2015 through FY2019



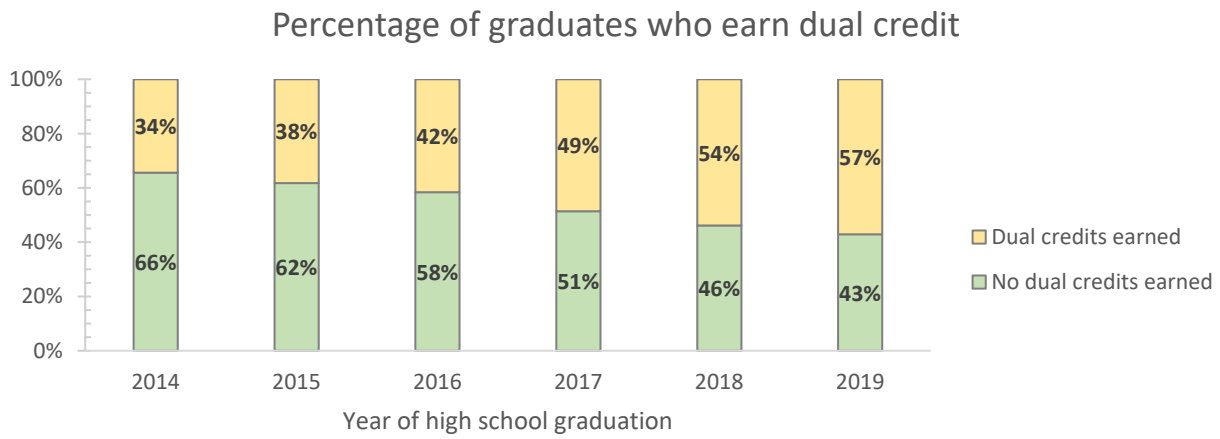
[13] The difference between the dual credit population and the non-dual credit population is statistically significant at the 0.001 level for all years for rural and suburb locales.

[14] The difference between the dual credit population and the non-dual credit population is statistically significant at the 0.001 level for all years for city locales and virtual schools. It is statistically significant at the 0.001 level for FY2017 through FY2019 for town locales.

Outcomes for dual credit students

Over time, students have become more likely to graduate high school having earned at least some dual credits (see Figure 10). Approximately one-third of high school graduates in 2014 had earned dual credits compared to 57 percent of graduates in 2019.

Figure 10: Percentage of high school graduates who earned dual credits and those who did not earn dual credits, 2014 through 2019



Most high school students graduating with dual credits earn 9 or fewer dual credits. The percentage of graduates who earn between 10 and 19 dual credits has doubled since 2014 while the percentage of graduates who earn 20 or more dual credits has tripled since 2014. The percentage of graduates who earn an Associate degree has gone from 0 percent to 1 percent since 2014 (see Figure 11 and Table 2).

Figure 11: Percentage of high school graduates who earned dual credits by number of dual credits earned, 2014 through 2019

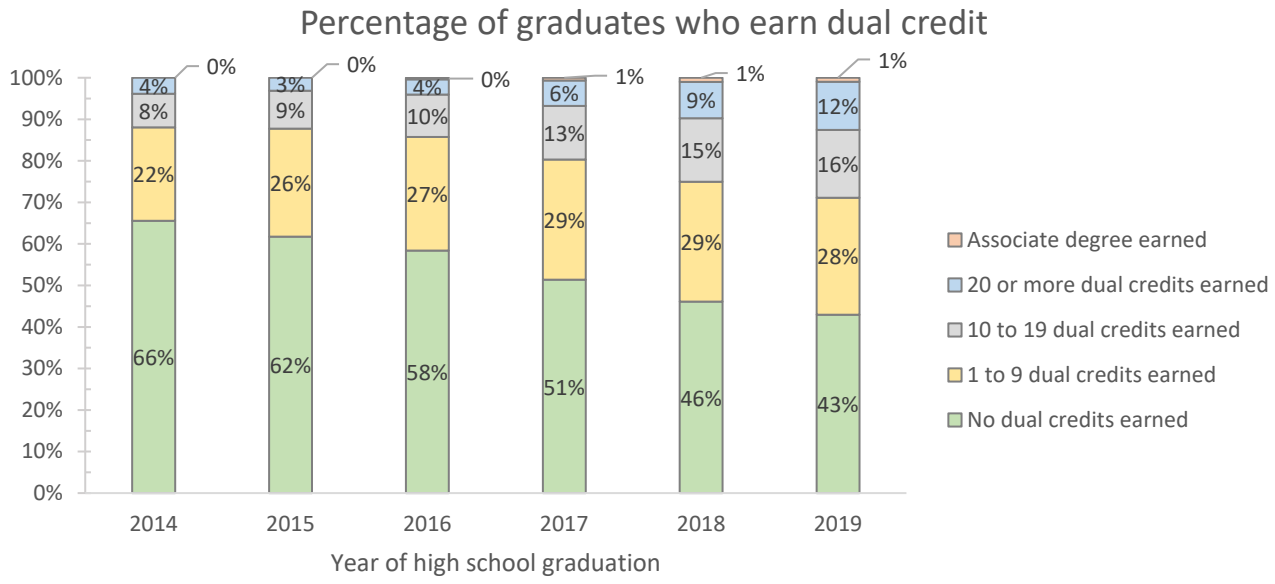


Table 2: High school graduates by category of dual credits earned, 2014 through 2019

	No dual credits earned	1 to 9 dual credits earned	10 to 19 dual credits earned	20 or more dual credits earned	Associate degree earned
Percentage of graduates					
2014	66%	22%	8%	4%	NA
2015	62%	26%	9%	3%	NA
2016	58%	27%	10%	4%	0%
2017	51%	29%	13%	6%	1%
2018	46%	29%	15%	9%	1%
2019	43%	28%	16%	12%	1%
Number of graduates					
2014	11,749	4,026	1,453	688	NA
2015	10,540	4,439	1,560	531	NA
2016	10,178	4,773	1,780	634	69
2017	9,112	5,130	2,289	1,089	114
2018	8,441	5,274	2,799	1,602	184
2019	8,278	5,436	3,143	2,237	188

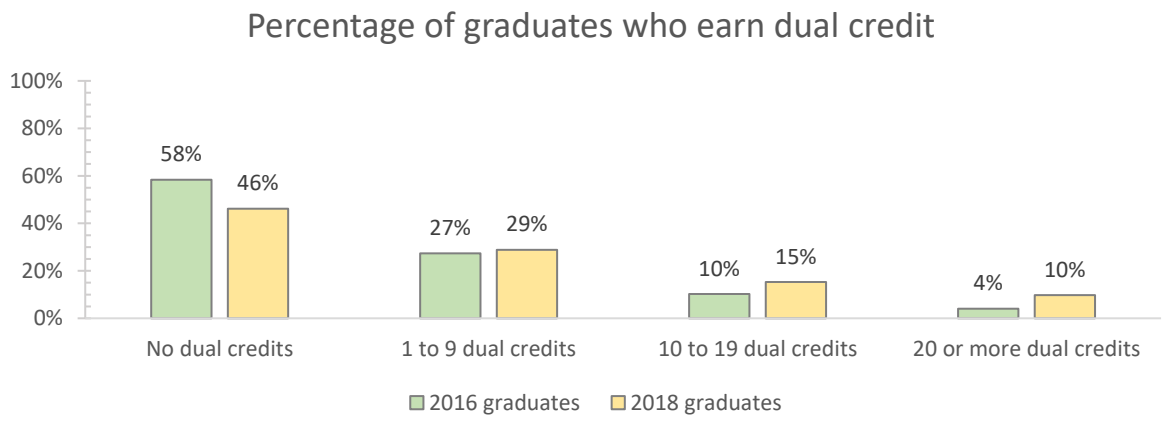
Note: The year refers to the year of high school graduation. The categories of dual credits earned are mutually exclusive for the years 2016 through 2019; specifically, students who earn an Associate degree are not included in the "20 or more dual credits earned" group. For previous years, students who earn an Associate degree would be included in the "20 or more dual credits earned" group.

Next, we compare the outcomes of 2016 graduates (who completed high school just prior to the implementation of the Advanced Opportunities program) to the outcomes of 2018 graduates (who have the most recent outcomes data). In Figure 12, we reference the information shown in Figure 11 but only for those two graduating classes. We make one adjustment in our groupings of dual credit earners. In the following analysis we count those students who earned an Associate degree among those who earned 20 or more dual credits.

Between 2016 and 2018, there was an increase in the percentage of high school graduates who earned some dual credits.[15] The largest increase were for those students who earned 10 to 19 credits and for those who earned 20 or more dual credits.

[15] The difference in the percentage of students in each group between 2016 and 2018 is statistically significant at the 0.01 level.

Figure 12: Percentage of high school graduates by number of dual credits earned, 2016 and 2018



Students who earn dual credit may have many different educational outcomes than students who do not earn dual credit. In this analysis we focus on three; specifically, go on rates, retention rates, and the rate at which students earn a postsecondary degree.

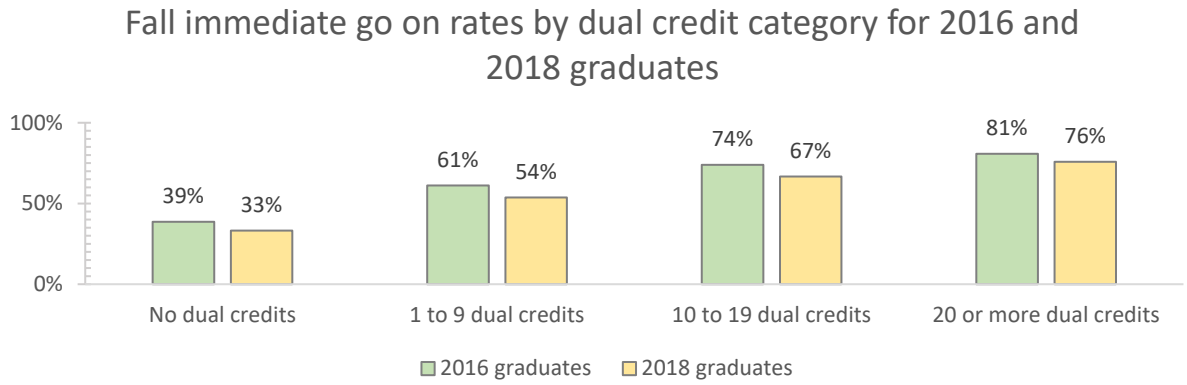
The first outcome of interest is the percentage of students who attend a postsecondary institution the fall immediately after high school graduation (fall immediate go on rates). In comparing fall immediate go on rates by dual credits earned, two trends stand out (see Figure 13). First, graduates who earned more dual credits during high school are more likely to go on to college than graduates who earned fewer or no dual credits. Second, there has been a general decline in fall immediate go on rates across every group of dual credit earners between 2016 and 2018.[16]

In interpreting these results, it is important to remember that more students are earning dual credits. It is possible that the type of student who earns dual credit has changed over time.[17] If this is true, then the outcomes of those who earned dual credits may also change. For instance, if students who are less likely to go on to college (for other reasons) are now taking dual credits then the go on rates for all students who take dual credits may decline. This may simply be a result of making dual credit available to all rather than to the subset of students who are able to pay for it themselves.

[16] The differences across years for each group of dual credits earned and the differences within years for each group of dual credits earned are all statistically significant at the 0.01 level.

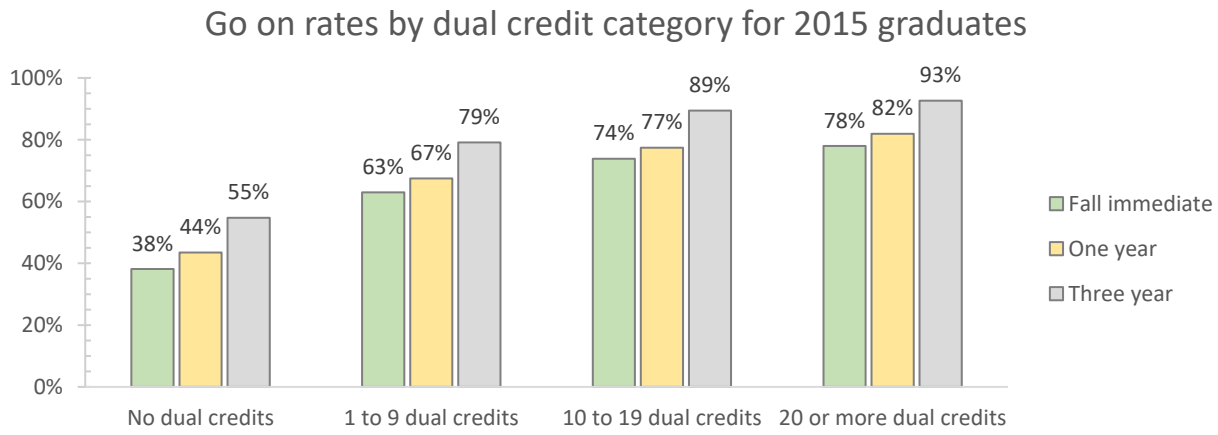
[17] Future research will focus on documenting whether or not there has been a change in the academic achievement of students who earn dual credit since the implementation of the Advanced Opportunities program.

Figure 13: Fall immediate go on rates by number of dual credits earned at high school graduation, 2016 and 2018 graduates



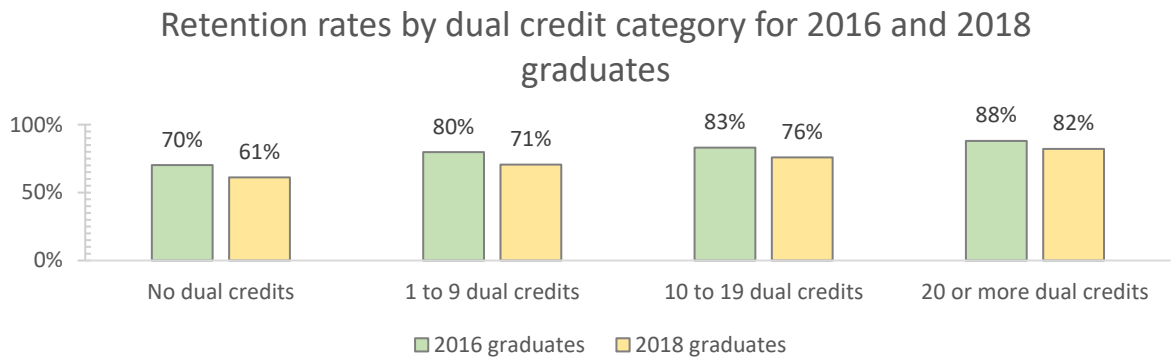
In Figure 14, we show fall immediate, one-year, and three-year go on rates for each category of dual credits earned for 2015 graduates. We show this for the latest year in which we have full data (one-year and three-year go on rates for other years are reported in the appendix). Go on rates are lowest for those students who do not earn dual credit and highest for those students who earned 20 or more dual credits. As more time passes since high school graduation, go on rates increase for all categories of dual credit earners.

Figure 14: Fall immediate, one-year, and three-year go-on rates by number of dual credits earned at high school graduation, 2015 graduates



Another outcome of interest is retention from the first year of college to the second year of college. These results mirror the results on go on rates. First, graduates who earned more dual credits during high school are more likely to be retained in the second year than graduates who earned fewer or no dual credits. Second, there has been a general decline in the retention rates across every group of dual credit earners between 2016 and 2018.[18]

Figure 15: Second year retention rates by number of dual credits earned at high school graduation for those who go on in the fall after high school graduation, 2016 and 2018 graduates



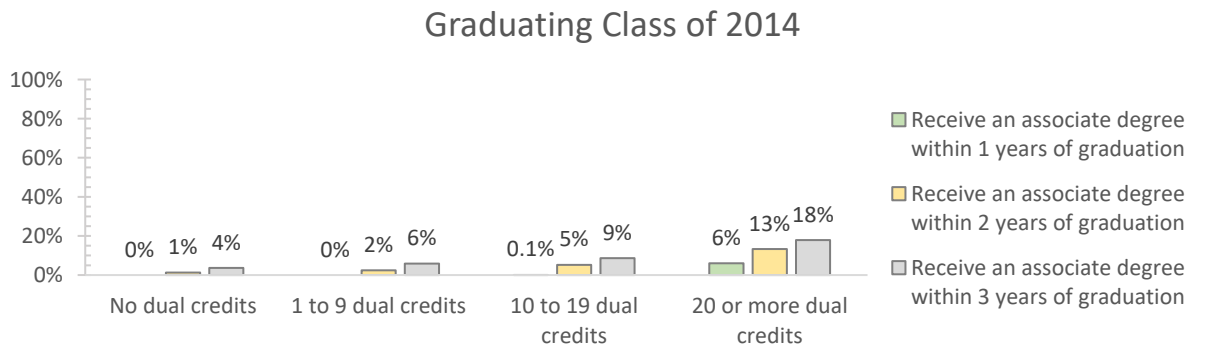
The final outcome of interest is whether or not students who earn more dual credits are more likely to graduate in less time than students who earned fewer or no dual credits. Results are shown for students who immediately attended college in the fall after their high school graduation.

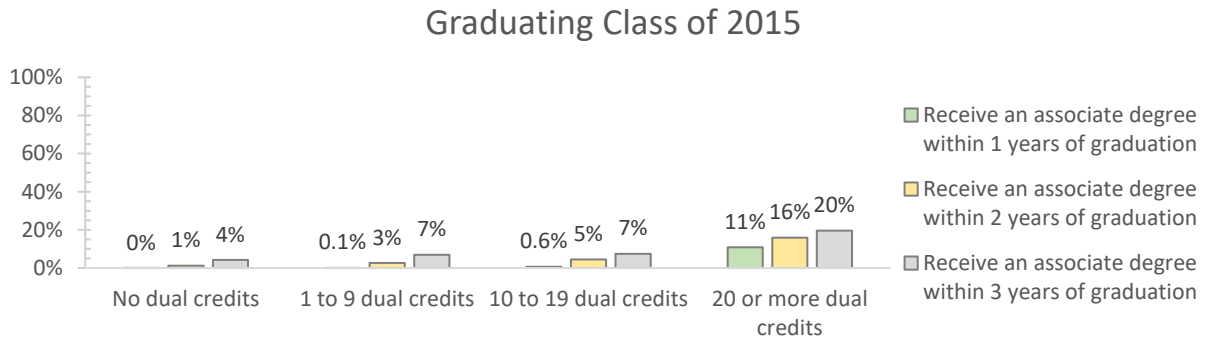
Students who earn 20 or more dual credits are *much more likely* to graduate with an Associate degree within one year, two years, or three years after starting college than students who earned fewer or no dual credits (see Figure 16). Students who earn 20 or more dual credits are also much more likely to graduate with a Bachelor degree in three or four years than students who earned fewer or no dual credits (see Figure 17).[19]

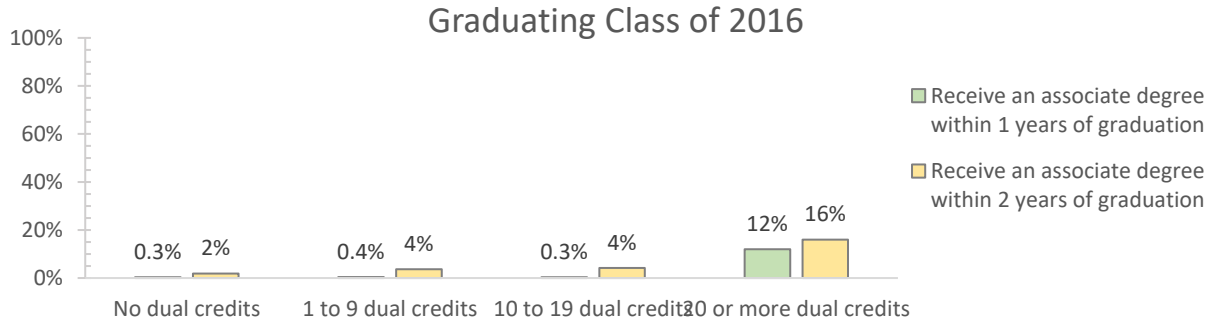
[18] The differences across years for each group of dual credits earned and the differences within years for each group of dual credits earned are all statistically significant at the 0.01 level.

[19] Generally, for all years, the differences in outcomes for the students who earn 20 or more dual credits are statistically significant when compared to the other groups for earning an Associate degree within one year. The differences in outcomes for all groups are generally statistically significant for earning an Associate degree within two or three years as well as earning a Bachelor degree within three or four years.

Figure 16: Percentage of students who go on in the fall after high school graduation who earn an Associate degree within one year, within two years, and within three years







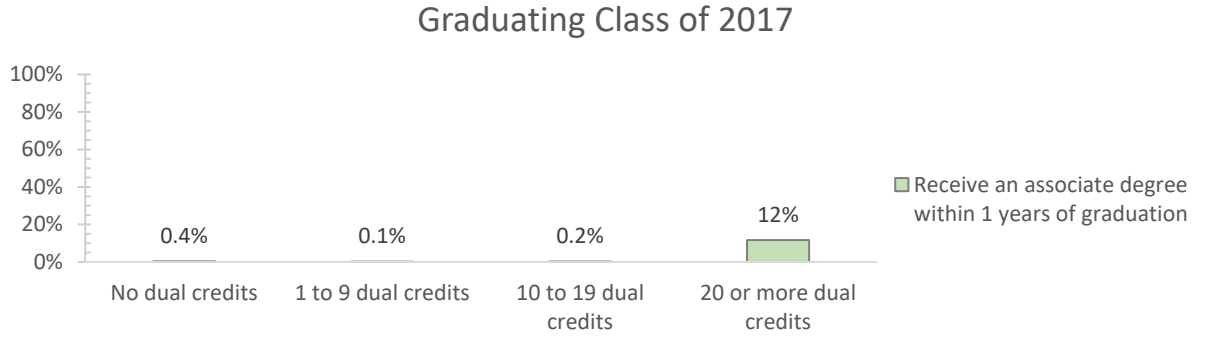
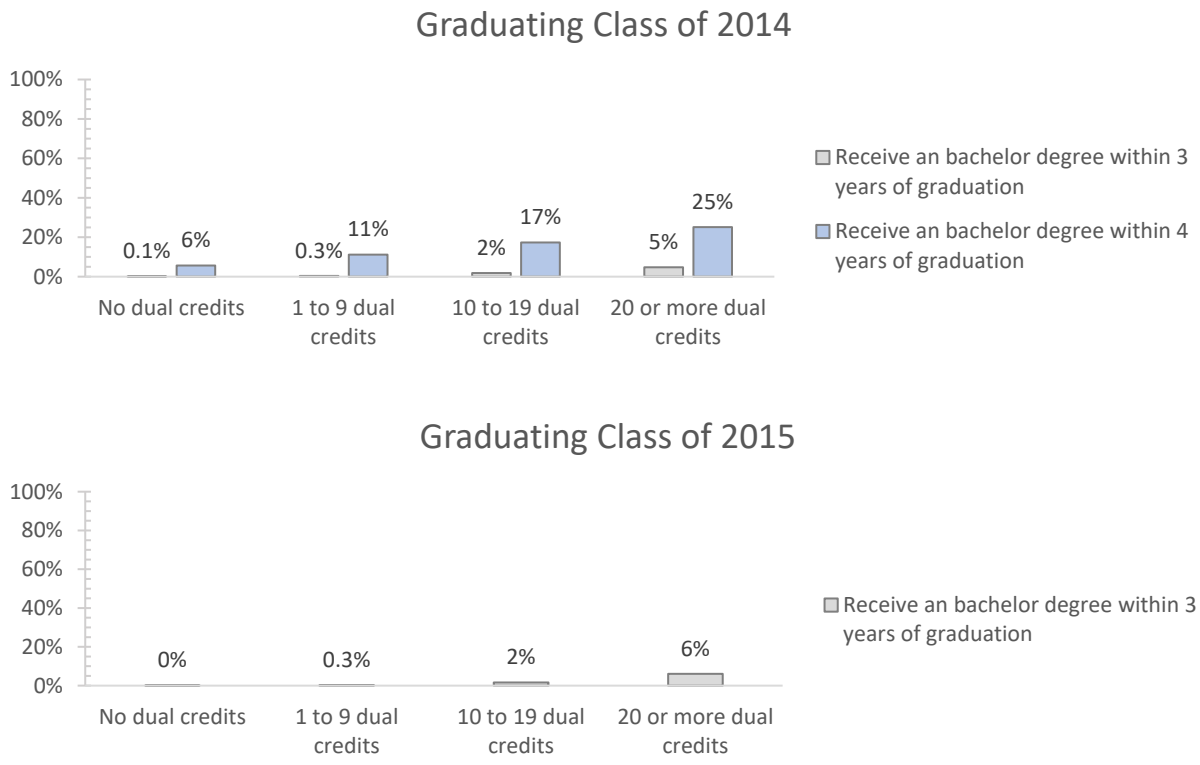


Figure 17: Percentage of students who go on in the fall after high school graduation who earn a Bachelor degree within three years and within four years



Conclusions

There has been an increase in the number of students earning dual credits at Idaho's public postsecondary institutions. However, the demographics of students who earn dual credits differ from students who do not earn dual credit. Dual credit students are more likely to be female than students who do not earn dual credit. They are also more likely to be Asian or White. Dual credit students are less likely to be economically disadvantaged and less likely to be American Indian, black, or Hispanic than students who do not earn dual credit.

Dual credit students are more likely to attend school in rural and suburb locales than students who do not earn dual credit. Dual credit students are less likely to attend schools in town and city locales as well as virtual schools than students who do not earn dual credit.

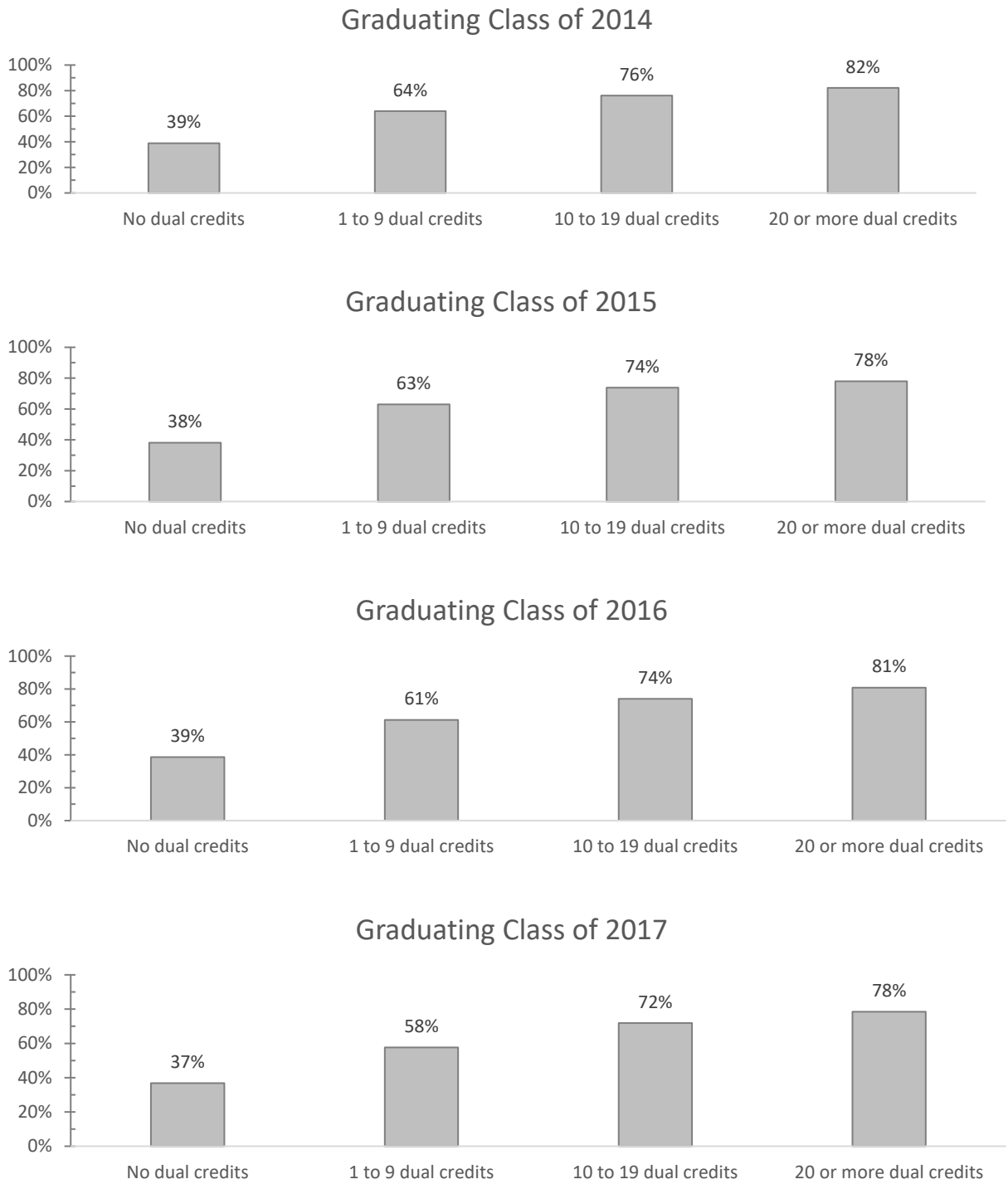
Students who earn more dual credits during high school are more likely to go on to college than students who earn fewer or no dual credits. They are also more likely to be retained and more likely to graduate with an Associate degree or Bachelor degree within several years after high school.

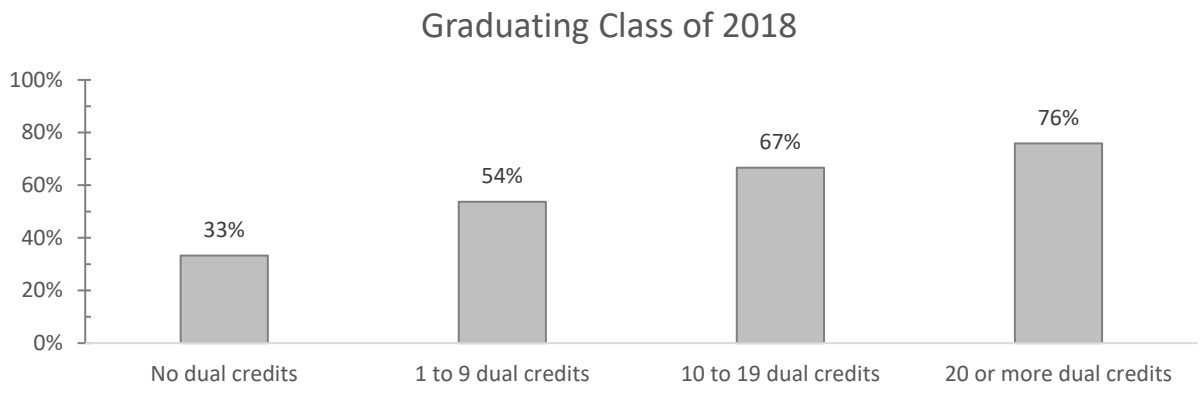
Appendix

Percentage of students by school district sub-locale

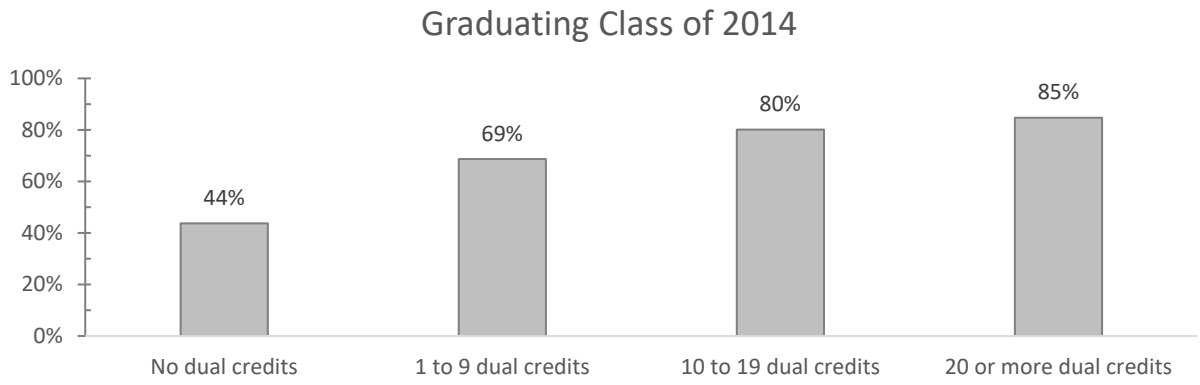
		FY2015	FY2016	FY2017	FY2018	FY2019
Percentage of students who earn dual credit by school district sub-locale						
City	City: Midsize	5%	4%	6%	5%	5%
	City: Small	11%	11%	10%	11%	12%
Suburb	Suburb: Large	20%	19%	22%	21%	22%
	Suburb: Midsize	9%	9%	8%	9%	8%
	Suburb: Small	3%	3%	5%	5%	5%
Town	Town: Distant	9%	9%	9%	8%	8%
	Town: Fringe	3%	3%	3%	3%	3%
	Town: Remote	14%	14%	12%	11%	11%
Rural	Rural: Distant	7%	8%	7%	6%	7%
	Rural: Fringe	14%	15%	15%	16%	15%
	Rural: Remote	5%	5%	3%	4%	4%
Virtual		0%	0%	0%	1%	1%
Percentage of students who do not earn dual credit by school district sub-locale						
City	City: Midsize	10%	10%	10%	10%	10%
	City: Small	14%	14%	14%	14%	13%
Suburb	Suburb: Large	12%	12%	11%	11%	11%
	Suburb: Midsize	7%	7%	7%	7%	7%
	Suburb: Small	6%	6%	6%	6%	6%
Town	Town: Distant	12%	12%	12%	12%	12%
	Town: Fringe	2%	2%	2%	3%	2%
	Town: Remote	12%	12%	12%	13%	12%
Rural	Rural: Distant	7%	6%	7%	6%	6%
	Rural: Fringe	11%	11%	11%	10%	11%
	Rural: Remote	4%	4%	4%	4%	4%
Virtual		4%	4%	4%	4%	4%

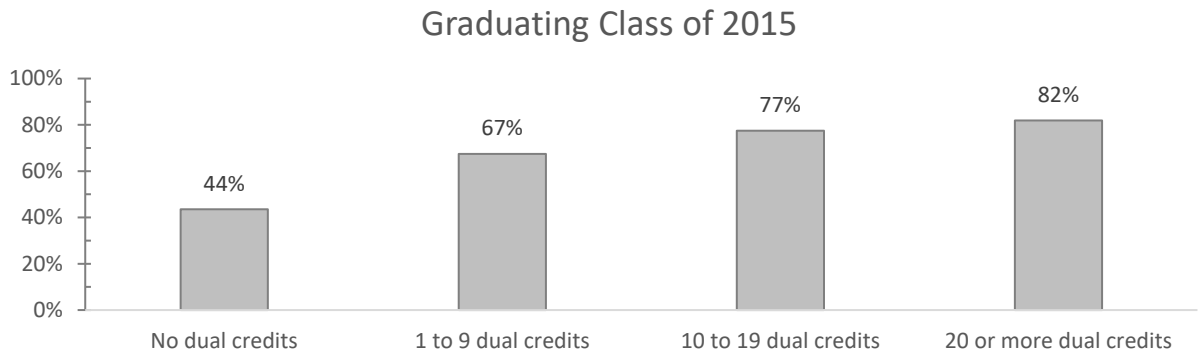
Fall immediate go on rates by dual credits earned and year of graduation

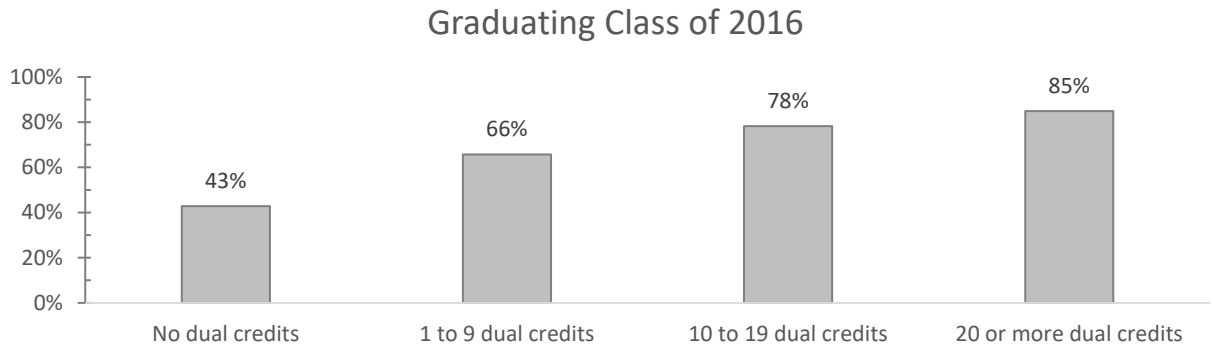


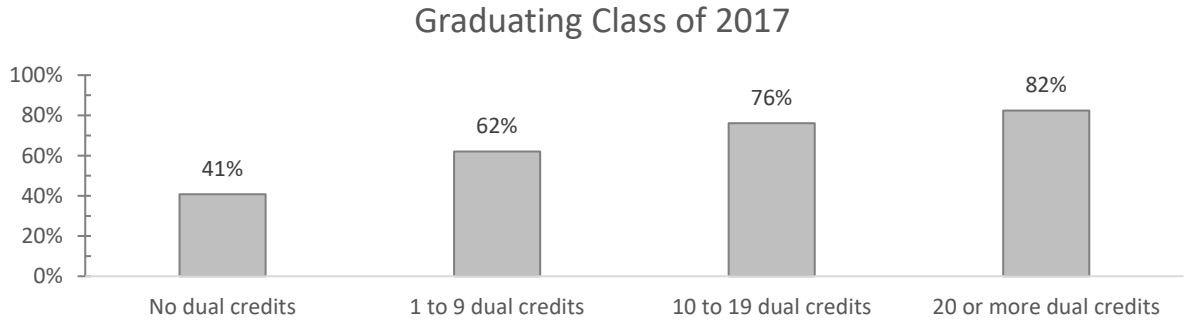

Graduating Class of 2018
100%
80%
60%
40%
20%
0%
33%
54%
67%
76%
No dual credits
1 to 9 dual credits
10 to 19 dual credits
20 or more dual credits

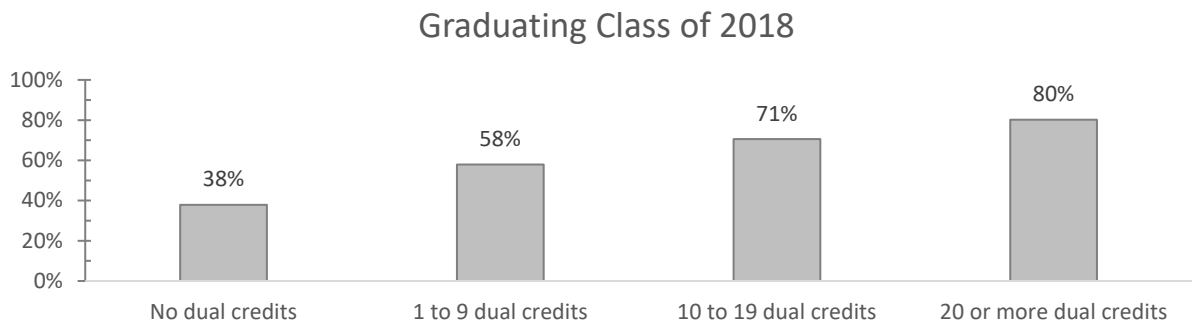
One year go on rates by dual credits earned and year of graduation



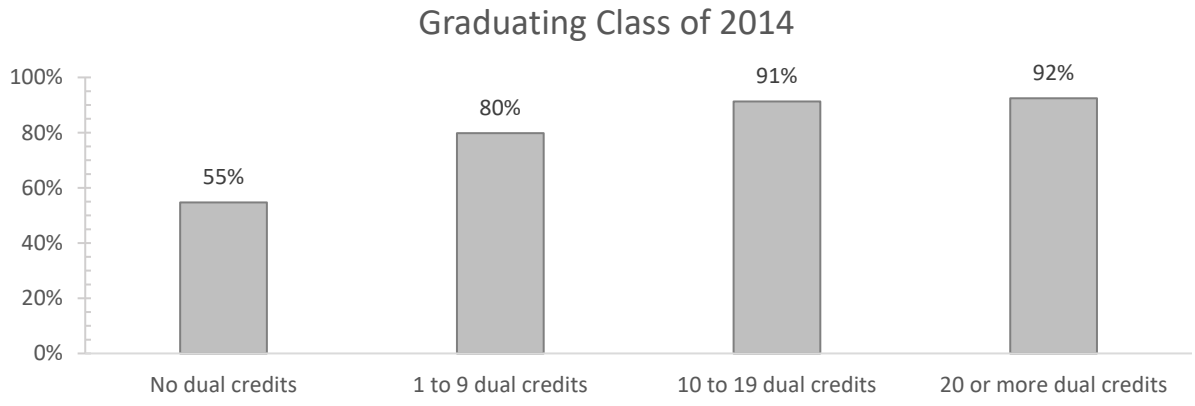


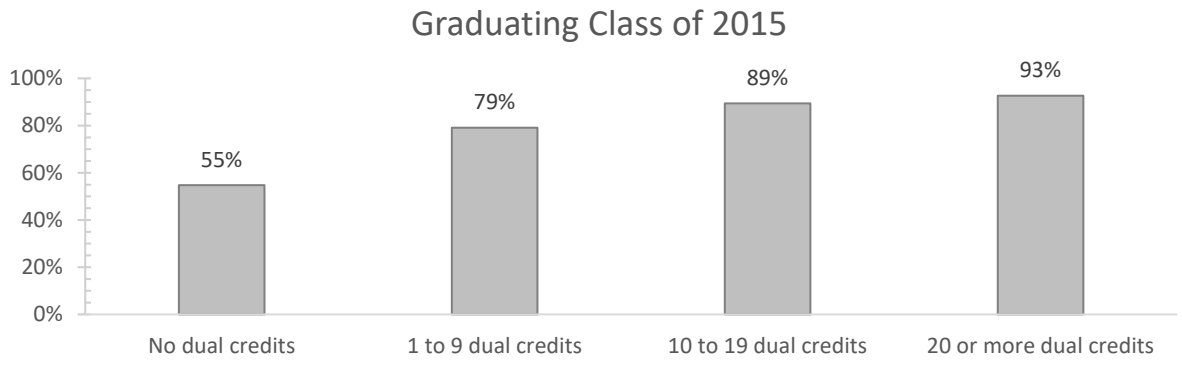




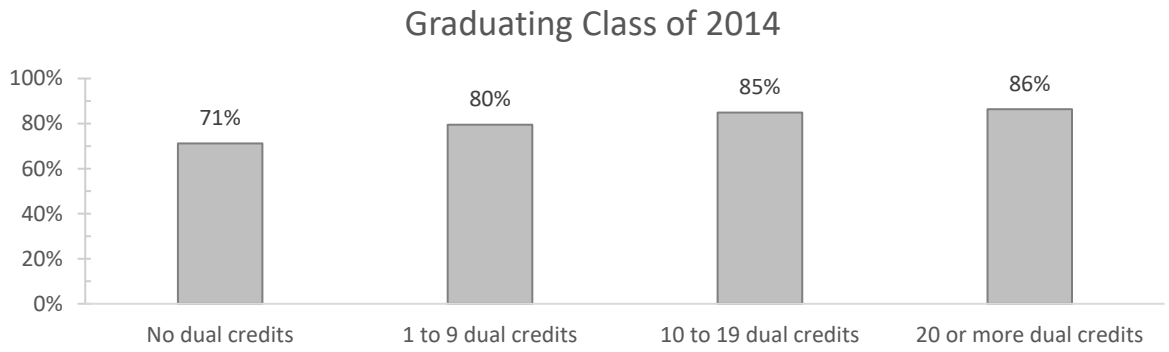


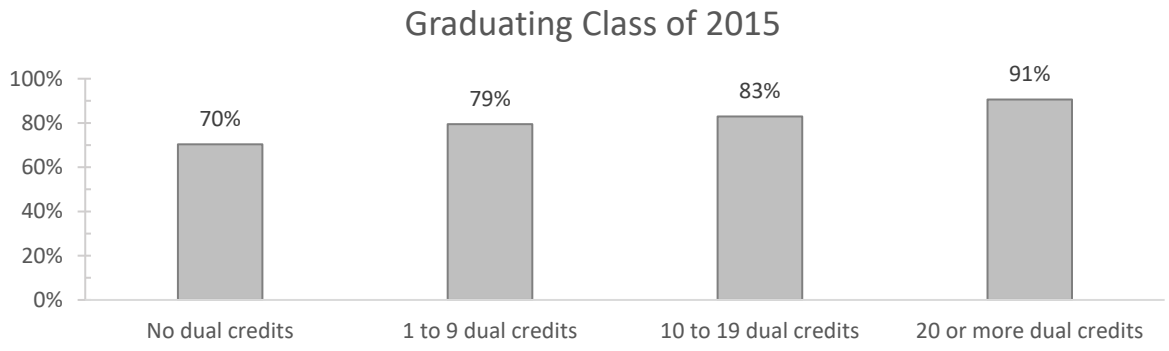
Three year go on rates by dual credits earned and year of graduation

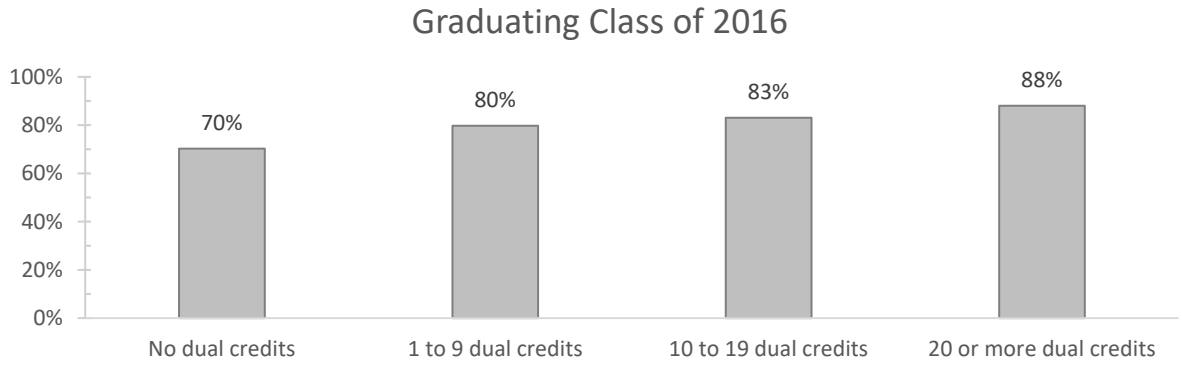


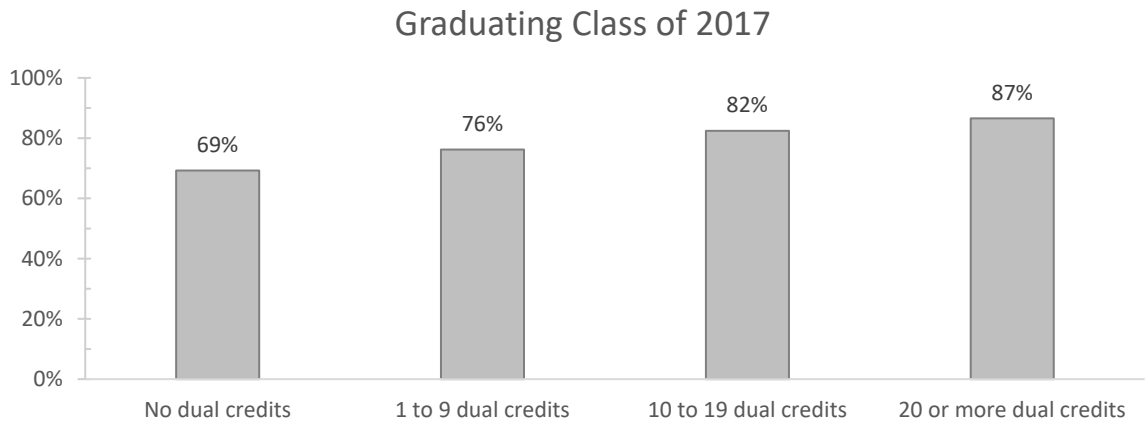


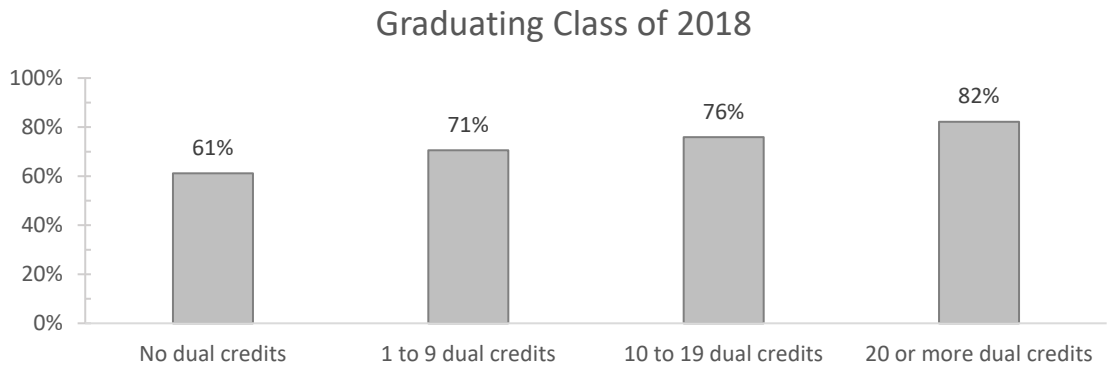
Percentage of students who go on in the fall immediately after high school graduation and are retained in the second year by dual credits earned and year of graduation








Graduating Class of 2017
100%
80%
60%
40%
20%
0%
69%
76%
82%
87%
No dual credits
1 to 9 dual credits
10 to 19 dual credits
20 or more dual credits


Graduating Class of 2018
100%
80%
60%
40%
20%
0%
61%
71%
76%
82%
No dual credits
1 to 9 dual credits
10 to 19 dual credits
20 or more dual credits