



CAREER AND TECHNICAL EDUCATION IN WASHINGTON STATE

Spotlight on Access to College Credit Opportunities Through CTE

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In Washington state, many career and technical education (CTE) courses offer students the opportunity to earn college credit. These courses include options through Advanced Placement (AP), Cambridge International, CTE Dual Credit, College in the High School, and International Baccalaureate (IB).¹

This brief builds on findings from [“Career and Technical Education in Washington State: A Longitudinal Study of Student Access, Participation, and Outcomes.”](#) Here, we focus specifically on access to opportunities to earn college credit through CTE coursework, examining how the availability of these courses varies by course type, school characteristics, and CTE cluster.

For this analysis, we used the same school-level sample as the main report: all public schools in Washington, serving grades 9–12, where at least five students were enrolled in coursework during the school year. This included traditional high schools, alternative schools, reengagement schools, institutional education, special education schools, and Tribal schools.² Annually, the dataset included between 605 and 661 schools from the 2013–14 to 2023–24 school years. (See appendix A, tables A1 and A2 in the main report for more details.)

To assess students’ opportunities to earn college credit through CTE, we calculated the total number of unique CTE courses included in the course enrollment data³ for our sample and identified the percentage that offered any form of college credit. This included AP, Cambridge International, CTE Dual Credit, College in the High School, and IB. Running Start coursework, offered through Washington’s public colleges and universities, were not included in these high school level-analyses. We also disaggregated the percentage of CTE courses with an opportunity to earn college credit by school characteristics and CTE cluster.

FINDINGS

Opportunities to earn college credit through CTE have grown over time, and CTE Dual Credit is the most common course type

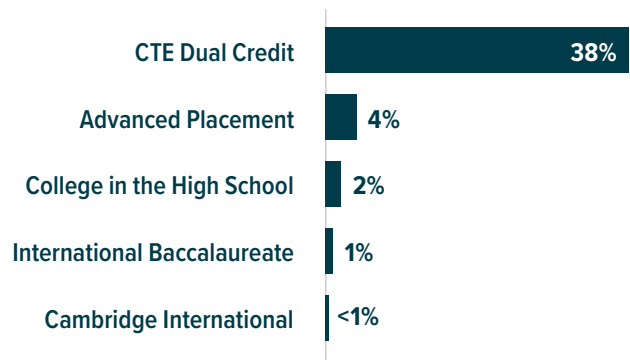
Between 2013–14 and 2023–24, the percentage of CTE courses with an opportunity to earn college credit increased from 36 to 43 percent. During this time, CTE Dual Credit remained the most common course type. In 2023–24, 38 percent of CTE courses were designated as CTE Dual Credit, compared to just 4 percent for AP and 2 percent for College in the High School. Given its prevalence, the remainder of this section focuses primarily on CTE Dual Credit courses.

What is CTE Dual Credit?

CTE Dual Credit courses offer high school students an opportunity to earn college credit through CTE coursework at their high school. These courses integrate both academic and technical skills and are designed to prepare students for entry into the workforce or further technical training. They are taught by high school instructors certified to teach college-level content in partnership with local community or technical colleges.

Figure 1. Most opportunities for earning college credit in CTE courses in 2023–24 were through CTE Dual Credit

The percentage of CTE courses classified as ...



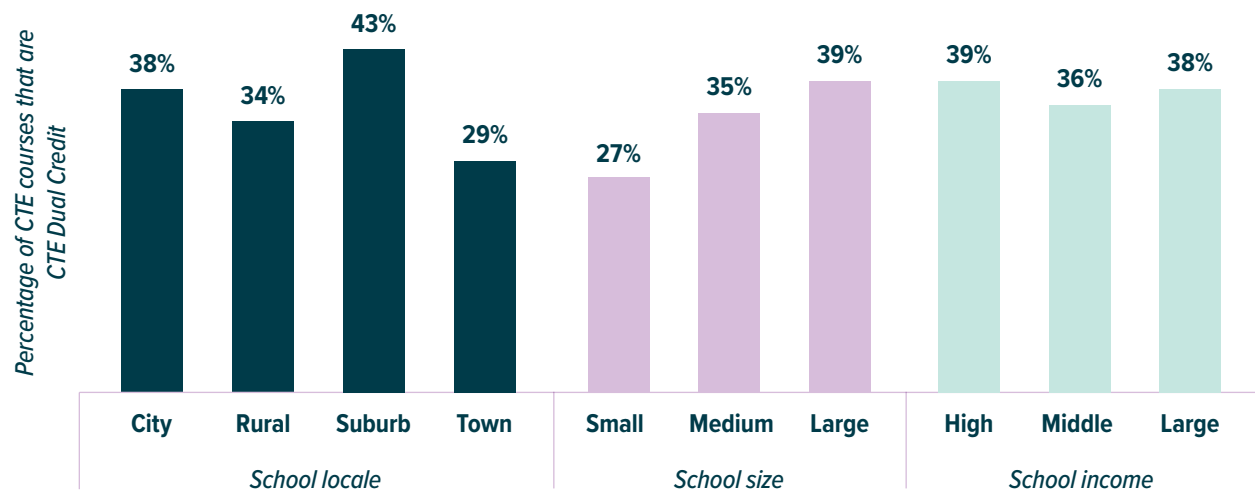
Note: These data represent 18,830 unique courses (as defined by their course ID) offered across 657 schools during the 2023–24 school year.

Source: Authors’ analysis of data from the Education Research and Data Center P20W Integrated Data System.

The opportunity to earn college credit through CTE Dual Credit varies by school locale and size

A smaller share of CTE courses were classified as CTE Dual Credit in rural and town schools (34% and 29%, respectively), compared to city and suburban schools (38% and 43%, respectively). Small schools had the lowest share of CTE Dual Credit courses (27%), while medium and large schools offered more (35% and 39%, respectively). These differences may be a function of whether schools have nearby colleges to partner with to offer college credit. Differences by school income level were minimal in 2023–24, with a similar share of CTE Dual Credit courses across high-, middle-, and low-income schools (figure 2).

Figure 2. There were notable differences in the percentage of CTE courses that were CTE Dual Credit by school locale and size in 2023–24, but not by income



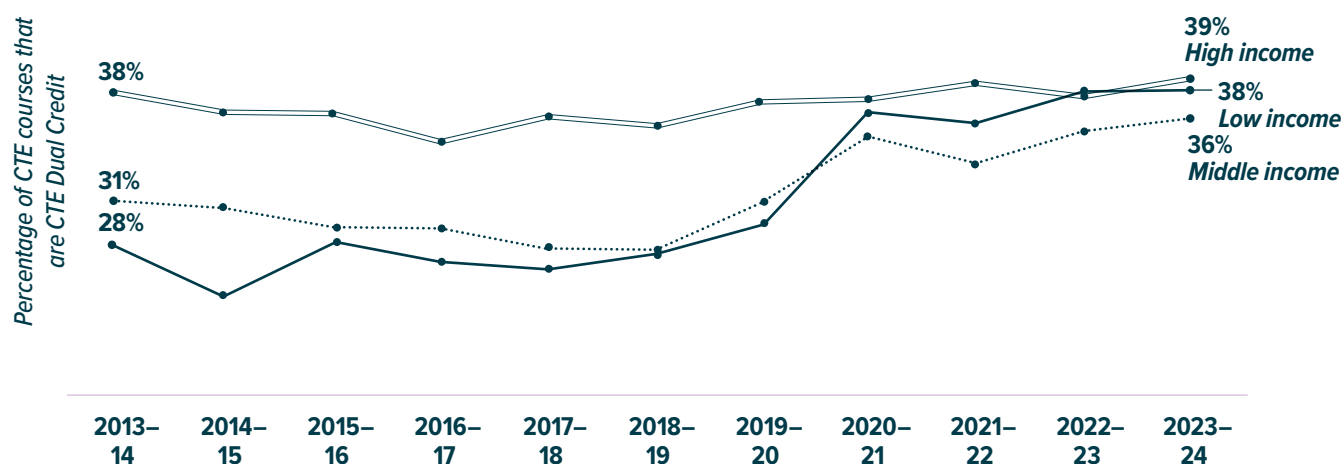
Note: School locale was defined using National Center for Education Statistics locale codes. School income categories were based on the percentage of students eligible for free or reduced-price lunch (FRPL). High-income schools are schools in the lowest third of percentage of students eligible for FRPL (0–42.36%). Middle-income schools are schools in the middle third of percentage of students eligible for FRPL (42.37–64.30%). Low-income schools are schools in the highest third of percentage of students eligible for FRPL (64.31–100%). Schools were classified as large (420–3,198 students), medium (85–419 students), or small (6–84 students) based on whether they were in the top, middle, or lowest third of enrollment size in 2023–24.

Source: Authors' analysis of data from the Education Research and Data Center P20W Integrated Data System.

Equity in access by school income has improved over time

Opportunities for students to earn college credit through CTE Dual Credit have become more equitable over the last 10 years. In 2013–14, high-income schools offered CTE Dual Credit in 38 percent of CTE courses, compared to just 28 percent in low-income schools—a 10 percentage-point gap. By 2023–24, this difference had shrunk to less than 1 percentage point, with schools across income levels now offering CTE Dual Credit through a similar share of CTE courses (figure 3). This trend suggests progress toward more equitable access to CTE college credit opportunities.

Figure 3. The gap in CTE Dual Credit opportunities between low- and high-income schools closed between 2013–14 and 2023–24



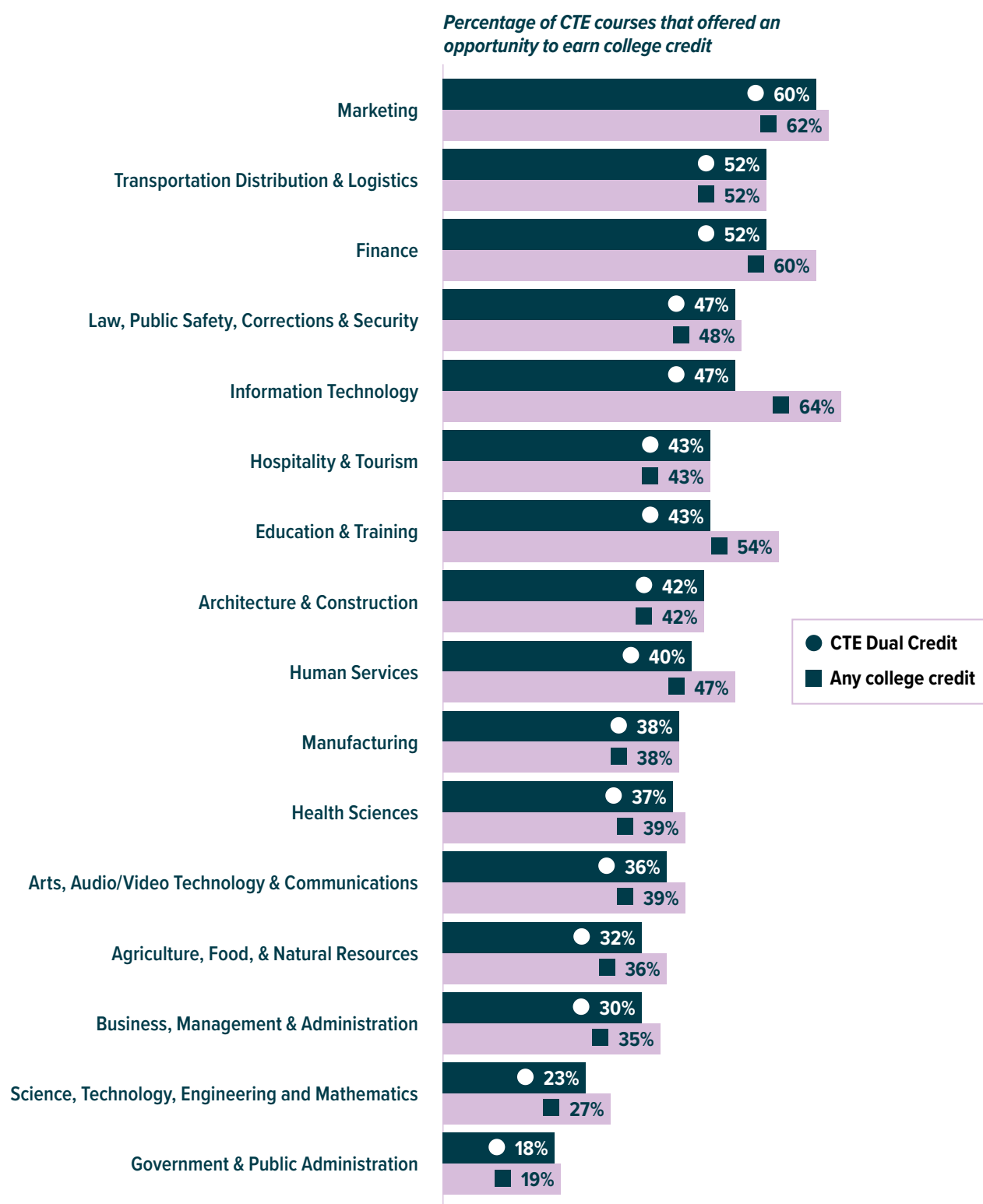
Note: School income categories were based on the percentage of students eligible for free or reduced-price lunch (FRPL) services. High-income schools are schools in the lowest third of percentage of students eligible for FRPL (0–41.9%). Middle-income schools are schools in the middle third of percentage of students eligible for FRPL (42%–63.9%). Low-income schools are schools in the highest third of percentage of students eligible for FRPL (64%–100%).

Source: Authors' analysis of data from the Education Research and Data Center P20W Integrated Data System.

Access to CTE Dual Credit varies widely across CTE clusters

The percentage of courses that are CTE Dual Credit varies greatly by cluster (figure 4). The Marketing, Transportation, and Finance clusters had the highest share of CTE Dual Credit courses (60%, 52%, and 52%, respectively). In contrast, only 23 percent of courses in STEM and 18 percent of courses in Government & Public Administration were CTE Dual Credit. When considering all CTE course types connected to an opportunity to earn college credit (not just CTE Dual Credit), the Information Technology cluster stands out: 47 percent of its courses were CTE Dual Credit, but 64 percent offered some opportunity to earn college credit. Overall, Information Technology, Marketing, and Finance provided the most opportunities for students to earn college credit, while STEM and Government & Public Administration offered the fewest (see appendix table A1 for details).

Figure 4. The percentage of CTE courses that offered college credit in 2023–24 varied by cluster



Note: “Any college credit” includes CTE courses that are designated as Advanced Placement, Cambridge International, CTE Dual Credit, College in the High School, and International Baccalaureate. Running Start courses, offered through Washington’s public colleges and universities, are not included in these high school-level analyses.

Source: Authors’ analysis of data from the Education Research and Data Center P20W Integrated Data System.

NEXT STEPS

The findings from this brief highlight both the overall growth in opportunities for students to earn college credit through CTE coursework and the disparities in access to these opportunities across Washington state. More than 70 percent of students in the 2024 cohort completed at least one CTE course that was connected to an opportunity to earn college credit during high school. However, access to these opportunities varied by school size, locale, and CTE cluster.

To support more equitable access to—and outcomes from—CTE college credit opportunities, we recommend two areas for further research:

1. Explore student participation in CTE college credit opportunities

Prior research found that three-quarters of students in the 2015 graduating cohort in Washington state enrolled in at least one CTE Dual Credit course during high school, and nearly one-third earned college credit (Pyle, 2023). Future research should examine how participation patterns have changed over time and across different student groups and school contexts. This work should also examine the intersection between CTE college credit opportunities and non-CTE college credit opportunities and whether they reinforce one another or compete for student time and resources. This analysis could help identify where additional support is needed, whether through expanding course offerings or addressing barriers to enrollment.

2. Examine the influence of CTE college credit opportunities on student outcomes

Future research should assess how participation in CTE college credit opportunities influences student outcomes, including high school graduation, postsecondary enrollment and persistence, and labor market success. This analysis should consider variation by type of CTE college credit opportunity (e.g., CTE Dual Credit vs. AP or College in the High School); CTE pathway or cluster; student characteristics; and participation in non-CTE college-credit coursework. This research would increase understanding of which CTE pathways—and which students—experience the greatest benefit from CTE college credit opportunities and what opportunities exist to strengthen CTE college credit experiences for students.

REFERENCE

Pyle, K. (2023). *CTE dual credit participation and postsecondary outcomes in Washington: A descriptive analysis using data from the Statewide Enrollment and Reporting System (SERS)*. Education Research and Data Center. <https://erdc.wa.gov/publications-and-reports/cte-dual-credit-participation-and-postsecondary-outcomes-washington>

APPENDIX

Table A1. The percentage of CTE courses that offered an opportunity to earn college credit in 2023–24, by CTE cluster

CTE cluster	Total number of CTE courses offered across all schools	Percentage of courses that were CTE Dual Credit	Percentage of courses that offered any opportunity to earn college credit
Agriculture, Food, & Natural Resources	2,192	32%	36%
Architecture & Construction	613	42%	42%
Arts, Audio/Video Technology & Communications	3,185	36%	39%
Business, Management & Administration	1,191	30%	35%
Education & Training	870	43%	54%
Finance	689	52%	60%
Government & Public Administration	386	18%	19%
Health Sciences	2,084	37%	39%
Hospitality & Tourism	776	43%	43%
Human Services	855	40%	47%
Information Technology	1,554	47%	64%
Law, Public Safety, Corrections & Security	378	47%	48%
Manufacturing	969	38%	38%
Marketing	1,021	60%	62%
Science, Technology, Engineering and Mathematics	1,194	23%	27%
Transportation Distribution & Logistics	458	52%	52%

Note: CTE courses are identified as “CTE Dual Credit” in OSPI course data. These courses are taught by certified high school instructors and provide students an opportunity to earn college credit at a community or technical college. The “any opportunity to earn college credit” category also includes all types of CTE courses in which students can earn college credits, including Advanced Placement, Cambridge International, CTE Dual Credit, College in the High School, and International Baccalaureate.

Source: Authors’ analysis of data from the Education Research and Data Center P20W Integrated Data System.

ENDNOTES

¹ AP, Cambridge International, and IB allow students to earn college credit based on exam performance. CTE Dual Credit and College in the High School courses are offered directly at the high school, taught by high school instructors certified to teach college-level content, and give students the opportunity to earn college credit through successful course completion. CTE Dual Credit courses integrate both academic and technical skills and are designed to prepare students for entry into the workforce or further technical training. These courses are offered in partnership with local community and technical colleges. College in the High School courses are typically more aligned to college preparatory pathways and offered in partnership with public colleges and universities in Washington.

² Reengagement schools include a subset of reengagement programs across the state that are large enough to have dedicated district spaces (not all reengagement programs are classified as reengagement schools). Institutional education includes juvenile detention facilities and residential facilities such as residential habilitation centers. Special education schools are public schools that focus on serving the educational needs of students with disabilities.

³ Course enrollment data are obtained from the Washington Office of Superintendent of Public Instruction's (OSPI) Comprehensive Education Data and Research System (CEDARS). See [table 1 in the main report](#) for a full description of data sources.