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Beyond Participation:

How Dual Credit Delivery Influences the Likelihood of Postsecondary Enrollment

CPE
Council on Postsecondary Education

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Executive Summary

Expanding dual credit course taking in general and career and technical education (CTE) is central to the Kentucky Council on Postsecondary Education's (CPE's) strategic goal of helping more students enter college prepared to succeed. This study not only examines whether dual credit enrollment increases college-going, but it also explores how course modality influences postsecondary outcomes.

Dual Credit is Highly Correlated with College Going
Students who attempt at least one dual credit course are significantly more likely to enroll in postsecondary education directly after high school. **The likelihood of students without dual credit going directly to college is 52.7 percent, compared to 71.6 percent for dual credit participants, a difference of 19 percentage points.** Additionally, each successive dual credit experience makes postsecondary enrollment more likely.

Course Modality Matters
Dual credit courses are offered in a variety of formats, depending on proximity to a college campus and the availability of certified instructors. Not every course modality is equally effective in increasing college going, however:

- Taking a dual credit course on a college campus taught by a certified high school teacher produces a **69.5 percent** likelihood of postsecondary enrollment.
- Taking a dual credit course at the high school (led by a certified teacher) produces a **63.7 percent** likelihood of postsecondary enrollment.
- Taking a dual credit course at an Area Technology Center (ATC) produces a **62.3 percent** likelihood of postsecondary enrollment. Note that ATCs primarily offer technical coursework designed to prepare students for direct entry into the workforce.
- Taking a fully online dual credit course produces a **58.1 percent** likelihood of postsecondary enrollment, which is not statistically significant. However, it may benefit the student in other ways.

In short, the dual credit experiences most highly correlated with college enrollment in Kentucky are in-person, rigorous, and integrated into the regular school day. Fully online courses expand student access to dual credit, especially in rural, under-resourced high schools, but don't necessarily increase the likelihood of postsecondary enrollment.

Policy Considerations
As Kentucky continues to expand dual credit offerings, program design should emphasize:

- Courses that expose students to a rigorous college curriculum while providing instructional continuity (either with a high school teacher or within a high school setting).
- Hybrid approaches that balance online instruction with face-to-face support and enrichment.
- Alignment with structured degree pathways, which ensure maximum transferability of credits.
- Approaches that increase access to courses across regions and student populations.

*In 2024, **47.5 percent** of Kentucky high school graduates completed at least one dual credit course with a grade of "C" or better. This is up from **22.8 percent** in 2016. The goal is for 50 percent or more Kentucky high school graduates to pass a dual credit course, starting in 2030.*

These gains coincide with the adoption of a comprehensive dual credit policy framework and target, a dual credit scholarship program, and increased early college awareness and advising activities.

Introduction

Across the country, states are increasingly turning to dual credit as a key strategy for expanding college access. National data indicate that more than 2.8 million high school students enrolled in dual credit courses in 2023-24, and participation continues to grow in nearly every state (Community College Research Center, 2024). The terms "dual credit" and "dual enrollment" are often used interchangeably, but they differ slightly. Dual credit awards both high school and college credit for the same course, whereas dual enrollment may or may not confer high school credit. This paper focuses exclusively on dual credit.

Studies find that students who take dual credit courses are more likely to enroll in college and complete a degree (Fink et al., 2025; Sparks, Griffin & Fink, 2025; Velasco, Fink, Bedoya & Jenkins, 2024). For policymakers and higher education leaders, these findings underscore why dual credit has moved from the margin to the mainstream. Given its ascendancy, questions of effective program design are increasingly important.

In Kentucky, dual credit is positioned as a priority within the state's broader strategic agenda and postsecondary attainment goals. In 2016, the CPE established the ambitious goal of increasing the share of working-age adults with a postsecondary credential to 60 percent by 2030. The following year, the Kentucky General Assembly created a statewide dual credit scholarship for high school students that pays for a limited number of dual credit general education and CTE courses (Kentucky Rev. Stat. 164.786, 2026).

In 2023, CPE adopted a comprehensive dual credit policy framework to strengthen program quality while expanding access. The framework includes a statewide goal for half of graduating seniors to complete at least one dual credit course with a "C" or better, starting in 2030. Taken together, these actions reflect a coordinated statewide effort to make transitions from secondary to postsecondary education more affordable, intentional, seamless, and frequent.

In addition to these policy supports, CPE serves future college students through its statewide GEAR UP grant, which stands for Gaining Early Awareness and Readiness for Undergraduate Programs. Participating schools receive sustained, comprehensive college advising, rigorous academic preparation, and clear guidance about dual credit opportunities. Futuriti.org, a new college and career website for Kentuckians, is another way students can learn about dual credit opportunities and related degree pathways. Repeated exposure to early awareness activities helps students and their families come to view college as both attainable and inevitable.

Dual credit participation trends suggest that Kentucky's efforts are paying off. As shown in Figure 1, the share of Kentucky public high school graduates passing at least one dual credit course with a "C" or better more than doubled from 2016 to 2024, rising from 22.8 percent to 47.5 percent. The large jump from 2016 to 2017 coincides with the creation of the dual credit scholarship. A second jump from 2022 to 2023 reflects the adoption of Kentucky's comprehensive dual credit strategy and formal policy framework, suggesting that structured quality standards and performance targets increase access and participation.

The Kentucky Community and Technical College System's (KCTCS's) investment in dual credit also has been instrumental in its growth. KCTCS campuses deliver nearly 70 percent of dual credit instruction statewide and serve as primary access points for students in rural communities.

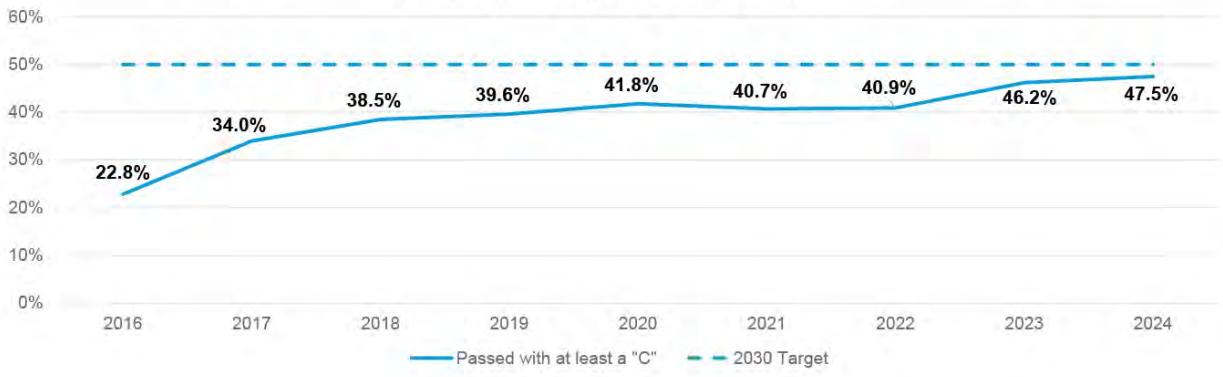
As dual credit course taking accelerates, the conversation has shifted from ensuring access to guaranteeing quality. It is no longer enough to ask whether dual credit is available; we must determine whether courses are designed in ways that truly strengthen high school to college transitions. Do factors like course location, delivery, or instructional personnel influence students' college-going behaviors?

Using statewide administrative data on Kentucky public high school graduates, this study examines how course modality influences the probability of immediate college enrollment within a year of high school graduation. Grounded in academic momentum theory (Adelman, 2006; Attewell, Heil & Reisel, 2012) and social capital theory (Bordieu, 1986; Coleman, 1988; Tinto, 1993), the analysis proceeds from a central premise: **experiences that blend authentic college environments with high school instructors and settings increase the likelihood of postsecondary enrollment.**

The results reveal clear differences across instructional contexts. Courses taught by credentialed high school teachers on a college campus are most likely to increase the probability of immediate college going beyond the overall effect of dual credit participation. Courses taught at the high school, whether by college or high school instructors, produced more modest gains. Courses taken at ATCs were even less predictive of college going, probably because these courses prepare students for direct entry into the workforce. Finally, fully online courses taught by college professors exhibited no statistically significant relationship with immediate postsecondary enrollment, though this should not negate their value. Online and site-based modalities remain vital for expanding opportunity in rural and under-resourced communities.

Collectively, these findings suggest that dual credit participation not only increases the likelihood of immediate postsecondary enrollment, but certain delivery models are associated with better postsecondary outcomes.

Figure 1. Proportion of Kentucky High School Graduates who Passed a Dual Credit Course with a "C" or Better



Theoretical Frameworks of Dual Credit Efficacy

For the purposes of this research, the relationship between dual credit and postsecondary access and success is grounded in two complementary frameworks: academic momentum theory and social capital theory. Together, these perspectives help explain why earning college credit early and experiencing authentic college environments can strengthen student transitions to college. They also suggest why course modality affects dual credit's impact.

Academic Momentum Theory

This theory suggests that early success in college-level coursework and steady credit accumulation substantially increase the likelihood of postsecondary persistence and degree completion. In particular, completing gateway courses in subjects such as mathematics and English plays a critical role in improving longer-term academic outcomes.

Longitudinal research consistently finds that early credit intensity, gateway course completion, and first-year academic progress are among the strongest predictors of credential attainment, often more influential than demographic background or institutional sector (Adelman, 2006; Attewell, Heil, & Reisel, 2012; Belfield, Jenkins, & Lahr, 2016; Fink & Jenkins, 2018).

By earning transferable college credits early, high school students enter college with measurable progress to a degree. That head start may accelerate movement toward a credential and support stronger persistence, particularly when courses align to structured degree pathways and program requirements (An, 2013; CCRC, 2012; Fink et al., 2024). Descriptive comparisons show that Kentucky dual credit participants who attempted more credits in their first semester completed degrees nearly one semester sooner.

Furthermore, between 2019 and 2021, Kentucky public high school graduates who completed dual credit immediately enrolled in college at a rate of 82.3 percent, compared to 40.6 percent among nonparticipants. Although these statistics are unadjusted, the regression analyses presented later in this study confirm a positive association even after accounting for student, school, and cohort characteristics.

Social Capital Theory

Social capital theory emphasizes the informational and relational resources that influence access to educational opportunities (Bourdieu, 1986; Coleman, 1988). To put it simply, access to information about college (through parents, relatives or others) increases the probability of postsecondary enrollment. Dual credit programs expose students to college faculty, campus facilities, academic expectations, and institutional norms (CCRC, 2012; Hughes et al., 2012). This increases their familiarity with college, which is particularly helpful for students with limited access to established college-oriented networks (Rosenbaum, Deil-Amen, & Person, 2006; Tinto, 1993).

First-generation, rural, and under-resourced students make up a significant portion of Kentucky's population. Interacting with college instructors and campus environments builds confidence, reinforces postsecondary aspirations, and solidifies a college-going identity for students who may not consider themselves "college material" (Bourdieu, 1986; Perna & Thomas, 2008; Rosenbaum, Deil-Amen, & Person, 2006).

Social capital theory also calls attention to accessibility in program design. If the most rigorous or immersive dual credit models are not broadly accessible, the relational benefits of participation may not be evenly distributed across student groups (An, 2013; U.S. Government Accountability Office [GAO], 2017). Expanding access to high-quality delivery models therefore supports CPE's statutory mission to raise educational attainment and strengthen Kentucky's workforce by increasing attainable, scalable pathways to postsecondary education.

Bridging these Theoretical Frameworks

Instructional Integration Theory
This study brings together academic momentum and social capital perspectives to help us understand why dual credit effectiveness varies across delivery models. Academic momentum theory suggests that early credit accumulation builds academic momentum and strengthens the likelihood of postsecondary enrollment. Successfully completing college-level coursework while in high school can improve college readiness, reduce uncertainty about academic expectations, and generate measurable advancement toward a credential.

At the same time, exposure to college environments may not operate uniformly across instructional settings. Social capital theory suggests that the benefits of institutional exposure are moderated by relational and contextual supports. Authentic engagement with postsecondary institutions may be especially influential when paired with high school instructors and settings (e.g., sustained interaction with a trusted secondary teacher who bridges institutional contexts). Without such scaffolding, institutional exposure alone may not strengthen students' sense of belonging and familiarity.

Together, these perspectives suggest that dual credit may be most effective when college-level coursework is embedded in high school settings and supports. In this integrated framework, credit accumulation builds forward academic momentum, while moderated exposure to postsecondary experiences breaks down institutional barriers and strengthens students' transition to postsecondary education.

Research Questions

- To what extent is dual credit participation associated with immediate postsecondary enrollment among Kentucky public high school graduates?
- How does course modality (e.g., instructor type, instructional location, course format) influence this association?

Working Hypotheses

Academic Momentum Hypothesis: Dual credit participation will positively predict immediate postsecondary enrollment, with stronger effects for students who accumulate more credit hours.

Scaffolded Exposure Hypothesis: Dual credit courses that combine authentic postsecondary environments with high school instruction and support (e.g., a credentialed secondary teacher serving as instructor of record) will increase the likelihood of immediate postsecondary enrollment more than models isolated from secondary contexts.

Limited Integration Hypothesis: Dual credit course delivery models that limit direct institutional engagement or that provide exposure not linked to secondary instructors or settings will produce comparatively smaller enrollment effects.

Research Study Design

Data and Sample
This study draws on administrative data from Kentucky's nationally recognized state longitudinal data system, linking high school records, dual credit course performance, and postsecondary enrollment records for all public high school graduates between 2016 and 2019 (N = 183,653). By linking detailed course participation data to subsequent matriculation, the dataset allows us to examine whether earning college credit early and increasing exposure to postsecondary institutions is associated with meaningful differences in college going. These statewide, student-level data provide the empirical foundation for directly testing the academic momentum, scaffolded exposure, and limited integration hypotheses outlined previously.

Measures
Dual credit participation serves as the primary independent variable and is measured in two ways: (1) completion of at least one dual credit course, and (2) total credit hours earned. Together, these measures allow us to test the academic momentum hypothesis by examining whether greater participation and credit accumulation are associated with higher rates of immediate postsecondary enrollment. By modeling credit intensity, we can also assess if momentum effects build over time, consistent with Adelman's (2006) framework suggesting that early academic progress can meaningfully shape students' postsecondary trajectories.

Immediate enrollment is the dependent variable, defined as enrollment in any postsecondary institution, whether in-state or out-of-state, during the academic year following high school graduation. This includes public two-year institutions, public four-year universities, and private colleges. The measure captures the first major transition point in the postsecondary pipeline and aligns closely with the study's theoretical frameworks. Academic momentum suggests that students who accumulate early college credit are more likely to move directly into postsecondary education, while social capital mechanisms imply that knowledge of college systems reduces uncertainty and strengthens belonging at the point of matriculation.

Course Context Variables
To test moderation effects derived from the social capital theory, course-level delivery context is categorized by:

- **Instructor's Primary Employer:** High school or college.
- **Instructional Location:** High school, college campus, ATC, etc.
- **Delivery Modality:** In-person or online.

These variables capture the degree of institutional exposure embedded within dual credit coursework. Delivery modalities that combine institutional exposure with supportive and structured high school environments are expected to strengthen the correlation between dual credit participation and immediate college enrollment. High school-based dual credit that lacks postsecondary exposure or virtual courses divorced from high school contexts may produce comparatively smaller effects.

Control Variables
To better isolate the relationship between dual credit participation and immediate postsecondary enrollment, the models adjust for a set of student-level academic and demographic characteristics that are well known to shape college-going behavior. Including these controls helps ensure that observed differences in enrollment are not simply reflections of preexisting academic preparation or background characteristics. Specifically, the analysis accounts for:

- **Gender:** coded as male (1) or female (0).
- **Underrepresented minority (URM) status:** coded as yes (1) or no (0).
- **Free or reduced-price lunch (FRPL) status:** free (0), reduced price (1), or paid (2).
- **Special education participation:** participated (1) or did not participate (0).
- **Final cumulative high school GPA:** ranges from 0.0 to 4.0.
- **Advanced Placement (AP) course exposure:** yes (1) or no (0).
- **International Baccalaureate (IB) course exposure:** yes (1) or no (0).
- **Earned CTE industry certification:** yes (1) or no (0).
- **Appalachian school status:** yes (1) or no (0).

Appalachian counties include: Adair, Bath, Bell, Boyd, Breathitt, Carter, Casey, Clark, Clay, Clinton, Cumberland, Edmonson, Elliott, Estill, Fleming, Floyd, Garrard, Green, Greenup, Harlan, Hart, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lewis, Lincoln, Madison, Magoffin, Martin, McCreary, Menifee, Metcalfe, Monroe, Montgomery, Morgan, Nicholas, Owsley, Perry, Pike, Powell, Pulaski, Robertson, Rockcastle, Rowan, Russell, Wayne, Whitley, and Wolfe.

Analytical Strategy

All models are estimated using logistic regression with high school and graduation cohort fixed effects and standard errors clustered at the same levels. Including fixed effects allows the analysis to focus on variation within schools over time, accounting for unobserved characteristics consistent within schools (such as institutional culture, local context, or longstanding advising practices) while adjusting for broader, cohort-level shifts.

In practical terms, this approach compares students within the same high school rather than across different schools. This helps ensure that estimated relationships are not driven by differences between "higher performing" and "lower performing" schools, but rather reflect differences among students exposed to dual credit within similar institutional contexts. The inclusion of cohort fixed effects also adjusts for statewide changes that affect all students in a given year, such as new policies, funding expansions, or broader economic conditions.

This specification helps ensure that estimated associations are not driven by persistent, cross-school differences or specific policy shifts. Results are presented as predicted probabilities and marginal effects to facilitate interpretation as percentage-point differences in immediate postsecondary enrollment.

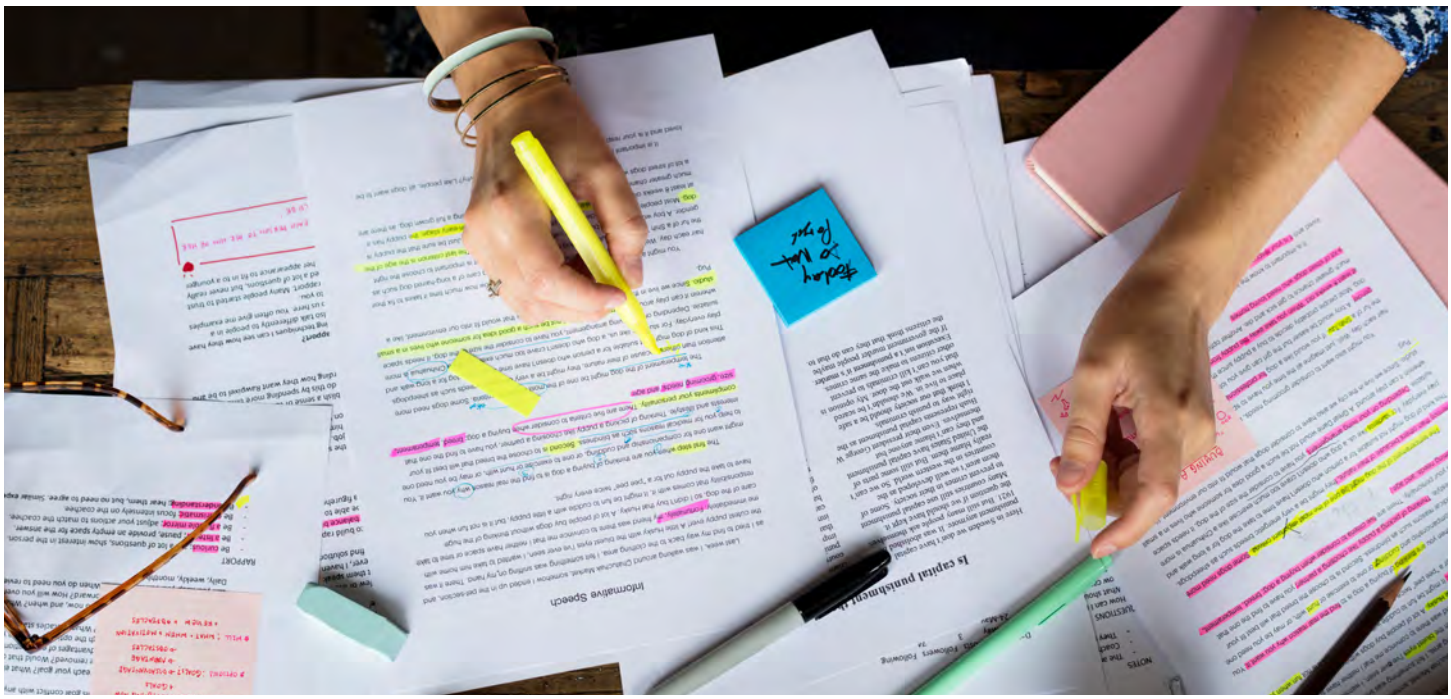
Stage 1: Estimating the Academic Momentum Effect

To test the academic momentum hypothesis, two complementary specifications are estimated. A binary model examines whether completing at least one dual credit course is associated with immediate postsecondary enrollment. An intensity model evaluates whether the number of courses attempted influences college enrollment, allowing for an assessment of potential cumulative effects. Both models include interaction terms between dual credit participation, URM status, and FRPL eligibility to explore whether associations differ across demographic groups.

Stage 2: Testing Contextual Moderation

The second stage examines whether the context in which dual credit is delivered influences enrollment likelihood. The models incorporate course-level measures capturing instructor type, instructional location, and delivery modality.
Context-specific course counts are entered into fixed-effect logistic models to estimate whether predicted enrollment probabilities vary systematically across delivery environments.

By estimating overall participation effects and contextual variation within a unified framework, the analysis assesses whether delivery context moderates the relationship between credit accumulation and immediate postsecondary enrollment. All reported estimates are statistically significant at $p < .05$.



Findings

Overall Impact: Evidence of Academic Momentum

Fixed-effect logistic regression results indicate that dual credit participation remains a strong predictor of immediate postsecondary enrollment, even after accounting for student academic and demographic characteristics. As shown in Figure 2, students who attempted at least one dual credit course demonstrated substantially higher probabilities of enrollment than nonparticipants.

When translated into marginal effects, this difference represents an estimated 19 percentage-point increase in enrollment (71.6 percent versus 52.7 percent). In practical terms, students who engage in dual credit are markedly more likely to move directly into postsecondary education, consistent with the academic momentum theory.

The intensity model further illustrates how enrollment likelihood increases as students accumulate more dual credit. As shown in Figure 3 on the following page, students with no dual credit have a predicted probability of immediate college enrollment of 53.6 percent, and even one dual credit course boosts this chance to nearly 60 percent. The probability increases to 74.2 percent at 12 credit hours and 82 percent at 18 credit hours. We highlight the 12-hour benchmark because it corresponds to the four general education courses typically covered by Kentucky's dual credit scholarship.

Beyond 18 hours, probabilities continue to rise, though statistical precision declines as sample sizes diminish. The steady increase in predicted enrollment probabilities across credit thresholds suggests a dose-response pattern consistent with cumulative academic momentum.

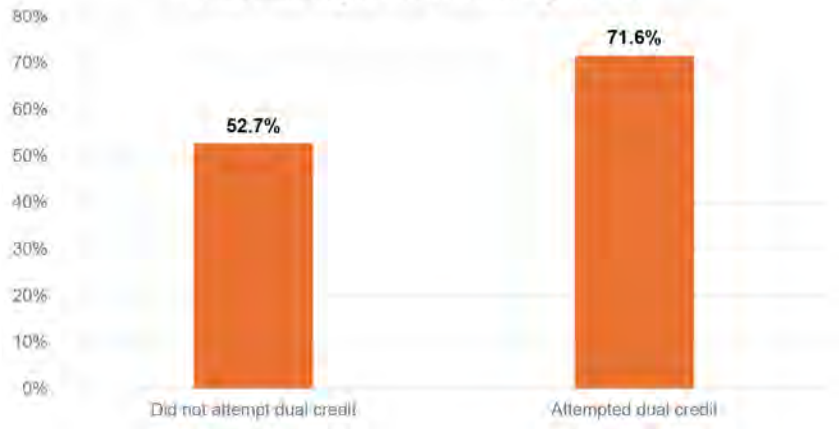
The results suggest that enrollment gains do not occur all at once. Instead, the likelihood of immediate college enrollment increases steadily as credit accumulation rises, reinforcing a cumulative academic momentum pattern across student groups. Importantly, the direction of the effect remains positive and statistically significant for all subgroups, suggesting that sustained credit accumulation functions as a broadly applicable driver of postsecondary enrollment that is not limited to particular categories of students.

Moderation by Course Context: Evidence of Social Capital Effects

Although dual credit participation is broadly associated with higher rates of immediate college enrollment, the magnitude of this relationship varies meaningfully across delivery contexts. As shown in Figure 4 on page 11, model-based predicted probabilities indicate that students who complete one dual credit course have a 59.2 percent likelihood of immediate enrollment, holding other factors constant

However, the largest gains are not explained by institutional location alone. Instead, the strongest predicted enrollment probability (69.5 percent) is observed when students take courses taught by credentialed high school teachers on college campuses. This model blends authentic exposure to a campus with instructional continuity within the high school. By contrast, taking courses taught by college faculty on college campuses yields smaller effects, suggesting that exposure alone may be insufficient when divorced from high school settings and supports.

Figure 2. Predicted Probability of Immediate College Enrollment by Dual Credit Attempt Status



Findings

Taking courses at the high school are slightly less predictive of immediate college enrollment, whether they are taught by high school teachers (63.7 percent) or by college faculty (62.8 percent). Taking courses at Area Technology Centers (62.3 percent) produces similar probabilities. In contrast, taking fully online courses taught by college faculty (58.1 percent) yields a probability only slightly higher than students with no dual credit (53.6 percent) and lower than taking any one dual credit course (59.2 percent).

These findings suggest that dual credit's effectiveness extends beyond credit accumulation. The structure of the experience, particularly the degree to which postsecondary exposure is combined with instructional continuity, is strongly associated with differences in students' college-going behaviors.

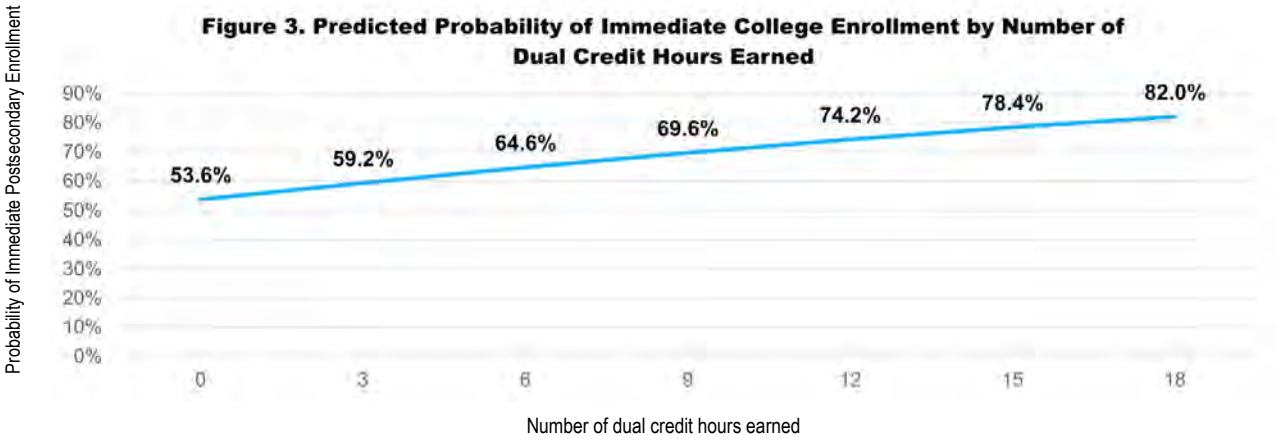
These patterns align with the integrated theoretical framework: enrollment gains are strongest when credit accumulation is paired with instructional continuity. Course modalities less integrated into the school day (such as online courses) produce weaker effects. Despite this finding, online formats play a critical access role for students in rural or geographically isolated areas and should not be interpreted as having no value.

Robustness Checks

Several supplemental analyses were conducted to assess the stability of the findings. Models produced using both a binary indicator of participation as well as a continuous measure of total dual credit hours earned yielded substantively consistent results. In both cases, participation and credit intensity were positively and statistically associated with immediate postsecondary enrollment, reinforcing a cumulative academic momentum interpretation. Results also remained stable across other specifications, including models incorporating high school and graduation year fixed effects with clustered standard errors.

Additional models that included interaction terms between dual credit participation, FRPL status, and URM status remained positive and statistically significant. Finally, alternative categorizations of instructional setting produced similar rank-order patterns in predicted enrollment probabilities, further supporting the conclusion that integrating dual credit within the school day produces stronger outcomes. These robustness checks increase confidence that the observed relationships are not artifacts of model specification or subgroup composition, but instead reflect consistent, meaningful patterns in the data.

Figure 3. Predicted Probability of Immediate College Enrollment by Number of Dual Credit Hours Earned



Discussion

This study demonstrates that dual credit effectiveness depends not only on credit accumulation, but also on delivery context. As shown in Figures 1-3, early credit attainment is associated with progressively higher probabilities of matriculation. Figure 4 further illustrates that course modality and integration into the high school curriculum meaningfully shape the magnitude of those gains.

In other words, authentic engagement with college environments is most effective when embedded in structured experiences that retain some elements of high school, reducing the psychological distance between systems. The estimated enrollment differentials are substantial, particularly when compared to many single-component college access interventions documented in prior research. In this sense, dual credit, when situated within authentic postsecondary contexts, functions not simply as academic enrichment, but as a structural bridge between secondary and postsecondary systems.

Perhaps surprisingly, courses taught by college professors on college campuses do not produce the strongest postsecondary enrollment gains. This evidence challenges a purely exposure-based interpretation and emphasizes the importance of structured, supported boundary-crossing experiences.

Ultimately, program design matters. Delivery context, credit transferability, and pathway alignment all influence the degree to which taking dual credit courses and accumulating early credit result in successful, immediate postsecondary transitions.

Theoretical Contribution

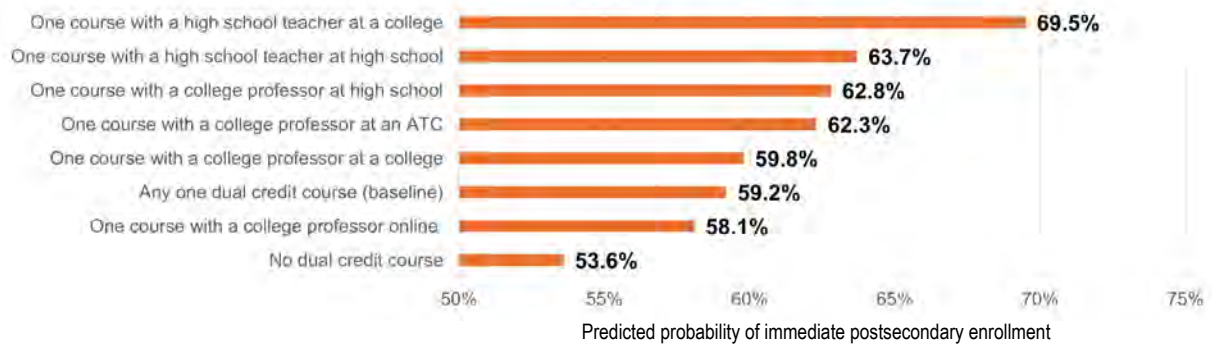
This study refines prevailing explanations of how dual credit influences postsecondary transitions. While prior research emphasizes credit accumulation and institutional exposure as complementary mechanisms, these findings suggest exposure is most influential when developmentally scaffolded within the high school curriculum. Models in which students take college courses that retain some elements of high school (either the teacher or the setting) produce stronger probabilities of postsecondary enrollment. Dual credit functions most effectively when it not only exposes students to college, but acts as a structural bridge across systems. This refinement advances academic momentum and social capital perspectives by clarifying the conditions under which institutional engagement most strongly supports matriculation. These findings may also have implications for states pursuing large-scale dual credit expansions, encouraging parallel attention to delivery design.

Policy Implications

Figures 1-4 demonstrate that dual credit participation increases immediate college enrollment and that the magnitude of this relationship varies across delivery contexts. These patterns suggest that policy efforts should focus on expanding dual credit participation while also incorporating performance indicators tied to postsecondary exposure, credit transferability, and degree pathway integration.

Because enrollment probabilities rise with accumulated credit, clear and reliable transfer pathways are

Figure 4. Predicted Probability of Immediate College Enrollment by Course Modality



Note: Predicted probabilities are derived from regression models controlling for student, school, and cohort characteristics. All covariates are held constant.

Discussion

essential. Coursework should be fully transferable, embedded within articulated degree pathways, and aligned with gateway and general education requirements to preserve academic momentum and minimize misaligned credit accumulation (Fisk & Jenkins, 2018). Without this intentional alignment, early credit gains may lose some of their long-term value.

At the same time, the stronger enrollment probabilities observed when students take dual credit courses at a college with a high school teacher indicate that preserving some semblance of high school strengthens transitions to postsecondary education. Policymakers and institutional leaders in Kentucky may consider this approach, as it is geographically feasible - every high school student lives within 30 to 60 minutes of a two-year or four-year postsecondary campus. Engagement with college faculty, access to advising, and thoughtfully designed hybrid courses that combine online flexibility with in-person interactions could further strengthen outcomes. Improving coordination between dual credit delivery and statewide college access initiatives like GEAR UP Kentucky may be particularly valuable for first-generation and under-resourced students.

Finally, sustaining broad access to high-quality models while maintaining rigorous academic standards and robust data infrastructure will be essential. Doing so will increase confidence that continued dual credit expansion translates into higher postsecondary enrollment and durable gains in persistence, completion, and long-term educational attainment.

Limitations and Future Research

Although this analysis draws on comprehensive statewide administrative data and employs a rigorous fixed-effects framework, causal interpretations should be approached with caution. Students who participate in dual credit may differ from nonparticipants in unobserved ways, such as motivation, family support, advising intensity, academic orientation, or postsecondary aspirations. Assignment to specific delivery contexts is also not random. Students enrolled in campus-based or faculty-led sections may differ systematically from students participating online or exclusively in high school-based formats in ways that influence enrollment outcomes.

Future research using quasi-experimental or propensity-based approaches would strengthen causal inference and help disentangle selection effects from program impacts. Extending the analysis to longer-term outcomes, including second-year persistence and degree completion, would provide a clearer picture of whether the observed enrollment gains translate into sustained academic success. Additional work examining how program implementation, advising structures, and credit transfer policies shape outcomes across delivery models would further clarify the mechanisms suggested by these findings.

Conclusion

The magnitude of the immediate postsecondary enrollment differential between dual credit participants and nonparticipants underscores the importance of early credit attainment. Even after adjusting for student characteristics and institutional context, dual credit participation remains associated with substantially higher predicted probabilities of immediate college enrollment. These findings are consistent with the academic momentum theory: early credit accumulation reinforces academic progress and strengthens students' movement into postsecondary education.

At the same time, the results indicate that momentum alone does not fully explain variations across delivery contexts. Enrollment gains are strongest when credit accumulation is paired with high school instructors or supports. This approach generates the largest predicted enrollment increases, while fully online courses or courses taught on campus by college faculty produce smaller or statistically insignificant effects. The evidence, therefore, challenges a purely exposure-based interpretation, and instead highlights the importance of structured, boundary-crossing dual credit experiences.

For policymakers and practitioners, the key takeaway is not simply that dual credit works, but that its design shapes its effectiveness. Expanding access remains essential. However, maximizing the return on continued investment will require intentional approaches that blend meaningful college exposure with structured high school supports.

Within Kentucky's broader attainment strategy, dual credit serves not only as an access mechanism, but as a way to smooth high school to college transitions. Maximizing outcomes through research-based course design will help us turn postsecondary enrollment gains into higher rates of educational attainment.

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