

THE UNIVERSITY *of* TEXAS SYSTEM

DUALCREDIT
STUDY

DUAL CREDIT AND SUCCESS IN COLLEGE

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EXECUTIVE SUMMARY

Dual Credit (DC) programs are collaborations between high schools and colleges that allow high school students to enroll in college courses and receive simultaneous academic course credit from both college and high school. Texas experienced a 650% increase in DC participation between 2000 and 2015. In Fall 2015, the majority of first-time in college students entering academic institutions within the University of Texas (UT) System had some type of college credit from either dual credit, Advanced Placement (AP), or International Baccalaureate (IB).

At the request of the Faculty Advisory Council (FAC), UT System's Office of Strategic Initiatives (OSI), in collaboration with all eight UT academic institutions, completed a comprehensive study using a mixed-methods approach (both quantitative and qualitative data) on dual credit to determine what impact—positive or negative—it may have on student success in college. Specifically, the goal of the UT System study is to obtain a better understanding of the relationship between dual credit participation during high school and outcomes of students who matriculated at UT System academic institutions.

The results of the study tell a complex story. The following are a few findings from the four focus areas of the study: 1) dual credit participation; 2) student success outcomes; 3) dual credit perspectives; 4) and policy, process, and programs.

Dual Credit Participation

- In 2015, 61 percent (n=15,263) of first-year UT students who were Texas residents brought with them some type of college credit. For the freshman class, the median number of dual credit hours that were transferred to a student's academic record was 18 (25th - 75th percentile: 9 - 29; 90th percentile: 60).
- A major motivator to participate in dual credit was saving time and money, but students cited other motivations, such as eliminating certain courses earlier and seeking out more challenging curriculum during high school.

Student Success Outcomes

- Compared to students who are not credit-bearing at the time of the college admission process, dual credit students: are more likely to be retained and to graduate from a UT System institution; have higher 1st-, 2nd-, and 3rd-year GPAs; and have fewer semester credit hours at the time of graduation.

- Saving money is one of the key selling points for dual credit participation. When examining DC students and non-DC students who graduated in four and five years, dual credit does not have an impact on students' loan debt unless students enter with 60 or more dual credit hours.

Dual Credit Perspectives

- Students reported their exposure to dual credit provided skills (time management skills, study skills, and communication skills) needed to be successful at a four-year institution. Some reported advantages include increased confidence for “fitting in” at college, the opportunity to take major courses sooner, and having credit applied to their degree. On the other hand, some students criticized dual credit for giving a false sense of confidence, reducing time for exploration due to requirements already being met through dual credit, and restricting opportunities because of a shorter time in college.
- Faculty are concerned about the quality and rigor of dual credit courses provided to students. Moreover, though the THECB defines college readiness as an SAT score of 1070, faculty, academic advisors, and enrollment managers indicated there is more to college readiness than just a test score. They reported it is critical for students to have analytical writing skills, an ability to manage time, and a certain level of maturity to succeed in college courses.

Policy, Process, and Programs

- Misunderstanding and miscommunication of federal and state DC-related policies can impact students negatively. UT institutions have challenges when handling DC transcripts because there is no standardized way to report dual credit courses on a transcript.
- Multiple dual credit programs or activities take place at UT System academic institutions. The report highlights 17 of those programs. No dual credit program in Texas is nationally accredited by the National Alliance of Concurrent Enrollment Partnerships (NACEP).

Recommendations

Based on the findings of the Dual Credit Report, six recommendations are described focusing on dual credit data collection, equity and access standards, research, and communication for UT System academic institutions.

- Improve student record-level data collection for students participating in Texas dual credit programs
- Encourage UT System academic institutions' dual credit programs to conduct program evaluation
- Continue to monitor and research the relationship between dual credit and student success
- Enhance dual credit communication with students and families to enable informed decisions
- Establish a list of dual credit-related policies, empirical dual credit research findings, and dual credit practices that can be communicated to staff at the UT System institutions
- Improve dual credit program alignment among high schools, two-year and four-year institutions

CONCLUSION

The analysis of dual credit at UT academic institutions presents a complex story that includes personal and philosophical differences about whether high school students should take college courses. Students report that dual credit has a positive impact on their college experience, while at the same time faculty, advisors, and enrollment managers from UT System institutions voice concerns about the quality and rigor of dual credit opportunities offered in Texas.

Aside from the varying perspectives—derived from quantitative and qualitative analyses—the outcomes data reveal that students benefit from taking dual credit in high school. Overall, students' exposure to even one dual credit course has a positive impact on student success outcomes. More time and research are needed to understand better how dual credit programs can personalize the dual credit experience (number of hours and type of courses) and maximize timely graduation and success based on students' future interests and academic goals. The report provides findings for each of the focus areas and recommendations to consider going forward.

The background is a complex, abstract composition of various shades of blue. It features numerous overlapping, semi-transparent geometric shapes, primarily rectangles and squares, some of which are rotated. These shapes are interconnected by a network of thin, white lines that create a sense of depth and movement. The overall effect is a dynamic, layered pattern that resembles a digital or architectural design.

INTRODUCTION

Dual credit (DC) programs are collaborations between high schools and colleges that allow high school students to enroll in college courses and receive simultaneous academic or technical course credit from both college and high school. According to a 2017 report produced by RAND Corporation (a nonprofit organization that helps improve policy and decision-making through research and analysis) and the Texas Higher Education Coordinating Board (THECB), dual credit participation in Texas increased 650% for Texas high school students from 2000 to 2015. Why such a rapid increase? A number of factors have contributed to this dramatic increase, including an increase in access to dual credit through various models and modes of delivery; parents and students' strategies for reducing students' college debt burden; and newly established state laws requiring all Texas high schools to provide dual credit opportunities to students. The one factor, however, that is interwoven with all others is the growing expectation and understanding that a degree in higher education is critical to success in the 21st-century global economy.

Earning college credit prior to entering college has existed in the United States since the 1950s, when high school students were able to take Advanced Placement (AP). AP allows students to receive college credit after passing the AP exam. The content of an AP course and its corresponding exam is controlled by the College Board. Dual credit differs from AP in that a college-level course is taught by a college instructor or by a high school teacher with the appropriate credentials (i.e., a master's degree). Initially, dual credit was offered to high-achieving high school students who were eager to start taking college courses early (Karnes, Frances, and Chauvin, 1982). However, most recently, more students have been provided the opportunity to participate in dual credit through multiple avenues (dual credit programs at traditional high schools, Early College High Schools, online, etc.). In Texas, students as young as ninth grade can enroll in dual credit if they are deemed college ready. Within some dual credit models, students can earn as many as 60 or more hours of college credit by the time they graduate from high school.

The rapid increase of dual credit, not only in terms of the number of students participating but also the number of hours earned, is certainly impacting the college pipeline—but *how*? Are students who earn dual credit hours more, less, or just as likely to be successful in college? While dual credit is touted as a way to move students more quickly and affordably toward their higher education goals, there is a persistent perception among faculty across the University of Texas System that those students who experience the greatest difficulty with writing and critical thinking assignments are most often students who took the balance of their core curriculum classes in high school within dual credit programs. However, existing quantitative research on this problem was not extensive enough nor reliable enough to support or refute this position.

Therefore, UT System conducted a comprehensive dual credit study to provide insight into the dual credit movement.

At the request of the Faculty Advisory Council (FAC), the Office of Strategic Initiatives (OSI) embarked on a comprehensive research study to explore the relationship between dual credit and student success at UT System academic institutions. The goal of the study was to obtain a better understanding of the relationship between students' dual credit participation during high school and student outcomes once students matriculate to UT System academic institutions.

The study sought to answer four research questions:

- 1. Who takes dual credit? How many hours are accrued? What courses are most often taken?**
- 2. What short- and long-term student outcomes (e.g., retention, subsequent course completion, graduation, GPA, student debt) are associated with students' dual credit participation**
- 3. From various stakeholder (students, faculty, enrollment management, and advisors) perspectives, how does dual credit participation contribute to student success in higher education? What are the advantages and disadvantages?**
- 4. What campus programs, processes, and policies have been established in response to the rapid growth of dual credit participation?**

The report provides the findings based on the research questions and makes recommendations for institutions to consider going forward. The report includes detailed information on student participation, student success outcomes, the intended and unintended consequences of dual credit, differing perspectives on dual credit success, student narratives from each UT academic institution, and a discussion of the UT academic institutions' dual credit policies, processes, and practices.

The background is a complex, abstract composition of various shades of blue. It features overlapping, semi-transparent geometric shapes such as triangles, rectangles, and polygons. Thin, white lines crisscross the entire scene, creating a sense of depth and movement. The overall effect is a dynamic, layered visual field that suggests a network or a complex system.

LITERATURE REVIEW

What Is Dual Credit?

Dual credit programs are collaborations between high schools and colleges that allow high school students to enroll in college courses and receive simultaneous academic course credit from both the college and the high school (Miller, Kosiewicz, Wang, Marwah, Delhommer, & Daugherty, 2017). In other parts of the United States, dual credit is also referred to as dual enrollment or concurrent enrollment.

Dual credit programs have traditionally been targeted toward academically excelling students. However, there has been a movement to allow students performing at all levels, including those traditionally identified as “at-risk,” to participate in dual credit programs. There are two reasons behind this approach. Dual credit programs are designed to improve college readiness and lower college costs by enabling students to move through degree programs more quickly. Moreover, these programs provide opportunities to build a relationship between high schools and colleges where they “can create programs that not only better prepare students for postsecondary success by introducing them to the language, rigor, and skills necessary to complete college credit work, but also allow both institutions to develop clearly-articulated benchmarks and standards.” (Hofmann and Voloch, 2012).

Who Is Eligible to Participate in Dual Credit?

Any student, who can demonstrate they are college ready, can enroll in academic dual credit courses. As defined by the Texas Higher Education Coordinating Board (2018) under Texas Education Code Sec. 51.33 and Texas Administrative Code, Chapter 4, Subchapter C, Section 4.57, “college ready” is any student who meets any one of the following criteria:

- “The student demonstrates college readiness for reading, writing, and/or math intensive courses by achieving the minimum passing standards under the provisions of the Texas Success Initiative authorized by Texas Education Code Sec. 51.333 and specified in Texas Administrative Code, Chapter 4, Subchapter C, Section 4.57 as follows:
 - o Reading 351
 - o Math 350
 - o Writing – a placement score of at least 340 and an essay score of at least 4 or a placement score of less than 340 and an ABE Diagnostic level of at least 4 and an essay score of at least 5; or

- o The student achieves a score of 4000 on the English II STAAR EOC and/or a score of 4000 on the Algebra I STAAR EOC and in conjunction, a passing grade in the Algebra II course relevant to the courses to be attempted; or
- o On a PSAT/NMSQT exam administered prior to October 15, 2015, the student achieves a combined score of 107 with a minimum of 50 on the critical reading and/or mathematics test relevant to the courses to be attempted; or
- o On a PSAT/NMSQT exam administered on or after October 15, 2015, the student achieves a score of 460 on evidence-based reading and writing test and/or a score of 510 on the mathematics test relevant to the courses to be attempted; or
- o The student achieves a composite score of 23 on the PLAN with a 19 or higher in mathematics and/or English, or a mathematics score of 431 and/or an English score of 435 on the ACT-Aspire relevant to the course to be attempted.” (THECB, 2018, pg. 2)

How Many Students Participate in a Dual Credit Program?

The National Center for Educational Statistics most recent report by the federal government in 2010-2011 reported more than 1.4 million students enrolled in academic-focused dual credit courses. Nationally, four out of every five students who take dual credit courses took the course on a high school campus. In a more recent report, an estimated 2 million students in the United States are participating in dual credit courses during high school (Cowan and Goldhaber, 2015). In Texas, according to figures published by the THECB, more than 133,000 Texas high school students took dual credit in 2015 compared to 42,000 in 2005—an increase of 316 percent in the past decade. Table 1 provides the number and percent of students broken down by race/ethnicity who enrolled in dual credit in 2015. There is a higher proportion of Hispanic students enrolled in dual credit compared to the overall percentage of Hispanic students in the Texas student population (44 percent and 35 percent, respectively).

Table 1. 2015 Dual Credit Enrollment in Texas by Race/Ethnicity

Race/Ethnicity	Students Enrolled in Dual Credit	Race/Ethnicity Breakdown of Students in Dual Credit	High School Enrollment of All Students	Race/Ethnicity Breakdown of All Students
All	133,342		1,488,257	
White	51,301	38%	565,507	38%
African American	9,496	7%	185,526	12%
Hispanic	59,377	45%	526,046	35%
Asian/Pac Islander	4,973	4%	85,728	6%
Other	8,195	6%	125,450	8%

How Many Dual Credit Hours Can a High School Student Take in Texas?

In 2006, the Texas Legislature passed House Bill 1, which required all high school districts to provide the opportunity for high school students to take at least 15 semester credit hours of college credit (this could be a combination of dual credit, AP, IB courses). During the 2015 Texas Legislative session, House Bill 505 was passed and went into effect on September 1, 2015. The act allows students to take an unlimited number of dual credit hours while pursuing a high school diploma.

Students who attend Early College High Schools (ECHS) have the opportunity to earn a high school diploma and, at the same time, earn up to 60 college credit hours. However, Senate Bill 31 (83rd Regular Session—2013) provides funding for dual credit courses based on three conditions: 1) the courses must be a part of the Texas core curriculum; 2) career or technical education courses must apply to a certificate or associate degree; and 3) foreign language courses are included. However, this Bill is not applicable to courses completed by students participating in ECHSs.

What Types of Programs and Courses Are Offered?

Eligible dual credit students are provided the opportunity to choose from a wide variety of dual credit academic courses. To date, there is no comprehensive list of courses that are offered to high school students that is easily accessible. However, based on various higher education websites, courses do range from Principles of Accounting to Introduction to Speech Communication. The most common courses taken from 2012 to 2015 are English 1301 (Composition I), English 1302 (Composition II), History 1301 (United States History II), Government 2305 (Federal Government), History 1301 (United States History I), Economics 2301 (Principles of Macroeconomics), and Math 1314 (College Algebra (Miller, et al., 2017)).

There are multiple types of dual credit programs in the state of Texas. Students have the opportunity to take dual credit courses at a two-year or four-year college campus or online. They can also receive dual credit by enrolling in a program offered by a high school. The National Center for Education Statistics (2013) reported in the 2010-2011 school year 82 percent of all public high schools offered dual credit courses to students. Of these schools, 61 percent of public high school dual credit courses were taught by high school instructors. Eleven percent of high schools indicated dual credit courses were taught by postsecondary instructors. The remaining high schools (28 percent) reported that both high school and postsecondary instructors taught dual credit courses. Based on the dual credit report released by the THECB and RAND Education in 2017, there are differences in dual credit participation rates by urbanicity. Rural high schools were more likely to have students take dual credit compared to students from urban and suburban high schools (Miller et al., 2017). The report also indicated that in 2015, nearly half (48 percent) of the dual credit courses were taught on high school campuses. Moreover, there has been a significant increase in enrollment within ECHSs.

In order for high schools to provide dual credit courses, school districts must enter into a partnership agreement with postsecondary institutions. These types of agreements must be reviewed and approved by the Texas Education Agency (TEA), THECB, school district, and postsecondary institution. Based on the TEA, the agreement must address the following nine areas: 1) eligible courses; 2) student eligibility; 3) location of class; 4) student composition of class; 5) faculty selection, supervision, and evaluation; 6) course curriculum, instruction, and grading; 7) academic policies and student support services; 8) transcription of credit; and 9) funding (requirements based on 19 TAC, Subchapter D, 4.85). Governance of such requirements for dual credit programs can be challenging because no one at the state level has been given the sole responsibility of owning (policy development, administration, and guidance) dual credit programs in Texas, which differs from other state approaches to dual credit programs (TEA, 2011).

There are other types of programs that differ from high school/college collaborations that offer dual credit programs in Texas. Other programs, such as ECHS and Middle College High Schools (MCHS), offer dual credit courses for high school students. In 2015, there were 152 ECHSs in Texas. More than 35,000 students attend these types of schools (Legislative Budget Board, 2016). ECHSs provide a mixed curriculum, offering high school credit and college credit during grades 9 through 12. ECHS students start taking dual credit courses as early as age 14. Once students complete the curriculum, they will have as many as 60 college credit hours (associate degree) by the end of their senior year in high school. The ECHS campuses have a student body that generally includes underrepresented or low-performing students. MCHSs are high schools that offer dual credit courses to high school students in Texas. These schools differ from ECHSs because they are located only on college campuses. The schools are relatively small (less than 100 students per grade). However, they are similar to ECHSs when it comes to the types of students who are enrolled in ECHSs (underrepresented students in postsecondary education).

Who Evaluates the Quality of Dual Credit Courses?

Each year the THECB releases a report on the types of courses offered to high school students, as well as the grade distribution for each course. Based on the most recent report in 2016, on average, 71 percent of students enrolled in dual credit courses received a grade letter of “A” or “B.” Only seven percent of the students received a “D” or “F” in the course. In some school districts, 95% of students enrolled in English 1301 received an “A” or “B” in the course. These pass rates might be a cause for question and concern. Should the grade distribution for a dual credit course be similar to the grade distribution for the same course taught on a college campus? This project examines this question.

To date, there has been no systematic evidence gathered to evaluate the content of dual credit courses offered in Texas. Based on a TEA 2011 report, there is a lack of quality data to conduct an evaluation. In 1999, 20 institutions from across the United States established the National Alliance of Concurrent Enrollment Partnerships (NACEP: www.nacep.org). The NACEP mission is to ensure dual credit courses are as rigorous as college courses. NACEP is the sole national accrediting agency for dual credit. The alliance has established a standard of excellence on “true college courses and college credit for students” (NACEP, 2015). The member institutions are from 46 states, including 218 two-year colleges, 104 four-year universities, 37 high schools and school districts, and 20 state agencies or system offices.

Within Texas, there are only 13 institutions participating in the association (UT Tyler is an active member). The alliance provides the opportunity for members to be NACEP-accredited. The accreditation contains four steps that applicants need to conduct: 1) self-study: an internal review of the NACEP standards of program quality. The program quality covers five categories: curriculum, faculty, students, assessment, and program evaluation. Currently, several states have adopted or incorporated the NACEP standards into state policy on dual credit; 2) file intent forms and undergo candidacy review; 3) prepare and submit a completed accreditation application; and 4) peer review (with a site visit) is conducted. At present, Texas has not incorporated the standards into state policy, and no Texas postsecondary institutions hold a NACEP accreditation. Texas does require that online dual credit courses within the Texas Virtual School Network (VSN) catalog are reviewed and align with Texas Essential Knowledge and Skills (TEKS) and the International Association for K-12 Online Learning's National Standards of Quality for Online Courses. (<http://www.corestandards.org/about-the-standards>).

Who Is Eligible to Teach a Dual Credit Course?

Texas Administrative Code (Title 19, Part I, Chapter 4, Subchapter D, Rule 4.85 (e)(1) requires all dual credit instructors “be regular college faculty or must meet the same standards and approval procedures used by the college to select faculty responsible for teaching the same courses at the main campus of the college” (Senate Higher Education Committee Report, 2014). Moreover, Texas law requires colleges to supervise high school teachers who teach dual credit to ensure dual credit courses provide the same quality and rigor as college courses. Heretofore, no state evaluations have been conducted to determine if supervision is being administrated by colleges.

The Southern Association of Colleges and Schools requires dual credit instructors to have a master's degree or doctoral degree with 18 graduate hours in the discipline being taught. The institution offering the course is responsible for managing the content of a dual credit course. Zinth (2014) indicates that it is difficult to find qualified instructors to teach dual credit courses in rural-based high schools. Trey et al. (2017) found that within Texas, 56 percent of faculty teaching dual credit courses were adjunct faculty, and only 12 percent of them had doctoral degrees.

Are Dual Credit Students Successful in Post-secondary Education after High School?

Multiple studies have found that dual credit participation positively impacts persistence and

graduation rates (Miller et al., 2017; Radunzel, Nobel, and Wheeler, 2014; Giani, Alexander, and Reyes, 2014; Appleby, Ashton, Ferrell, Gesing, Jackson, Lindner, Mata, Shelnut, and Wu, 2011). After taking into account multiple factors associated with college degree attainment, An (2013) found that dual credit participation increases the probability of attaining a bachelor's degree by 8 percent. Moreover, dual credit participation increased the likelihood of college graduation by 8 percent for first-generation college students who took dual credit during high school.

Based on a study focusing on a Texas student population, Radunzel, Nobel, and Wheeler (2014) found student success outcomes (first-year and second-year GPAs) were higher for students who participated in dual credit during high school. These students also had a high probability of completing a bachelor's degree. At the same time, the study found that students who participated in dual credit had higher ACT composite scores and higher school percentile ranks than students who did not participate in dual credit. Moreover, dual credit students were more likely to be non-underrepresented minorities and more likely to attend high school in a rural area as compared to students located in a suburban or urban area.

Radunzel et al. (2014) examined whether dual credit courses prepared students for subsequent college coursework. The researchers examined 21-course pairs to determine if there were differences in performance between students who took the course pairings on a college campus and students who took the first course in high school as a dual credit course, and then took subsequent courses later on in college. Only students who made a C or higher in the first course were included in the comparisons. The course pairs were in social sciences, English, mathematics, and science. Radunzel et al. (2014) found that there were few differences in course performance between the two groups. However, they found with two-course pairs—American history/political science and biology/chemistry—dual credit students, underperformed compared to college students who took both course pairs in college.

The THECB and RAND (2018) completed a series of analyses examining dual credit activities and short-term and long-term student success outcomes. When compared to students who never took dual credit courses, dual credit students have a higher probability to perform better in college courses, to graduate from two- and four-year public institutions, and to reduce their time-to-degree. This and other research done by several higher education agencies and leaders (Redlinger, 2017; Mathew, 2016; Hinojosa, Salinas, 2012; Villarreal, 2017; Karp, Calcagno, Hughes, Jeong, and Bailey, 2007; Lichtenberger, Witt, Blankenberger, and Franklin, 2014; Young, Joyner, and Slate, 2013; Radunzel, Noble, and Wheeler, 2014) indicate that students who take dual credit benefit in the following ways:

- Increases the likelihood students will apply and attend a university
- Increases the student's first-year GPA
- Increases the likelihood of students' first-year retention
- Increases the likelihood that students graduate in four and six years

Some researchers have indicated limitations associated with statistical techniques used to examine the relationship between dual credit participation and student success outcomes (Giani, Alexander, and Reyes, 2014). Karp, Calcagno, Hughes, Jeong, & Bailey (2007) found marginal differences in outcomes associated with dual credit participation when examining students from Florida and New York. Dual credit students from Florida had a slight increase in postsecondary enrollment (7.7 percent for all students and 8.6 percent for dual credit students). In both states, the study indicated statistically significant differences between dual credit students and non-dual credit students in first-, second-, and third-year college GPAs. By the third year of postsecondary education, dual credit students from both states had more college credits than non-dual credit students.

One limitation of the study, however, is that even though the findings were statistically significant, there might be too much statistical power creating a false positive finding. For example, a significant finding in a GPA difference of 3.00 versus 2.95 has minimum impact on the students' success. Also, the type of university a student attends might impact the relationship between dual credit participation and college GPA. An (2015) found dual credit participation had a bigger impact on students' first year GPAs when students attended mid-selective and very-selective institutions rather than highly-selective institutions.

An additional limitation to the dual credit research is that the sampling design is flawed (i.e., selection bias) when examining student outcomes. Researchers generally compare dual credit students with students who do not take dual credit during high school. Wyatt, Patterson, and DiGiacomo (2015) found that students who receive a score of a 3 or better on an AP exam perform better in college (four- and six-year graduation) than students who had taken dual credit in high school.

One of the overall themes from the literature is that dual credit participation is going to save students money (Tobolowsky and Allen, 2016). This recommendation is based on the findings that dual credit students complete a degree at a faster pace than students who do not enter with any early college credit. However, heretofore, no research has examined whether dual credit participation has an impact on students' college financial burdens.



METHODS

In order to provide a complete picture of how dual credit is impacting UT System students and institutions, a mixed methods (both quantitative and qualitative data) study design was applied. There were four distinct phases of the data collection process.

Phase One

Data Discovery: UT System sent a data request to the academic institutions requesting data for first-time students entering from 2010 to 2015. The data requested included information on student characteristics (demographic and pre-matriculated academic variables), coursework transferred into the institutions at the time of matriculation, and student achievement data (GPA, major, and degree) by semester (N=129,661). Data from the National Student Clearinghouse were merged into the data set to provide a comprehensive view of students' enrollment outside of the UT System.

Phase Two

Online Survey: A 21-item online survey was given to enrolled students who provided a retrospective view of their dual credit experiences. More than 4,078 surveys were completed. Institutions provided email addresses for current or recently enrolled students who had obtained early college credit during high school. The online survey response rate was 13 percent. The survey included an optional open-ended response. The majority of respondents (n=3,129) provided additional information about their dual credit experiences through the open-ended response.

Phase Three

Focus Groups: A research team from UT System conducted eight campus visits. During the visit, a series of population-specific focus groups were conducted with students, faculty, advisors, and enrollment managers. Student focus group participants were current students who entered the institution with some type of dual credit. Faculty participants included tenured faculty, tenure-track faculty, or contingent faculty from UT academic institutions. Academic advisors and enrollment managers (admissions, financial aid, and registrar) were UT institution employees. All focus groups were audiotaped and transcribed. There were 180 students, 92 academic advisors, 90 faculty, and 45 enrollment management personnel interviewed.

Phase Four

Policy, Process, and Program Review: OSI completed a review of the current UT institutions' efforts to respond to the rapid growth of dual credit. This effort was not a comprehensive review, but rather a highlight of dual credit activities. Information was collected by reviewing websites and policies, interviewing program directors, and conducting focus groups with faculty, advisors, and enrollment managers.

DATA ANALYTIC STRATEGY

Quantitative Analyses

From the data discovery process, the Dual Credit Research Team created a student-level dataset (N=129,661) and course-level dataset (N=533,046). The data analytic strategy used for the statistical analysis was dependent on the research question. Descriptive analyses were conducted to examine demographic differences in dual credit participation, identify dual credit courses most often taken, and subsequent course completion. Inferential analyses were used to examine:

- Retention and graduation success models (multinomial regression)
 - o Five models were developed for retention (second fall enrollment, third fall enrollment) and graduation (four-, five, and six-year graduation)
 - o Variables within the models included: AP/IB/Dual Credit status, high school percentile, SAT/ACT score, admitted under Coordinated Admission Program, entering cohort year, economically disadvantaged, gender, race/ethnicity, first-generation status, Pell recipient, high school location, average high school enrollment, high school type
- Grade Point Average (GPA) models (Tobit regression)
 - o Models were developed for first-, second-, third-year GPA
 - o Variables within the models were identical to the retention and graduation models
- Student debt (linear regression)
 - o Variables in the model were AP/IB/Dual Credit status and cumulative grant/scholarship/tuition waiver aid

- Time-to-degree (Tobit regression)
 - o Models were developed for four-, five, and six-year graduation
 - o Variables within the models were identical to the retention and graduation models

Qualitative Analyses

The OSI research team analyzed focus group interviews and survey open-ended responses using qualitative data analysis techniques. Audio recorded interviews were first transcribed and verified for accuracy. The OSI team then developed initial codes based on themes within the research questions and interview protocol (e.g., participation: models of dual credit) and coded interviews and open-ended responses from the online survey using MAXQDA software. Additional rounds of coding were completed using new themes that emerged as salient in the initial round of coding (e.g., participation: supports and scaffolds). Based on the coding of all qualitative data, the OSI research team produced findings regarding student, advisor, faculty, and enrollment management personnel perspectives about dual credit.

Findings presented are based on the primary questions but then provide the readers with additional insights based on post hoc secondary questions from follow up quantitative and qualitative analyses. Both primary answers and additional insights from the secondary questions provide a complete picture of the dual credit phenomenon taking place in Texas for UT System institutions. Additionally, researchers have included quotes from student participants whose words capture either the exact response of many other participants or the complex range of thoughts on dual credit participation and outcomes.

STUDENT VOICE

“For me, it was because my siblings and my parents didn’t go to college. I saw the opportunity, and I thought, would I be the first one to finish? So, let me take the opportunity and go for it. I applied and got accepted. It was a big deal for my family. I would be the first one. When I graduated this May from high school and college, it was a big thing for my family and me, seeing the first granddaughter and child to finish. It was exciting to do that.”

—A current UTRGV student speaks about personal motivation for enrolling in an Early College High School



RESULTS

RESEARCH QUESTION 1: DUAL CREDIT PARTICIPATION

To understand the range of UT System students' experiences with dual credit and other types of early college credit, their motivations for taking dual credit, and other factors that influenced their decisions regarding dual credit participation, the Dual Credit Research Team sought information that could not be obtained from the institutional data sets. This was done by analyzing the quantitative data from the data discovery requests and the qualitative from the online surveys and focus group interviews with former dual credit students. This data yielded insight into the wide variety of student experiences with dual credit across the UT System.

Within this section, findings provide answers to the following primary and secondary research questions:

Primary: **Who takes dual credit? How many hours are accrued?
What courses are most often taken?**

Secondary: **What courses are taught most often? How, where, and
by whom are courses delivered? Who provided students
with information about dual credit? What motivated
students to take dual credit? How much did dual credit
cost students?**

FINDINGS

Students Have a Wide Variety of College Credit Opportunities

Students are entering UT System academic institutions with college credit from three main sources: Dual Credit (DC), Advanced Placement (AP), and International Baccalaureate (IB). (see Appendix C, Tables 2 and E, Online Survey Question 2 for further information). Students can receive college credit after receiving a passing grade (D or better) in a dual credit course, receiving a score of 3 or better on an AP test, or receiving a test score ranging from 4 to 7 depending on the IB course. Some students are receiving a combination of dual credit and AP/IB credit. While students can choose whether or not to apply AP or IB to their academic record, DC is required to be transferred onto the academic record. For purposes of this study, AP

and IB students were merged into one group due to the low number of IB students within the college credit-earning population.

Several Different Dual Credit Models Exist in Texas

There are several different DC models in Texas. Models range from individual courses in traditional high school (HS) settings, Early College High School (most often on or near a community college campus), Middle College High School (high school on a four-year campus), a school within a school (DC school on an HS campus), as well as alternative programs such as OnRamps. OnRamps provides students the opportunity to choose whether they would like to apply the college credit to their transcript or only accept high school credit after completing the course. While each model uses a different approach, all programs provide college credit to high school students (Figure 1).

Figure 1. Variations of Dual Credit Programs

Location	Model	Instructor	Delivery	Classmates
<ul style="list-style-type: none"> • Community College campus • High School/Early College campus • 4-Year University • Virtual/online 	<ul style="list-style-type: none"> • Traditional High School with dual credit • Early College High School • School within a school • Independently 	<ul style="list-style-type: none"> • Dual employed high school and college instructors • College-only instructors • College instructors paired with high school facilitators 	<ul style="list-style-type: none"> • Physical classroom • Online (asynchronous) • Online (synchronous: interactive or one-way) • Recorded 	<ul style="list-style-type: none"> • Other dual credit students only • Dual credit and AP students mixed • Mixed with traditional college students

Dual Credit Courses Differ by Location, Instructor Type, and Classmates

Students’ experiences vary by sources and modes of delivery, but there are other variables, as well. There are three main physical locations where students receive dual credit: 1) high school campus, 2) community college campus, 3) and four-year institution campus (see Appendix E, Online Survey Question 4 for detailed student responses). Additionally, some students participate in synchronous online/streaming (the instructor and student are online/streaming

at the same time) or asynchronous online/streaming (students work independently through an online module with or without interacting with the faculty). The following types of instructors can provide dual credit: high school-based college instructors, community college instructors, high school facilitators working with a college instructor, or four-year college professors (see Appendix E, Online Survey Question 5). All dual credit faculty/instructors must meet the necessary Southern Association of Colleges and Schools Commission on Colleges (SACS-COC) requirements to teach college-level academic courses (master’s degree with 18 graduate hours in the discipline being taught). In terms of classmates, some dual credit students are mixed with traditional college students, and some take courses with only their dual credit peers. Additionally, students reported varied supports built into their dual credit experiences (Figure 2).

Figure 2. Supports Built Into Dual Credit Experiences

Transitioning to Dual Credit
<ul style="list-style-type: none"> • Dual credit courses begin on a high school campus and continue on a college campus • Dual credit courses can be taught by high school-based instructors • Small number of courses can be taken at a four-year campus in the senior year • Option to limit or increase semester credit hours • Semester credit hours for 9th and 10th graders are limited • Summer bridge programs offered (writing and math camps) • Study aids provided for TSI placement exam • Social supports for those at non-traditional schools (ex: sports at home campus, prom)
Flexible Choices
<ul style="list-style-type: none"> • Students’ ability to attend different community college campuses • Students’ ability to choose between technical credit and academic credit • Homeschool students are provided the opportunity to take dual credit • Students provided multiple dual credit delivery options: at high school, at community college, or online • Students ability to choose between options for advancement: dual credit, Advanced Placement, and International Baccalaureate

Extra Academic Support

- Students can take study skills courses like EDUC 1300
- Students required to participate in tutoring sessions
- Students provided access to peer tutors for assistance
- Students offered study hall periods to complete assignments
- Students' academic progress monitored by high school facilitators
- Student receiving more frequent grade reporting (ex: mid-semester or 6-week checks)
- Students provided access to university or community college resources like writing centers or tutoring labs

Combined Models

- Stacked dual credit and AP classes (DC and AP students mixed in the same classroom) provided for students
- Pre-AP/AP courses are prerequisites for dual credit courses
- Students are offered DC with AP option (all students are registered for DC, but AP test is also addressed/offered)
- Students are offered courses taught jointly by high school teacher and college professor
- Magnet school model provides specialized courses that are offered as dual credit

Students Reported Several Motivations to Take Dual Credit

There are several reasons why students take dual credit. Most commonly, students mention that dual credit will save them time and money toward their college degree. Other students indicate they are seeking more of a challenge during high school, or they want to “knock out” courses due to disinterest or perceived irrelevance. Some students indicate they took dual credit for strategic reasons (to prepare for the transition to a four-year institution, to gain an advantage in the college application process and improve their high school ranking). See Appendix E, Online Survey Question 9 for additional student responses for why they were motivated to take dual credit.

Students Learn about Dual Credit from a Variety of Individuals

Students hear about dual credit from a variety of individuals (see Appendix E, Online Survey Question 6). For the most part, students learn about dual credit from their high school counselors. However, students also hear about it from friends, high school teachers, middle school counselors, and parents. Some students hear about dual credit while attending middle school.

Sixty-one Percent of Students Enter UT Academic Institutions with College Credit

In 2015, 61 percent (n=15,263) of first-year UT students who are Texas residents brought with them some type of college credit (see Appendix C, Table 2). Dual credit students make up more than a third (39 percent) of the freshman class. This percent has remained constant (give or take 1-3 percent) over the past six years of entering first-year students. One out of every five first-year students applied AP or IB exam credit toward their academic record. One in 10 students who enter UT System institutions has both dual credit and AP or IB credit. Participation varies by institution. From 2010 to 2015, 63 percent of (n=75,647) first-year UT students who are Texas residents have some type of early college credit (dual credit, AP/IB, or both) on their academic record. Out-of-state, first-year UT students were excluded from the analyses due to the variations of dual credit offered to those students. When comparing the Texas only sample to the entire student population, there were no significant differences in the percent of students who take dual credit, AP/IB, or both.

Table 2. College Credit while in High School by Cohort Year and Type of Credit

	DC Only		AP Only		Both		Neither	
	N	%	N	%	N	%	N	%
2010	5,004	27	3,510	19	2,480	14	7,234	40
2011	5,131	27	3,846	20	2,818	15	6,983	37
2012	5,501	29	4,237	22	2,928	15	6,460	34
2013	4,863	26	4,267	23	2,731	15	6,523	35
2014	5,357	27	4,878	24	2,833	14	7,147	35
2015	6,780	27	5,638	23	2,845	11	9,695	39
All	32,636	27	26,376	22	16,635	14	44,042	37

Credit Participation Differs by Students' Demographic and Academic Characteristics

Women are more likely than men to take dual credit. White students are more likely to take DC than African-American and Asian-American students. Hispanic students are more likely to take DC than White students; Asian-American students are more likely to take AP than White students. Non-first-generation students are more likely than first-generation students to take DC, AP, and both. Based on entering SAT scores (out of 1600), students who received 1100 and above on the SAT are more likely than students with less than 1100 to take DC, AP/IB, and both. Among students with SAT scores less than 1100, 33 percent took DC only, 8 percent took AP only, and 5 percent took both. See Appendix C, Tables 3-5, 17 for further details.

Fifty Percent of Dual Credit Students Have 18 Hours of Dual Credit

For the entering 2015 freshmen class, the median number of dual credit hours transferred to students' academic records was 18 (25th – 75th percentile: 9 – 29; 90th percentile is 60). The median number of AP/IB hours was 12 (25th – 75th percentile: 6 – 29; 90th percentile is 60). The median number of both DC and AP/IB hours was 22 (25th – 75th percentile: 15 – 31; 90th percentile is 45). Between 2010 and 2015, the median for dual credit hours has ranged from 12 to 18 hours. Additionally, there has been an increase in the average dual credit hours from 15 to 21. By contrast, the median for AP/IB hours have remained stable over this same time period (Appendix C, Tables 6).

Amount of College Credit May Vary by Student Demographics

The number of dual credit students take during high school does not differ by gender (Appendix C, Table 8). However, there are ethnicity/race differences. Hispanic students are taking more dual credit hours than other students, especially at the 90th percentile (52 hours versus 25-34 hours for other groups). Asian-American students bring with them more AP/IB credit (14 median hours) compared to a median of 6 hours for African-Americans (Appendix C, Table 7). Dual credit hours transferred into UT institutions do not differ based on first-generation status or Pell status.

Core Requirements Are the Most Common Dual Credit Courses

From 2010 to 2015, there were more than 533,000 courses offering DC, AP, or IB credit (Appendix C, Table 13). Core curriculum requirements were the most commonly transferred dual credit. The most popular courses are:

- English (104,639)
- History (80,359)
- Math/Statistics (53,262)
- Government (43,724)
- Foreign Languages (33,990)
- Business/Economics (28,982)
- Biology (25,146)
- Physics/Astronomy (24,813)
- Social Sciences (17,863)
- Chemistry (17,765)
- Fine Arts (10,249)
- Communications (8,347)

Dual Credit Costs for Students Vary by District

The cost of taking dual credit can vary from school to school or from district to district. Some schools offer dual credit (including textbooks) for free. Some institutions charge as much as \$200 to \$400 per course (including textbooks). Based on the online survey, 51 percent of students received free dual credit courses, whereas 12 percent of students indicated paying more than \$200 per course (Appendix E, Online Survey Question 7).

STUDENT VOICE

“For me, the transition from high school to college was like a huge, huge thing for me because... Well, the dual credit classes helped me a lot because I knew what to expect, and how the classes were going to be, and how the professors talk to us, how they organize the course and teach us. It was pretty interesting. Dual credit helped a lot with that college experience.”

—A current UTPB student reflects on how dual credit experience impacted the transition to college

RESEARCH QUESTION 2: STUDENT OUTCOMES

It is important to determine the association between dual credit and student success outcomes. It is also important to demystify the anecdotal information on dual credit students and how they perform at four-year institutions. The UT System wants to determine what impact dual credit has on student success. For this study, the following metrics were used to determine student success: fall-to-fall retention during the first and second years of college; degree obtainment at four-, five-, and six-years; cumulative GPA at first-, second-, and third-years; subsequent course completion based on grade received in the course; time to degree; attempted in-residence hours; and student debt at the time of graduation.

Within this section, findings provide answers to the following primary and secondary research questions:

- Primary:** **What short- and long-term student outcomes (e.g., retention, subsequent course completion, graduation, GPA, student debt) are associated with students' dual credit participation?**
- Secondary:** **Does dual credit participation have a positive impact on a students' time-to-degree? Do dual credit students attempt fewer in-residence semester credit hours than students who do not enter the institutions with early college credit?**

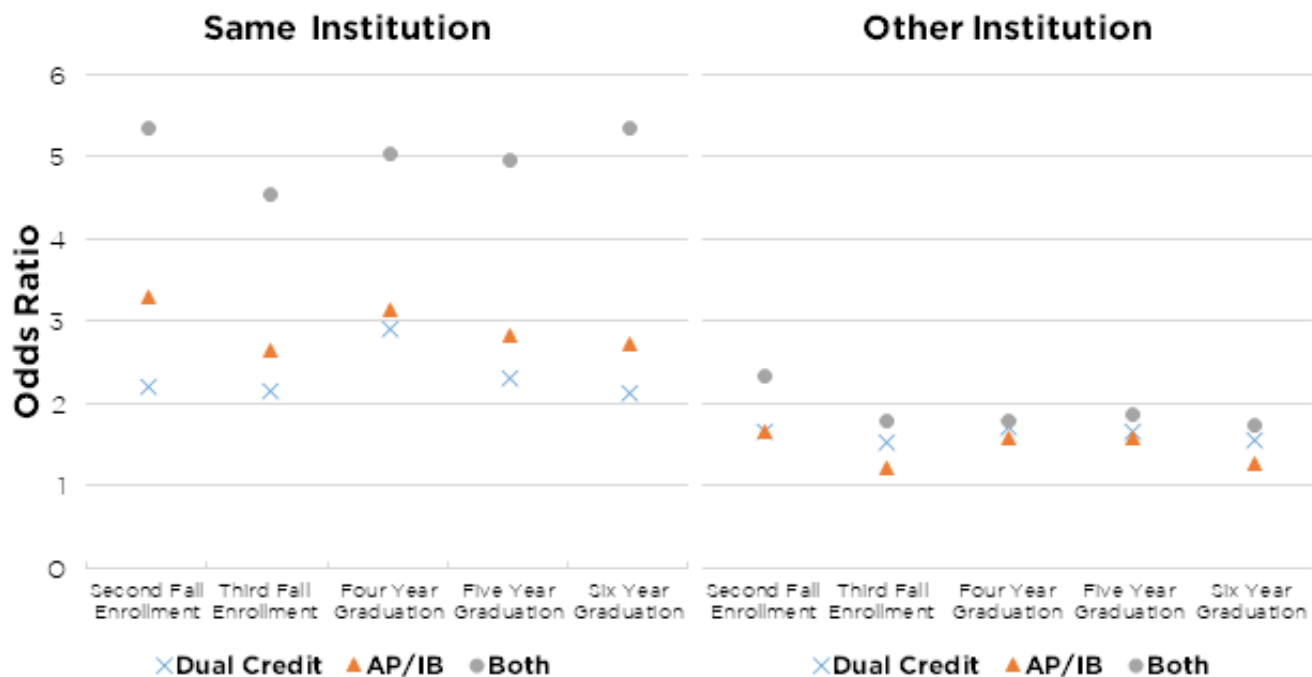
FINDINGS

Exposure to Any College Course Has a Positive Impact on Student Retention and Graduation

Dual credit students are two times more likely than noncredit bearing students to be retained during the first (first fall to the second fall) and second (second fall to the third fall) years of college. AP students were three times more likely to be retained as compared to noncredit bearing students during the same time frames. Students who have both DC and AP are five times more likely to be retained than noncredit bearing students during the same time frame. All analyses were statistically significant at a $p < .0001$ level (Graph 1). National Student

Clearinghouse data were incorporated into the student data, which allowed the creation of multiple outcomes (e.g., graduated at the institution they started, graduated at different institution, or did not graduate).

Graph 1. Student Retention and Graduation Models (Odds Ratios)



Model Description					
	Second Fall Enrollment	Third Fall Enrollment	Four Year Graduation	Five Year Graduation	Six Year Graduation
Max rescale R Square	0.27	0.28	0.39	0.41	0.38
Significance	p <.0001	p <.0001	p <.0001	p <.0001	p <.0001
Variables in Model	AP/IB/Dual Credit earned, high school percentile, SAT/ACT score, admitted under Coordinated Admission Program, entering cohort year, economically disadvantaged, gender, race/ethnicity, first-generation status, Pell recipient, high school location, average high school enrollment, high school type				
Cohort Years	2010-2014	2010-2013	2010-2012	2010-2011	2010
N	95,186	74,933	56,387	37,233	18,366
Same	72,081	49,533	19,160	18,719	10,090
Other	12,875	13,042	1,904	2,756	1,739
None	10,230	12,358	35,323	15,758	6,537

Dual credit students are three times more likely than noncredit entering students to graduate in four years. AP students were three times more likely to graduate as compared to noncredit bearing students. Students who have both DC and AP are five times more likely to graduate using the same comparison group. All analyses were statistically significant at a $p < .0001$ level. The model took into account school characteristics (economically disadvantaged schools and type of high school) and student characteristics (gender, race/ethnicity, high school percentile, CAP Status, SAT/ACT, Pell ever, first generation, cohort year, institutions, and proximity from high school to institution).

Number of Dual Credit Hours Predicts Graduation, But Not Always Retention

The number of dual credit hours is not predictive of first-fall to second-fall retention and second-fall to third-fall retention. When examining dual credit hours by categories (students who have 1-15, 16-30, 31-59, and 60+ hours), students with 60 hours are more likely (1.6 times) to be retained compared to students who have 1-15 dual credit hours. However, there are no differences in the likelihood of being retained among students who had 1-15, 16-30, and 31-59 dual credit hours. Interestingly, even though the number of hours did not have an impact on retention, it did predict students' 4-, 5-, and 6-year graduation. Students who have 16-30 (1.4 times), 31-59 (1.9 times), 60 (4.9 times) are more likely to graduate in four years than students who had 1-15 dual credit hours (see Appendix C, Tables 14-16).

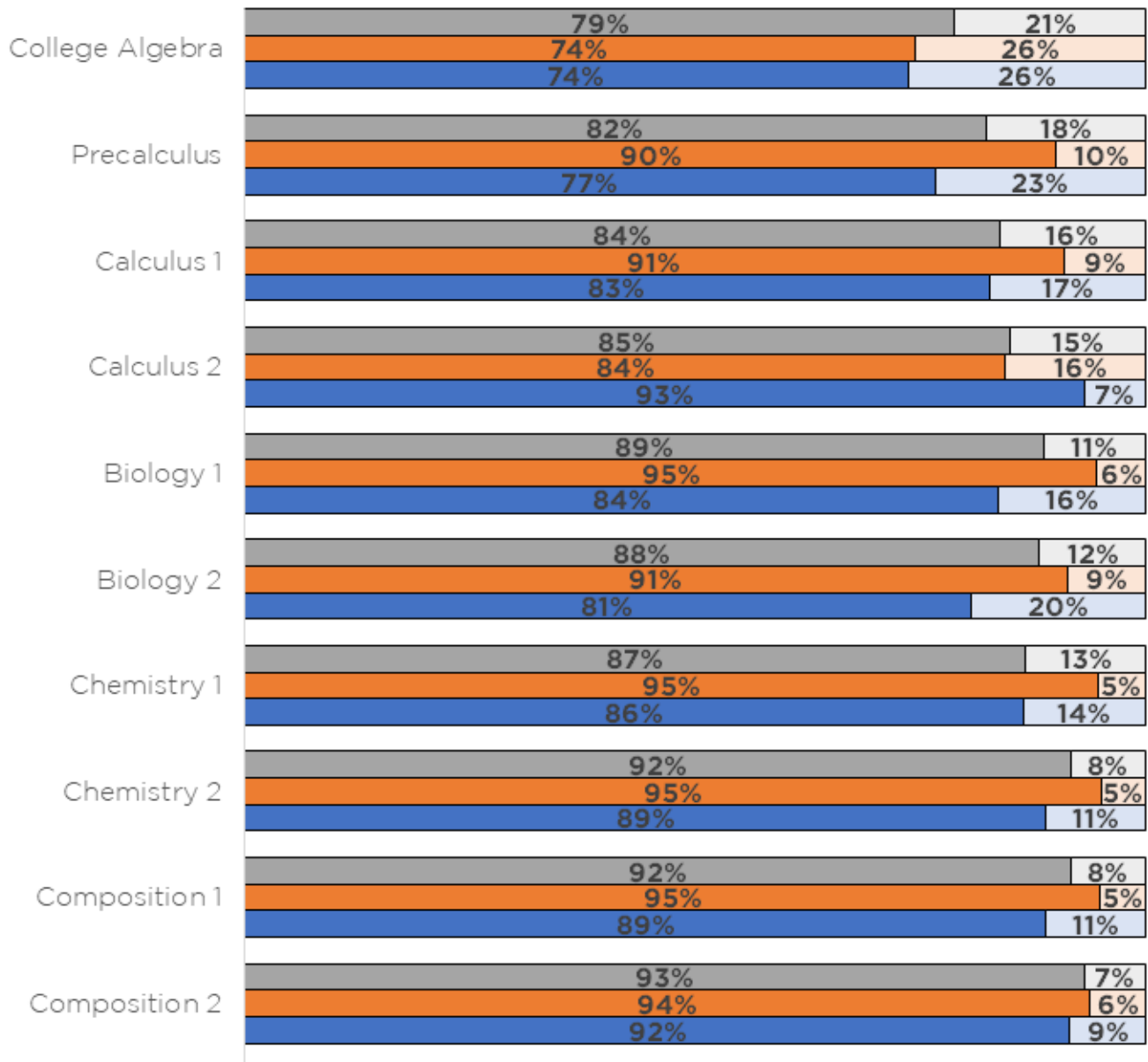
Dual Credit Has a Positive Impact on a Student's Grade Point Average

Students who have taken dual credit have a higher GPA than students with no entering (DC, AP/IB) college credit. DC students have a higher first-year cumulative GPA than students with no credit (cohort average is 2.88; DC +.35; AP is +.47; and Both + .57; p -value $< .0001$). This trend is consistent when examining second-year (average is 3.03; DC +.18; AP + .28; Both + .35; p -value $< .0001$) and third-year cumulative GPA (average is 3.10; DC +.12; AP +.22; Both +.27; p -value $< .0001$). The model took into account school characteristics (economically disadvantaged schools and type of high school) and student characteristics (gender, race/ethnicity, high school percentile, CAP Status, SAT/ACT, Pell ever, first generation, cohort year, institutions, and proximity from high school to institution) (see Appendix C, Graph 2).

Dual Credit Students Are Successful in Subsequent Courses

One indicator for dual credit quality and rigor is to examine how students perform in subsequent courses after taking dual credit as a prerequisite. This study examined any course that was listed as a prerequisite for the following subject areas: science, math, and English. Dual credit students' GPAs for the subsequent courses were compared with students who took the same subsequent courses but took the prerequisites at the UT institution. There were very few differences in the average GPA for subsequent courses in science (biology) and math (college algebra, calculus). English was inconclusive due to lack of subsequent courses in English (Graph 3).

Graph 3. Subsequent Courses Completion



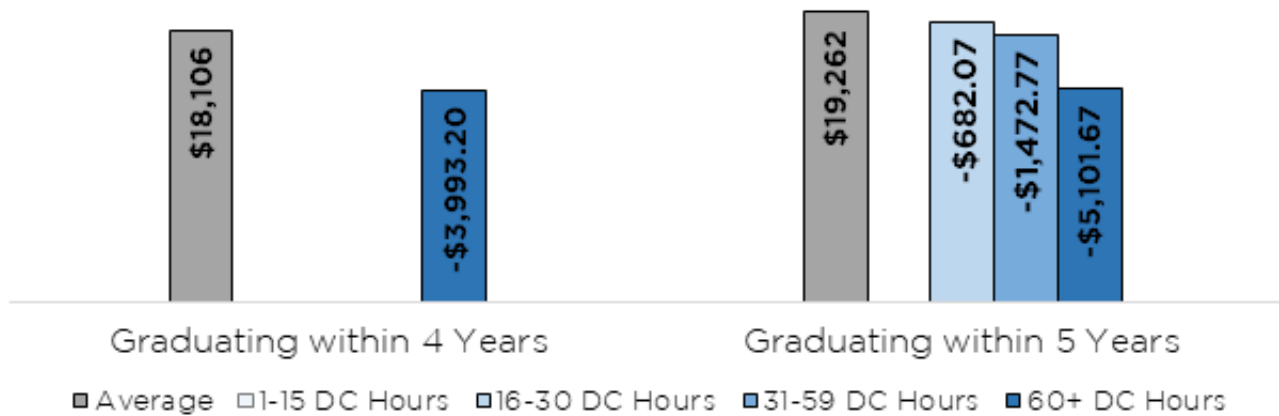
■ All - A, B, C, or Passed
 ■ AP/IB - A, B, C, or Passed
 ■ DC - A, B, C, or Passed

□ All - D, F, Incomplete, or Withdrawn
 □ AP/IB - D, F, Incomplete, or Withdrawn
 □ DC - D, F, Incomplete, or Withdrawn

Dual Credit Marginally Reduces Student Loan Debt

Saving money is one of the key selling points for dual credit participation. When examining DC students and non-DC students who graduated in four and five years, dual credit does not have a large impact on student loan debt (taking into account students' financial aid package: total grants, scholarships, and tuition waivers), unless students enter with at least 60 or more hours. When compared to noncredit bearing students, DC students who have 1-15 hours of dual credit do not save any money on their student debt (actually they have more student debt: \$67). Students who have 15-30 hours of dual credit save \$160; students with 31-59 hours save \$979; and students with 60 or more hours save \$3,825. Only the students who enter with at least 60 or more hours were statistically different ($p < .0001$) from students who were noncredit bearing (Graph 4). Further studies on college costs and loan debt are needed to examine how dual credit impacts the financial burden students experience when pursuing a four-year degree.

Graph 4. Student Debt for UT System Academic Institution Graduates



	Graduating within 4 Years		Graduating within 5 Years	
	Debt	Significance	Debt	Significance
Intercept	\$18,106	<.0001	\$19,262	<.0001
1-15 DC Hours	Not significantly different		Not significantly different	
16-30 DC Hours	Not significantly different		-682.07	0.0119
31-59 DC Hours	Not significantly different		-1,472.77	0.0015
60+ DC Hours	-3,993.20	<0.0001	-5,101.67	<.0001

Dual Credit Shortens a Student's Time to Degree

When examining students who graduate in four years, on average, DC students graduate one semester earlier compared to students with no prior college credit. When considering the number of DC hours students earned prior to enrollment, students with 1-15 semester credit hours (SCH) are not saving any time; students with 16-30 hours are saving close to one semester; students with 31-59 hours are saving close to two semesters; and students with more than 60 hours are saving close to three semesters (Appendix C, Tables 18-20).

Dual Credit Students Have Lower Attempted In-Residence Semester Credit Hours

Of students who graduate in four years, DC students have 97 attempted in-residence semester credit hours (SCH). AP-only students have 104; both have 101, and neither have 110 in-residence semester credit hours. Of students who graduate in five years, DC students have 102 hours of in-residence SCH; AP has 108; both have 104; neither have 117 (Appendix C, Tables 21-24).

STUDENT VOICE

“I felt that there were both advantages and disadvantages to acquiring so many college credits before starting college, especially since I did not have a clear idea of what I wanted to major in, how I would pay for college, and what programs I would eventually join. I ended up joining [a special program on the UT campus], which was basically a part-time job, and this program required that I be a full-time student taking 12 hours every semester to receive tuition and stipend. So, I ended up completing the requirements for a minor over three years so that I could be a full-time student and keep my position in the program. The minor is not really related to my degree, but these courses were not as challenging as my major courses, and helped to balance out my course load. I also had room in my schedule to join the honors college and to complete the honors requirements for graduating with highest honors and international distinction.

So, overall I would say that these considerations are important, but how important these considerations are will vary from person to person.”

—A current UTSA student reflects on the complex impact of dual credit experience

RESEARCH QUESTION 3: STUDENT, FACULTY, AND ADMINISTRATIVE PERSPECTIVES

Dual credit has created a blurred space between high school and college. In qualitative interactions (open-ended survey responses, interviews, and focus groups) with students, administrators, faculty, and advisors, both excitement and uneasiness about this new space were expressed. The results from these interactions provided insight into stakeholders' perceptions of access, success, advantages, and disadvantages of dual credit.

Within this section, findings provide answers to the following research question:

From various stakeholders' (students, faculty, enrollment management, and advisors) perspectives, how does dual credit participation contribute to student success in higher education? What are the advantages and disadvantages?

FINDINGS

Students' Perspectives on Dual Credit and Success in College

In focus groups and open-ended survey responses, students were often very positive about their dual credit experiences, and they reported distinct advantages to their dual credit participation. However, they also reported disadvantages, important cautions, and caveats about the impact of their dual credit experiences. Based on student perspective data, dual credit provided students with a toolkit of resources needed when transitioning to and moving through the university setting. There are three distinct components within the toolkit: 1) specific preparation in disciplines, 2) academic behaviors and skills useful across college, 3) and exposure to and experiences with the culture of college.

Specific Preparation

Students reported that dual credit courses provided them with very specific preparation for academic disciplines, including specific knowledge (i.e., content knowledge in Calculus I), disciplinary thinking (i.e., how historians arrive at conclusions), and discipline-specific

skills (i.e., writing a lab report). Additionally, students were better able to understand the variations between majors and programs within an institution because of their dual credit experiences. Though this was often framed (by other stakeholders) as the most important aspect of dual credit experiences, students spoke more often about the next two advantages, which are connected to, but distinct from, the specific knowledge and skills they gained in the disciplines of their courses.

Academic Behaviors and Skills

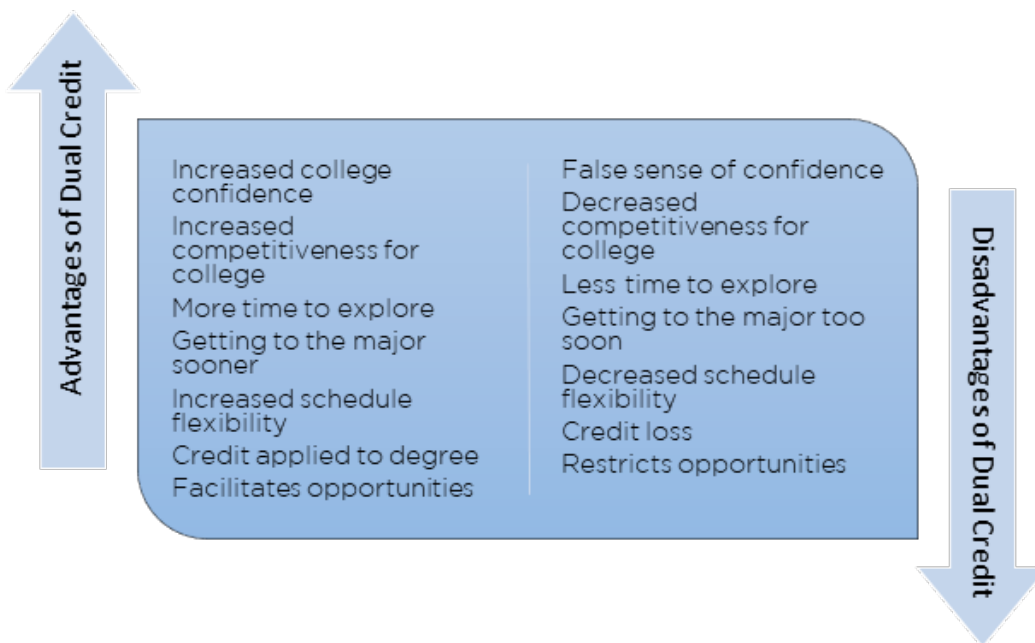
Students reported gaining broad skills that were useful for them across their college experiences, rather than in a specific discipline. The named skills included: time management (mentioned often); independently meeting deadlines; communicating with faculty; academic skills, such as listening to lectures, notetaking, study skills, critical thinking; utilizing research databases; and using academic discourse.

Exposure and Experiences

Students were exposed to and gained experience with varied aspects of college through dual credit. The aspects of dual credit students encountered varied based on the nature of their dual credit experiences. However, students reported gaining familiarity with student-professor dynamics; the expectations for quality work; typical college workloads; college-specific pedagogies; processes like registration or advising; and college resources, including tutoring, writing centers, peer study groups, and office hours. Additionally, students were able to try out various college classroom settings (e.g., lecture hall, laboratory, and online) and rehearse the role of “college student” with potentially lower stakes and higher support. Students benefitted from this familiarity as they transitioned to UT institutions.

Students reported other types of advantages; however, what one student found to be beneficial could be reported as a disadvantage by another. For instance, some students reported that entering with dual credit hours provided them with more flexibility in scheduling courses, and they framed the ability to start taking major courses as an advantage. Other students reported scheduling difficulty because of dual credit hours, lamenting they had to begin major courses so soon after matriculation to the four-year university. Image 1 provides an example of the opposing views students reported during the student focus groups, as well as in the open-ended question from the online survey.

Image 1: Students' Perceived Advantages and Disadvantages of Dual Credit



Students' Dual Credit Advice to High School Students

Students from UT System academic institutions who have taken dual credit in the past provided insights for high school students who are considering dual credit as an option. Students advised high school students to seek out information on all of the dual credit programs offered in their school district. Overwhelmingly, students told other students “take all you can!” citing the benefits of savings and preparation, but some students noted problems with this approach. These students reported that “taking all you can” is a strategy that can result in credit loss, wherein some courses transferred but are not applied meaningfully to the degree plan. Students said “I wish I had known,” and suggested younger students begin asking high school counselors early on about what counts toward a four-year degree. Some also suggested that students consider slowing down and taking advantage of a full four-year experience.

UT students also provided suggestions on specific courses to take and certain courses not to take as dual credit (especially if the students want to major in a STEM field). Regardless of what courses they selected, the former dual credit students' advice was to take the dual credit coursework seriously as it is the beginning of college. Finally, UT students indicated that there is “no one size fits all” and that choices may hinge on the choice of major, financial resources, and individual preferences. The Results section titled Students' Experience and Advice provides examples of student advice regarding dual credit in their own words. This section further explores students' perspectives by providing the “dual credit narratives” of eight students' from

each institution. These narratives paint a picture of students' varied dual credit experiences, as well as the advantages and disadvantages of this participation from the students' perspectives.

Faculty Perspectives on Dual Credit

Based on the faculty focus groups, the faculty had diverse views on dual credit education. There were four themes that were generated from the focus groups: 1) course quality, 2) college preparedness, 3) recommendations for possible improvements, 4) and advantages and disadvantages for dual credit students.

Course Quality

Faculty from UT System academic institutions are concerned with the quality and rigor of dual credit courses, and they mentioned several things that might affect quality and rigor. First, they were concerned about whether dual credit courses had the same learning objectives, instructional materials, and assessment/measurement (tests and papers) as a four-year college course, recommending that students compare course syllabi. They also wondered whether the academic environment within high schools provides the resources (lab space and collaborative peers) for dual credit instructors to produce high-quality college courses. Finally, the faculty expressed their concern that course quality might be limited when it is taught by high school-based instructors who shift between the roles of teacher and college instructor throughout the day and have the flexibility to let students retake tests and extend deadlines.

College Preparedness

Though the THECB defines college readiness as a score of 1070, faculty indicated there is more to college readiness than just a test score. They reported it is critical for students to have analytical writing skills, an ability to manage time, and a certain level of maturity to succeed in college courses.

Potential Improvements for Dual Credit Courses

Faculty reported several suggestions for possibly improving dual credit. The most common suggestion was to provide students with an end-of-course exam that must be passed to obtain credit (like AP exams). Faculty also suggested giving pre-tests before registering for courses when the prerequisite was taken as dual credit. Other suggestions included standardizing courses, conducting teacher quality checks, and increasing communication between institutions to discuss course content, pedagogy, and degree pathways.

Faculty's Perspective on Dual Credit Advantages and Disadvantages

Faculty reported both advantages and disadvantages to taking dual credit. Some of the advantages include the following: dual credit encourages students to go to college; it provides an introduction to the college environment; it prepares students for a four-year college; and it saves students money. From faculty's perspective, some disadvantages students face include: not being prepared for junior-level classes; high school students not ready for college and not succeeding in dual credit classes; a false sense of security created when students pass an early college course that is not at the same rigor or quality of a four-year college course; credits not transferring or students taking unnecessary courses; students are not provided the time to develop various life skills or the time to experience college.

Academic Advisors' Dual Credit Perspectives

Based on the advisors focus groups, several themes emerged: how dual credit has impacted advisors' ability to advise students; the positive and negative impacts dual credit has on college students; and the lack of a seamless pathway between dual credit programs and four-year degree plans.

Dual Credit Limits Advisors' Ability to Advise Students

Advisors face several challenges when advising students who took dual credit, making it difficult for advisors to provide the best options or advice for their students. A common hurdle was due to late or missing transcripts; students were not always aware they needed to send their dual credit transcripts to the institution. Another significant challenge was the number of hours DC students brought with them, creating scheduling conflicts. Students with a high number of dual credit hours often faced challenges with sequenced courses in some majors or with upper-division courses that were full; for some students, this was especially difficult when scholarships or financial aid mandated full-time enrollment. Advisors often came up with less-than-ideal solutions, such as adding an unintended minor or taking off-plan courses.

Advisors' Perspectives on the Potential Positive and Negative Impacts Dual Credit Has on Students

Advisors reported that dual credit has both positive and negative impacts on students. From advisors' perspectives, dual credit can assist students who pursue non-STEM degrees. Advisors warn students that because STEM-related degrees are very sequence-structured, it can be difficult to find the right types of courses for students who have

several hours of dual credit. Also, advisors mentioned that these types of students are often required to take upper-division classes their freshmen year. Advisors expressed concern about students being “thrown” into upper-division courses their freshmen year without having time to adjust to life on campus. This rapid progression has an impact on students’ social networks with faculty and other students. Advisors felt that students were possibly missing out on the opportunity to create the social networks a traditional freshman would have to be part of the same groups of people attending similar classes, or study groups, and the opportunity to develop relationships with those individuals. Advisors also thought students in a lot of dual credit programs might forego other ancillary opportunities, such as undergraduate research or internships, opting instead to graduate as quickly as possible. Advisors indicated that students often take dual credit courses to get ahead, but depending on their area of study, the classes can be detrimental to their chances of getting into their chosen area of study. This is due to the internal transfer policy implications and GPA requirements for transferring into a high-demand major. Lastly, advisors identified an unintended consequence when students take large amounts of dual credit courses and then find their hands tied regarding their ability to discover what interests them and to find a degree that will lead them to a career about which they are passionate.

The Path Between Dual Credit Programs and Four-Year Institutions Is Not a Seamless Transition

One of the recurring themes throughout the advisors’ interviews was about managing parent and student expectations. Parents and students often come in assuming that all of the dual credit courses they have taken will apply to their degree plan, and will therefore significantly shorten their time to degree. Unfortunately, this is not always the case, especially for those pursuing STEM degrees with rigid sequenced structures. Another area of confusion is around technical versus academic credit, with some students being shocked to learn that none of the technical classes can be used toward their degree.

Enrollment Management (EM) Officers’ Dual Credit Perspectives

There was a consistent theme across all institutions where most interviewees were concerned that dual credit students had no clear academic path. Specifically, they were concerned with how dual credit coursework would be applied toward a four-year degree. Some of the UT System academic institutions were partnering with local community colleges, but there was a concern that students taking dual credit were going to have unforeseen issues with dual

credit, such as the lack of transferability, rigor of dual credit coursework, and being charged out-of-state tuition once students reached a credit threshold. All schools wanted to improve communication about dual credit with high school counselors, high school administration, parents, and students. Additionally, while most officers focused on these concerns, a minority of interviewees indicated there were obvious benefits from exposing high school students to higher education coursework.

Student Path

Some students participate in well-defined dual credit programs that have clear pathways (e.g., UT El Paso), but with most high school students participating in dual credit programs, there is no structured path to transition from dual credit to a four-year institution. In other words, enrollment management officers were worried about students' ability to choose transferrable courses, their maturity, and their ability to navigate upper-division courses directly out of high school. The majority of EM officers did not believe that taking dual credit necessarily saved students any time. They felt it might save students a semester or a year at most. They did not believe students saved any additional time if the student changed their major. Additionally, enrollment managers were worried about navigating the higher education landscape with too much credit (i.e., entering college with only challenging upper-division coursework and no electives left to take). However, they did note that dual credit helped with flexibility or the possibility of adding another major.

Enrollment Management Perspective on College Readiness

This topic was mixed across the institutions' enrollment management officers—a minority believed dual credit provided students, especially those who are economically disadvantaged and first-generation, an opportunity to see what college might have to offer. Additionally, they thought exposure to college-level courses would encourage students to further their education. Most focus group participants expressed concern about whether student maturity levels are high enough to take college-level coursework in high school.

Enrollment Management Perspective on Dual Credit Course Rigor

Overall, there was skepticism and concern around the rigor of dual credit being delivered at high schools and community colleges. Some enrollment managers thought it would be best for students to wait to take specific coursework (e.g., lab sciences) until they reached a four-year institution. Additionally, enrollment managers were concerned that students with a lot of dual credit could be unprepared for upper-division coursework in their first year.

Communicating with Dual Credit Students and their Parents

Enrollment managers indicated that prospective students and their families typically have several questions about dual credit courses, and therefore have suggested a standardized guide defining the purpose, advantages, and limitations of any early college course (DC and AP/IB). They also wanted future communication to explain the difference between technical credit and academic credit, and which courses can be appropriately applied. In other words, they want something that guides students toward specific coursework that can be applied toward their academic/career aspirations. Many wanted to communicate that dual credit courses can influence students' college GPAs. Alternatively, AP only provides students with credit, but will not influence college GPAs. A few interviewees also suggested targeting Spanish-speaking students and families who might have difficulty understanding the implications of DC.

STUDENT VOICE

“I would say to look at a four-year degree plan to use as a reference for which dual credit courses to take in high school, so that you do not end up with unnecessary credits for your major.”

—A current UTSA student offers advice to younger students considering dual credit

RESEARCH QUESTION 4: DUAL CREDIT POLICIES, PROCESSES, AND PRACTICES

Because of the rapid growth of dual credit in the state of Texas, it is important to understand how UT System academic institutions contribute to this growth, and what policies and processes they have developed to handle dual credit information. This section provides an overview of federal, state, and institutional policies concerning dual credit, and how UT institutions interpret and communicate the policies.

Within this section, findings provide answers to the following research question:

What campus policies, processes, and practices have been established in response to the rapid growth of dual credit participation?

FINDINGS

POLICY IMPLICATIONS

The following section describes the federal-, state-, institutional-, and high school-level policies associated with dual credit, as well as some challenges faced by students as a result of certain policies or their interpretation.

Federal Policy: Financial Aid Implications for Dual Credit Students

Although students are not allowed to seek financial aid before completing high school, dual credit hours accumulated by students will be counted toward the semester credit hour limits set by the Federal Government. The Federal Government semester credit limit is based on attempted SCH, not SCH completed. For a bachelor's degree, this results in a maximum limit of 180 SCH; a student exceeding 180 SCH is not eligible for federal financial aid.

Miscommunication of State Policy on Excess Semester Credit Hours

During the dual credit focus groups, some students indicated they were advised by their higher education institution that if their total number of attempted credit hours, including dual credit, exceeded 150, the institution might charge them out-of-state tuition since the institution is unable to submit excess SCH for formula funding (Texas Education Code §61.0595). However, TEC 61.0595(d)(5) states that certain hours do not count in the calculation of excess hours including “semester credit hours earned by the student before graduating from high school and used to satisfy high school graduation requirements.”

Institutional-Level Policy: Repeat Courses

Students and advisors at some institutions indicated that institutional policy did not allow students to repeat a dual credit course if a student had passed with a grade of “C” or better when he/she entered the institution as a first-time-in-college (FTIC) student. Although students interviewed received a passing grade in the dual credit course, some students and advisors expressed concern that the course for which the student received at least a grade of “C-” had not adequately prepared them for subsequent coursework, and the student wanted to repeat the course to be better prepared.

High School Policy: Weighted Dual Credit GPA

High school students’ motivations to take dual credit vary, from saving money to wanting to get an initial experience taking a college course. Another motivation for many students stems from the fact that advanced credit, including dual credit, is given additional weight in the calculation of their high school grade point average. This increases their chances of being in the top 10 percent of their graduating high school class. Each school district, with authority granted in §28.0216 (District Grading Policy), determines the weights given for advanced credit, which includes DC, AP, and IB courses. Some districts choose to weigh all advanced credit the same, while other districts vary as to what type of credit is weighted more—IB, AP, or DC.

PROCESSES

This section explains several processes that have been impacted by dual credit in Texas. It will also highlight how dual credit has impacted the students' transcript and how dual credit may or may not apply to a students' degree plan.

Non-standardized Dual Credit Transcripts: Challenges with Handling Dual Credit Transcripts

Because students are required to submit any college credit taken before attending college, EM officers have a challenging time accounting for all dual credit hours the students bring with them. There is not a standard way to transcribe dual credit courses on a student's academic record. EM officers have no way of knowing if courses taken by students are dual credit. Admissions staff at UT System academic institutions have to examine individual student transcripts to determine what counts as dual credit and what does not (academic credit versus technical credit, hours per course, etc.). Admissions staff typically will have to manually enter the information into the four-year institutions' student records system. The non-standardized transcripts might impede the students' academic advising sessions. Students have to assist academic advisors on how to interpret certain courses on the transcript.

Dual Credit Hours Accepted, But Not Applied to the Degree Plan

There is an underlying thought that dual credit will automatically apply to a degree plan. That is not necessarily true. There are two types of dual credit that are produced within a dual credit program: academic credit and technical (career and technical education) credit. Academic credit can be transferred and accepted by a four-year institution. However, accepted transfer credit does not mean that it will be applied to a specific degree plan. Sometimes students will have to retake a course based on the institution's requirements. Moreover, some institutions offer a petition process for students requesting that their academic dual credit count toward something. Some technical credit hours will be accepted by a four-year institution for specific degree programs (e.g., Bachelor of Applied Arts and Sciences) that are offered by UT System academic institutions.

Lack of Dual Credit Information on Admissions' Web Sites for Prospective Students

After reviewing the UT Institutions' Admissions websites, it was determined that information provided for prospective students on dual credit is not clearly defined. In most cases, dual credit is discussed as transfer credit. That is not inaccurate since academic dual credit is transfer credit. However, high school students and their parents might misinterpret this information because they are usually presented with the words "dual credit" rather than "transfer credit." It is important for prospective students to understand the differences between academic credit, technical credit, and what courses apply to the students' records, and what courses apply to a specific degree plan.

DUAL CREDIT PRACTICES

In the following section, a review is given of dual credit practices that UT System institutions provide for high school students across the state. This is not an exhaustive list or practice. The list is intended to highlight some of the practices that have been established.

Academic Dual Credit Programs at UT System Academic Institutions

All academic institutions except UT Dallas and UT El Paso provide some type of dual credit program. Appendix D describes all UT System institutions' dual credit programs. All programs differ by mission, target students, student eligibility, costs, and mode of delivery. Some institutions received state appropriations for teaching dual credit students, and some institutional programs are grant-funded and do not report to the THECB. In the fall of 2015, UT of the Permian Basin had the most dual credit students (n=1,521) who were reported to the state. Most of these students took dual credit courses online. Moreover, UTPB partners with eight school districts to provide an online Early College High School, where students may earn up to 60 hours of dual credit. In the fall of 2015, UTRGV had an Early College High School (BECHS) and Mathematics and Science Academy (MSA) located on the campus with an enrollment of 486 students. Some programs offered as little as three hours; however, some programs provide students the opportunity to earn 60 college credits by the time they graduate from high school.

Building an Educational Pipeline

In 1992, UTEP developed the El Paso Collaborative for Academic Excellence. The Collaborative is a collaboration among education, business, and community leaders who have transformed the El Paso region into a Pre-K-16 educational pipeline ecosystem. They have built a college-going culture where UTEP has worked closely with El Paso Community College to ensure that dual credit courses will transfer to a four-year college degree. This is possible because of the commitment made by members of the Collaborative, as well as continuous dialogue between high school counselors (dual credit advisors) and UTEP academic advisors. Once a semester, UTEP academic advisors will have face-to-face meetings with high school counselors to discuss UTEP degree plans. This allows for high school counselors to be better informed when advising students during dual credit registration.

Alternative Dual Credit Program (Concurrent Enrollment) at UT Austin

In 2011, UT Austin developed OnRamps, a dual-enrollment program. The mission of OnRamps “seeks to increase the number and diversity of students who engage in learning experiences aligned with the expectations of leading research universities” (<https://onramps.utexas.edu>). In a traditional dual credit course, there is one instructor who assigns one grade that is applied to both the high school transcript and college transcript. OnRamps has two entirely separate instructors of record (high school teacher and UT Austin professor), and students will receive two separate grades (high school grade and college grade). The high school grade is automatically applied to their high school transcript, but the college grade may or may not be applied to their college transcript. The program provides 11 UT Austin courses that are designed and overseen by UT Austin departments. All courses are guaranteed to transfer to any public institution in Texas.

Creating a Space for Current and Prior Dual Credit Students

The majority of institutions offer a physical space for dual credit students to spend time studying, relaxing between classes, and talking to other dual credit students. Typically, it is a couple of large rooms that are allocated for dual credit students only. UTEP created the Early College High School Academic Success Center to support dual credit students who are seeking advice on admission, registration, and other university processes. The Center employees are UTEP’s point of contact with the Early College High School community in the UTEP region. The employees work closely with high school counselors and UTEP’s Office of Admissions to make sure that students easily transition to the university.

No Dual Credit Programs in Texas Are Nationally Accredited

In response to higher education leaders' concerns regarding college course and college credit standards of excellence, the National Alliance of Concurrent Enrollment Partnerships (NACEP; www.nacep.org) was established in 1997. NACEP developed a set of quality standards for any educational setting that offers dual credit. There are six categories of standards: partnerships, curriculum, faculty, students, assessment, and program evaluation. Nineteen states have either adopted or adapted the standards into their state educational policies. More than 400 two-year and four-year institutions have members who belong to the association (a few of UT institutions are members). The association also provides an accreditation process to ensure dual credit courses are high quality. The accreditation process is a four-step process: 1) self-study, 2) filing an intent form and undergoing candidacy review, 3) preparing and submitting a completed accreditation application, and 4) conducting a peer review. Institutions that have offered dual credit for at least five consecutive academic years are eligible to participate in the accreditation process. No Texas institution (either two-year or four-year) are accredited by NACEP.



STUDENTS' EXPERIENCES AND ADVICE

The following section focuses solely on student perspectives and experiences with dual credit. The UT System Dual Credit Study team conducted focus groups and administered an online survey for each of the eight UT academic campuses. In other chapters of this report, that data were used in conjunction with data from institutional data sets in order to conduct analyses and create generalizable knowledge regarding dual credit outcomes. The purpose of this section is to highlight students' perspectives and experiences using their own words as much as possible. This chapter is arranged into alternating sections of narratives and advice.

In both the survey and open-ended response question, students were asked about and offered their advice for future dual credit students. Their advice was often rooted in their own experiences; it was directed at imagined future students or sometimes their own younger siblings and friends. The UT Dual Credit Study team used qualitative data analysis software to code open-ended survey responses and focus group transcripts that contained advice to younger students. Based on this, we organized student advice into the following categories:

Take all you can

Know what's out there

Know what counts

Success in dual credit courses

Take this, not that

Slow it down

It depends...be you

The UT System Dual Credit Research Team also constructed narratives of students' experiences. We selected one focus group participant from each of the eight academic institutions and obtained their permission to construct a narrative based on their focus group responses and follow-up questions via email. The Research Team also conducted member checks by asking participants to review drafts of narratives; adjustments were made as requested. These narratives highlight their experiences with dual credit prior to high school graduation, their perceptions of dual credit's impact on their later experiences after matriculating to a UT institution, and their advice to other students.

Itxel's Dual Credit Experience

Itxel attended Brownsville Early College High School (BECHS), which is a collaboration between UTRGV, Texas Southmost College, and the Brownsville Independent School District that allows students to earn an Associate of Arts degree during high school. According to Itxel, she and her classmates were “eased into the college environment.” This began at BECHS during her sophomore year with three dual credit courses. She took College Algebra and Speech on the high school campus, but went to the UTRGV campus for a music class. During her junior and senior years, she was considered a university student, and she took courses on the UTRGV campus, which were supported with mandatory tutoring (during the junior year only) and guidance by a high school facilitator who helped Itxel monitor grades and obtain textbooks.

Even though the work in her university courses was more rigorous, Itxel actually found that being a dual credit student was easier than being a high school student. “I think it’s the way our high school was structured. We had more work at the high school, and so because of that we have this idea, or at least it feels like the course work at the university is easier.” Additionally, the presence of a syllabus that both professors and students could follow made the university course seem simpler and more streamlined. A more difficult aspect was “having to reach out to professors when you’re having a problem, because in high school you have teachers so they’re easy to talk to, so you’re comfortable, but in college you actually have to reach out.”

At the University

After graduating from BECHS, Itxel enrolled at UTRGV and was classified as a junior. Though she did have the opportunity to move to her chosen career field of Criminal Justice quickly, this also had downsides. “By the Spring of 2016, I was already classified as a senior, and I will be graduating in May of 2017. So I’m going quite fast. I’m struggling to manage my classes and joining clubs to, in other words, fill up my resume. Because it’s like, okay, what did you do in your college career?”

“For me, because I’m a Criminal Justice major, and I’ll be graduating at the age of 20, I am limited to some agencies because of my age. For instance, if I wanted to become a state trooper, I would have to wait... It’s little things like that that do hinder me, but because there’s so many agencies to be able to apply to others, because not all of them have that requirement.”

Advice to Younger Students

“Follow the syllabus!”

TAKE ALL YOU CAN

In focus groups and in survey responses, many participants conveyed their positive attitudes toward dual credit and encouraged other students to take dual credit. Many simply had the advice of “take all you can!” Others encouraged students to take advantage of all the dual credit opportunities they could, but with specific goals in mind, such as easing the transition between high school and college.

“Challenge yourself as much as you can so that you can close the gap between high school and college.”

“Dual Credit courses are a must!!”

“TAKE ALL AP (AND THE AP EXAMS) AND DUAL CREDIT YOU POSSIBLY CAN! Although it may create added stress, the classes are free and will save you not only money but TIME in college.”

“I would say that this is one of the most rewarding experiences that you’ll ever have. And the opportunities and skills that you learn from this, you’ll take with you for the rest of your life, and you’ll be a better person for it. So I know that there are times when you’re going to cry, you’re going to want to give up. Just take a deep breath, have a good cry and get back into it. Don’t give up and just learn as much as you can.”

“Take as many as you can. Look for a degree plan for the major you want from the university you want to attend. Take dual credit course that are guaranteed to transfer. But! Don’t be afraid to explore. Not everyone knows what they want to study at 18.”

“I told [my siblings], I really got the chance to know what I like and what I don’t like at my school... having the chance to try everything for me was a big plus because I could never make up my mind about what I wanted to study. So I think that’s just a big advantage of taking things ahead of time and you can try that.”

“I would say take as many as you can, but don’t take them as a way of cutting your career short. Take it as a way of preparing yourself for college, and making college easier in a sense that you’re prepared, but at the same time you’re taking less hours.”

ROXANNA

The University of Texas at San Antonio

Roxanna graduated from Bryan Collegiate High School (BCHS) with 56 college credit hours. She graduated from The University of Texas at San Antonio in May 2017 with a double major in criminal justice and public administration after two years of full-time enrollment. She has plans to attend graduate school and pursue a master's degree in public policy.

Roxanna's Dual Credit Experience

During her 9th and 10th grade years, Roxanna began dual credit courses at Bryan Collegiate High School (BCHS) with professors who came to the school. She then took courses at the Blinn College campus during her 11th and 12th-grade years. Tuition, textbooks, and transportation from BCHS to Blinn College were provided at no cost to the BCHS students. Additionally, she was supported by high school courses that helped with registration and tutoring. "They gave us all the information that we needed in order to be successful in our college courses."

Roxanna chose BCHS for a different perspective and experience. Additionally, she sought out an early college pathway to save money and become a role model in her family. "My motivations were breaking my family cycle by getting educated. My family are immigrants from Mexico, so they don't have any education whatsoever. The main reason for attending this program was to show my siblings that you can succeed with education... Another motivation was also the money; I did not want to put that burden on my mom... In the end, my graduating class and I all are very grateful for the school and the partnership with our local community college. I believe the preparation classes, including the college courses, prepared me for the classes here at UTSA."

At the University

"The amount of time that I would spend for my undergraduate academic focus in public administration was shortened due to many college credit hours I earned during high school. The idea of coming out of college at the age of 19 terrified me because I only would have been at UTSA for a year, and only experienced college life for a year. I decided to double major and minored, which resulted in adding on another year or so to undergraduate career... I have saved more than two years in spending money for my undergraduate studies. I'm currently applying for grad schools at the moment."

Advice to Younger Students

"Well, what I told my younger sibling ... I encouraged her to enroll into the Early College High School that I attended. One of the things that I told her was that 'This program is beneficial for what you want to do in life, even if you decide that you don't want to go to college after you graduate from high school. Maybe, later on, you might decide to get your degree, and you will have the dual credits from high school as back up... Also, the exposure you receive in this program is beneficial, because you are increasing your level of thinking regarding critical and life skills'."

KNOW WHAT'S OUT THERE

The expansion of dual credit has provided a greater number of opportunities to more students. In some school settings, students now choose between several options for advanced coursework. Students provided their perspective on how to choose between opportunities, such as Advanced Placement/International Baccalaureate and dual credit, when these options are available to them. Some students preferred dual credit, while others expressed complex reasons for choosing AP/IB versus DC, and others advocated taking both types of courses. Notably, very few students preferred AP/IB exclusively.

“I would take as many dual credit courses as possible. As long as you pass the course, you will get credit. In contrast, you can do well in an AP course but not score high enough on the exam to get credit. Each option gives you more challenging classwork, but dual credit also allows you to interact with actual college professors and get used to the teaching style and common tools that will be present in college.”

“My school had both AP and dual credit...I'm not a really good standardized tester. So that's where I really appreciated dual-credit more.”

“With dual credit, they would go back to see if you understood the subject, and if you didn't, they would go back and teach it to make sure you got it. But in AP, from my experience, if you didn't get it, somehow you had to figure it out. Because we were still going to go on to the next subject, because they had a timeframe to teach us everything in order for the test.”

“Take more AP/IB courses if you are wanting to be competitive when applying to colleges and are looking for more challenging courses. Take dual credit classes if you are attempting to save money for future college credits.”

“High AP scores are a more telling and impressive performance measure than simply passing a dual credit course and getting college credit. However, if you're simply looking to get some of your college basics out of the way, dual credit could be an option.”

“If you're staying in-state, select dual credit courses. If there's a potential of you leaving state for college, take AP courses.”

“I would tell them to choose their dual credit and AP classes in balance with each other. Pick the ones you think you will not need for your major in college, for they will put you ahead in your degree plan.”

MARCELO

The University of Texas
of The Permian Basin

Marcelo is a computer science major at The University of Texas Permian Basin who currently has 90 hours of coursework completed. During high school, Marcelo took both Advanced Placement and dual credit courses. He earned 12 hours of credit prior to graduating high school.

Marcelo's Dual Credit Experience

Marcelo attended Liberty Academy in Victoria, Texas. Liberty Academy is a traditional high school that also houses Liberty Early College Center. Though Marcelo was a student at the traditional school, he was still able to access the dual credit courses offered through Victoria College. The pressure to move through college and into “a good paying job” quickly motivated his choices.

The early exposure to college helped to increase his confidence and sense of efficacy before matriculating to UTPB after high school graduation. He went to UTPB knowing, “Hey I’ve sat through a college course before...it may not all be like this, but I have the experience to say I survived.” He also gained specific skills for college readiness through dual credit English, social studies, and language courses. He found the chance to practice writing in a college setting very helpful. The option to choose between Advanced Placement and dual credit programming was also important. He took AP Calculus in high school, which covers content from both Calculus 1 and Calculus 2, though he does wonder if the slower pace of dual credit Calculus might have been better. Ultimately, he ended up retaking Calculus 2 at UTPB; though this cost him additional time, he appreciates the stronger foundation that resulted from his combination of experiences.

At the University

The main advantage he experienced as a result of dual credit was preparation for “the academic demands of college.” “I think my dual-credit English classes, those helped me a lot with writing...I’ve always done really well on my papers, but I feel like writing in college is different than in high school. The format, and the length, and the critical thinking that’s present in academic writing now is different than high school, and I feel like having a dual-credit English course while I was still in high school helped me transition really well into college.” He does add, however, that the small class sizes of his dual credit courses left him “somewhat unprepared for the actual class sizes in college.”

Advice to Younger Students

Marcelo has this advice for students considering dual credit: “You should pay attention to what your grades are beforehand in your average high school or middle school courses. Like, if you’re doing really well in the standard courses, then you can go ahead and move on to dual credit and you’ll probably do pretty well. You can probably take more than one at a time, but if you’re not where you need to be, if you feel like you’re still missing some fundamentals, then you might hold off for a year...or just take one dual credit at a time. You have to keep in mind that you’re an individual and you can’t try and compare yourself too much to your peers. You have to plan what’s best for you and sometimes that means graduate from high with an associates and other times it means you only take one dual credit course.”

KNOW WHAT COUNTS

Students spoke repeatedly about the importance of “knowing what counts.” This advice was often about knowing what types of courses transfer generally, but many students pointed out the difference between courses that are transferred and courses that are actually applied to the degree plan. Students acknowledged that there are barriers to this, but encouraged other students to seek out this information. They also encouraged higher education institutions and high schools to collaborate in order to make information more streamlined and readily accessible to students. This was often based on hindsight from their own experiences and phrased as, “I wish I had known...”

“Look at your bachelor degree plan and pick the classes that are going to go towards it.”

“Take core courses in high school and be sure they will transfer to your university of choice.

“If you have an idea of what major/school you are headed to, look up what a degree plan for that looks like. If there are subjects you know you’d rather “check off” the list due to disinterest, do it while you are in high school for the time/cost savings. The more of those non-interest courses you have taken care of, the more time/space you have to explore other classes you are actually interested in while at college.”

“I wish I had known that departments are specific on what classes will be accepted for a degree plan and would advise high school students to look into their field of interest to make sure they will be accepted, as dual credit classes can be quite costly.”

“If you know what college you’re going to and what you’re going to study, look up your degree plan before taking dual credit courses! I took a few courses that didn’t actually count toward my degree.”

“Knowing your degree plan is very important in order to be more selective about the required classes. It would help save time and money for the future, as well as prepare you for an even more advanced course.”

“Some of [dual credit courses] either did not transfer or did not apply to my top choice college. The amount of credits that transferred played a huge role in my choice of university and ultimately made the decision for me. I think there needs to be more cooperation between universities and ECHS to tailor students towards degree plans and not just earning an associates.”

JAMES

The University of Texas at Dallas

James is a computer science and physics dual major in his second year at The University of Texas at Dallas. He currently has 100 credit hours. James earned 35 of those hours through dual credit programs at his high school. His expected graduation is May 2019.

James' Dual Credit Experience

James was encouraged to take dual credit courses by his traditional high school counselors. “We had really good counselors at my school...They worked with us really well to explain the difference between dual credit and AP, and how they transfer, and what’s advisable for what you’re doing.” During high school James took some of his courses through Collin College, a community college north of Dallas, as well as a small university outside of Dallas. He took Calculus 1 & 2, along with English, science, government, and economics courses.

A major theme in James’ description of his dual credit experience was variation in instructional settings and quality. “The way it was taught depended greatly... It differed a lot based on the class. My math classes were taught by an adjunct professor. He was the head of our math department at our school, actually. He actually taught it to the rigor to basically any other math class I’ve had at UTD.” Most of James’ classes were taught at the high school, except for a science course with a lab at the community college. Other courses were taught online, either in a synchronous setting with video interactions with a professor, or asynchronous settings with limited interactions. James prefers the classes with interactions. “Based on what I’ve seen in college, those were the most similar [to university instruction].” James reports that he experienced far less learning in the asynchronous online courses that relied on multiple choice tests and modules. “There was no instruction. There was no feedback.”

At the University

Dual credit courses mostly benefitted James, though there were a few courses that did not apply to his degree plan. “Dual credit allowed me to transfer a lot of credit into UTD. UTD took pretty much everything. Not all them applied to my degree plan, but they took all my free electives plus a lot of my requirements for the core level classes.” To remedy this, James recommends that universities provide more information about applicability, perhaps through pamphlets or even from an advisor dedicated to this.

“I’m a computer science major so it’s a lot of math background. Thankfully my math classes in dual credit were all very good, so I was well prepared there. My less rigorous classes were in supplemental things like, for example, my government class wasn’t very good. I did take a separate government class here at UTD, but that went fine because there’s not a lot of true dependency between them.”

Advice to Younger Students

“I would tell my siblings to do it. There’s a lot of rewards credit-wise you can get from that. It can go very badly, but as long as you participate you’ll still get things out of it. When they’re good, they’re very good. The high quality dual credit classes I had were probably the best classes I had in all of high school. You just have to find an actual teacher.”

TAKE THIS, NOT THAT

Students offered advice on which types of courses or specific courses they felt were the best to take as dual credit and which to avoid. Advice varied. Some students recommend taking courses related to a student's chosen major, but others recommend avoiding it. This was often related to the students' specific major, with STEM majors noting that taking major courses at the university is beneficial. Some students recommended a tight focus on requirements, while others advocated for exploration and enjoyment. Additionally, students provided advice on courses that overlapped with "knowing what counts." The advice indicates that students should have a sense of their reasons for taking a course and how that will interact with their later college experiences.

"Don't take electives whatsoever unless they count towards your major. Because it'll count against you."

"I would try to take whatever your high school offers you and try to take challenging courses. You should also try taking courses that interest you to explore possible options for later in college."

"If you plan on majoring in science or chemistry do not take dual credit or AP science courses. The intensity is not the same as it is in college."

"I would say AP and [dual credit] classes are great in high school as a personal challenge, however high schools have the ability to cater to a struggling student whereas colleges don't and so you may feel that you are ready for a course when you're really not. If you are taking them to get basics that don't apply to your degree plan out of the way, then that's fine, but if it has a direct application to your degree plan I would recommend only taking it as a personal challenge."

"Focus on getting the general education courses out of the way that are not directly related to your major. Retaking some classes in college that are required specifically for your major will be beneficial."

"Take dual credit / AP courses for the basic subjects that aren't essential for your degree or classes you know you don't like."

"I took only English and History dual credit courses and my major is focused in the health science field. The reason it affected me would be because my English and History dual credit courses focused more on assignments and projects, while the main courses in my major focus more on active reading and constantly learning new material throughout the course. When I started college, I was able to provide all the assignments accordingly, however, I struggled with studying, with "active reading," I was not exposed to it in my dual credit courses."

"I would suggest that you choose courses that are in your field of interest even if they are more difficult. They will prepare you for high level college courses."

JORI

The University of Texas at Tyler

Jori majored in psychology at The University of Texas at Tyler. Prior to that she attended Pinnacle Early College High School in Athens, TX, where she earned an associate degree from Trinity Valley Community College along with her high school diploma. She graduated from UT Tyler December 2017 and is currently pursuing a Master's in Mental Health Counseling.

Jori's Dual Credit Experience

Jori began attending dual credit classes during her freshman year of high school. She was inspired, in part, by her older sister who also attended Pinnacle ECHS. The school-within-a-school program offered to Athens High School students is geared toward offering an affordable associate degree and pathways to universities, especially for first-generation college students who might otherwise not be able to afford the costs of college. As such, tuition and textbooks are covered by the program. Most of Jori's dual credit courses took place on the Trinity Valley Community College campus. "We were mixed in with other college students. I found it very interesting to do that."

Looking back, Jori isn't sure she was totally ready for college at 14, but says "I'm one of those people, if I'm going to do something, I'm going to do it. Even if it means I jump in headfirst and am going to have to learn how to swim, I'm going to do it...It was a really good experience. It prepared me for coming [to UT Tyler] and I enjoyed it...I may have struggled a little more than I expected, but I enjoyed every second of it, and I wouldn't change it."

Jori describes her dual credit experiences as challenging, but worth it. "I think being able to do [dual credit] was a good thing, but it did put a lot more stress on you as a college and high school student...It's not a lax scene. It was very intense and so a lot of it was time management and making sure you got everything you needed done."

At the University

"I'm now in the harder classes stage of my degree. I'm not taking Intro to Psychology or intro to this or intro to that. I'm taking Abnormal Psychology, Learning and Conditioning, and Psychology of Love. I'm getting into the final classes before I graduate. I think my experience of taking college in high school helped me with that because in high school, I kind of struggled so much with the college aspect of it because it was so much work. Now, on top of working on campus and all the extra things I do outside of school, I'm better at time management and trying to get things done."

Advice to Other Younger Students

Jori advises dual credit students to focus on basics that might apply to many majors. Though her chosen major of psychology includes space for the elective courses she took, she does advise dual credit students to "be mindful" of the courses they choose, particularly if they are not sure of their choice of major yet. Most importantly, she says, "if you're going to do dual credit, be sure you're prepared to put in that much time, put in that much effort. Be good with your time management and especially if you're doing volleyball or soccer, any other extracurricular activities, on top of your dual credit, be prepared for that."

TAKE IT SERIOUSLY

In focus groups and through the survey, students spoke about practices and approaches to dual credit courses that would benefit future students taking dual credit courses. Overall, much of the advice in this category centered around taking full advantage of the benefits of dual credit courses, as well as taking courses seriously in order to minimize potential disadvantages that might arise. In this way, students emphasized the agency that they and other students had in determining the outcomes of dual credit experiences. Students also encouraged other students to consider the long-term impact of their dual credit experiences and to seek help when needed.

“Take the classes seriously and act like you are in college.”

“Take it seriously. I could have done a lot better, and had a higher community college GPA if I had focused better in [the dual credit] class.”

“I guess my advice is be ready to put in time and the energy into it. Because it is really demanding, but also the rewards to it far outweighs what it requires.”

“I would encourage [dual credit], but I would always let them know to make sure they know the sacrifices that they’re going to be making such as not having much time to go out with friends, to get a good grade in a class, or learning how to prioritize.”

“Manage your time wisely. Don’t wait until the last day, like an hour before, to do your assignment, because you never know when the internet might go out and you don’t turn that in.”

“Get used to studying and staying on top of all your work. And start writing everything down, when it’s due, and actually look at what you wrote down, and don’t procrastinate.”

“Just because you think it’s easy, don’t slack off and just be like, ‘yeah, I can handle it, it’s fine. It’s easy, I’m gonna pass the class.’ So, don’t underestimate things. Just continue putting in the same work in the easy class as you would with your hard class.”

“If you’re just trying to do ranking, then doing the bare minimum might get you through, but if you actually know that this is going to be a foundation and formation for whatever career path you’re intending to pursue, then I would say be very proactive about your learning.”

“I would tell them, don’t be afraid of your professor. Like, there’s times you don’t understand what you’ve got to do, or something, and I’m one of those that has to talk to the professor. And I engage with them. So, I talk to them and they help me out.”

“I mean it has a lot to do with motivation, but I think the bigger part is asking for help ‘cause you’re not alone, honestly you’re not. Anywhere you are, early college, college, anything you’re not alone and there’s people there to help if you just ask.”

ENRIQUE

The University of Texas at El Paso

Enrique is a mathematics major who graduated from Transmountain Early College High School with 60 college credit hours. He is in his second year at The University of Texas at El Paso. Enrique chose mathematics because he excels in the subject and finds it interesting. His goal is to become a math teacher after his expected graduation from UTEP in May 2019.

Enrique's Dual Credit Experience

The Early College High School Enrique attended offers students several types of instructional experiences. In addition to traditional high school courses, students can also take dual credit courses on the Transmountain campus or go to El Paso Community College campuses. In partnership with UTEP, Enrique was also able to take two courses on the four-year university campus during his senior year.

Enrique was first exposed to the Early College model when his older brother attended an Early College High School. "He would come home, and sometimes he would tell me about it, and he'd be like, "oh, look what I'm doing in class that's really interesting." And I'd be like, "oh, that's actually really cool." So, when there was a presentation about Early College at Enrique's middle school, he made plans to apply. "The biggest appeal to it, for me, was that it would be something more challenging. I was like "oh, it's going to be more difficult, and I can take classes at the college level, and I can see if I'm ready for college."

Enrique began taking dual credit courses in his sophomore year after meeting Texas Success Initiatives (TSI) requirements. He reflects on most of his classes as pretty rigorous. "When you get to college, the classes are a lot more focused, and you get deeper into concepts." For instance, in his college math classes, they went beyond solving equations to understanding the theory behind the equations, which was a contrast from regular high school instruction. However, he does note that sometimes this was less possible in subject areas that required a state standardized test. The two courses he took at UTEP while still a high school senior helped him to understand the level of instruction at the four-year university he planned to attend, but also his areas of academic strength. He felt well prepared for the calculus course he took and excelled, but had a much harder time with the physics course he took. Though he persisted in that course, as well as its sequenced follow up course, he understood by high school graduation that some aspects of college would not be as easy for him as others. In addition, he adjusted to and enjoyed the freedom of his college schedule, which made his later transition to being a full-time UTEP student smoother.

At the University

"I do believe that [dual credit courses] laid a good foundation for me, mathematics-wise. And it kinda did prepare me for everything I take here. I've taken Calc 2 and Calc 3 here, and I'm taking some more proof-based mathematics, which is a lot more difficult. And it helped me out a lot. Especially in the math department."

Advice to Younger Students

"Get used to studying and staying on top of all your work. And start writing everything down, when it's due, and actually look at what you wrote down, and don't procrastinate. The one thing they always told us [at Transmountain ECHS], "don't do it!"

SLOW IT DOWN

Though many students took the “take all you can” stance, commonly citing their motivation to take dual credit courses in order to “save time” or reduce time-to-degree, some students also gave the advice to slow down rather than speed up. This advice focused on preserving the college experience generally, but also included reminders to enjoy learning. Students spoke against pressures to attain credits as fast as possible, to see dual credit as a means to an end rather than a learning experience, and to alter both the high school and college experience. Students also specifically addressed stress and overwork that come with seeking advancement unchecked. Importantly, they did not caution students away from opportunities like dual credit, but cautioned students to seek balance instead.

“I would tell them to enjoy it. Because sometimes you just get frustrated with grades and with everything that we need to turn in, and everything. And you just don’t pay as much attention to the material and you forget to enjoy the class, and to learn and know that you are doing it because you love it.”

“I don’t know what I want to do with my life just yet. I’m still out here interning and volunteering. I feel like being in college gives you the opportunity to explore more aspects. Right now I’m in a period of my college career where I’m rethinking a lot of what I’m doing here. Where I want to major, what I want to do with a degree, and this is my second year. If it was only two years in college I would feel completely and utterly terrified, because I’ve got nothing figured out. I think four years is a good enough span where it gives you some leeway to move around, to kind of figure out what it is that you want to do and get there.”

“I believe... like in my perspective, they should take like... let’s say 15, 30 hours of dual credit courses, but then, they should like limit themselves so they can come and experience here what’s

actually happening. Also, they should appreciate their high school years.”

“Do not stress out too much! Do well in your classes because in college they’ll be a lot harder! You’ll save money & time! But do not take too many classes or you’ll be taking high level courses, which you may not be prepared for. Also because you might not be ready to choose your major, and you have a certain amount of hours you can throw away without affecting you.”

“The high school that I attended was also very competitive, and students were encouraged to take as many AP/Dual Credit classes as possible. While I am grateful that I saved time and money in college by taking these courses, I also feel that I was very stressed and overburdened (more than a teenager should be). My advice to high school students is to not take so many advanced courses that you become overburdened/stressed and sacrifice your health and well-being. I think many high achieving, competitive high school students lose sight of maintaining the balance between academic achievement and mental/emotional well-being.

XAHIL

The University of Texas at Arlington

Xahil is a psychology major who just finished her first year at The University of Texas at Arlington (UTA). She attended Global High School in Waxahachie, Texas where she completed both the requirements for a high school diploma and an Associates of Science degree. She expects to graduate from UTA in 2019.

Xahil's Dual Credit Experience

Global High School is an Early College High School (ECHS) and STEM academy partnered with Navarro Community College and UT Tyler. Though Xahil initially preferred the social and extracurricular activities of the traditional high school in her city, her family pushed her to attend Global ECHS. She was also motivated by “the fact that I got to graduate with my associates and get two years out of the way for free.” Her dual credit courses started with one fitness course in her 9th grade year, followed by many more courses later. Xahil’s 71 hours of college coursework at Global helped her to identify areas of interest and strength. “I got to take dual credit Psych my sophomore year, and that’s when I realized I really liked psychology and that field. I knew from sophomore year what degree I wanted to take coming [to UTA]. I feel like that helped a lot.” Another benefit was that she also felt particularly well prepared for writing at the university. “I feel like the technical aspect of writing papers, I was prepared for just because I had done it so many times throughout the years. That helps with citing sources because I know a lot of kids don’t know how to cite very well or they get scared.” Looking back, she says “I would do it all over again because it was a great experience.”

At the University

Once Xahil matriculated to UTA, she was able to begin her upper division courses in psychology. “Coming into UT Arlington, you have your core curriculum already done so you’re just going into your classes that are more focused on your degree.” Though she enjoys this, she does note a potential downside to jumping right into major upper division courses. “There’s a lot of positive aspects to Early College High School and dual credit and everything, but at the same time, I’m two years ahead, so I started out at junior level courses my first year at a university. It’s adjusting to that ... Professors already expect you to know everything by your junior year. It’s your first year.”

Advice to Younger Students

Xahil recommends that dual credit students focus on basic courses that they know will be useful. “I tell my sister to just take, for sure, math and English because those will for sure transfer, and that’s what my counselors told me. Additionally, students should be careful about taking very high numbers of courses with no purpose in mind. “When my school first opened, some kids would come out with 118. Like way too many. Then they put a limit on it. Like hey, you don’t need to go above this because most universities won’t accept it.” Similarly, she also cautions against taking online dual credit just to “get it out of the way.” She advises others to think about what they are learning from the course and how it will help them in their later university courses.

IT DEPENDS...BE YOU

Students acknowledged that there is no one-size-fits-all answer to the many questions dual credit raises. Many times they simply said that “it depends.” Whether students should participate in dual credit, how much dual credit students should acquire, or what ages should consider dual credit were all influenced by many factors, according to students. These factors include major, maturity, future goals, the certainty of pathways, and financial situation. In the end, the guidance is to know the facts and consider what is right for each individual. The advice students gave here speaks to the complex personal nature of navigating high school, dual credit, and later college experiences. Dual credit is both a terrain to navigate, and for some, a tool for navigating other aspects of college.

“I personally believe there is no age. If you have the right mindset and the right professors, you can pretty much be at any age. I consider age just to be a number, so it’s up to you and your willingness to actually take the class and achieve what you want. It’s not actually like, ‘Oh you have to be at this grade to take these classes.’ Why not start early?”

“I would say two things before taking dual-credit. One is take some type of personality or career index quiz, and number two is, project your goals, not just five years but ten. What do you want your life to be like? What do you want your schedule to be like? Very specific thinking, and if you can figure out what you want to do between those two things, then ... or at least have a general picture of what you want your life to look like...then go for the dual credit because it aligns with that.”

I think it depends on their major. It really depends on major because for me, I’m a business major. I would say, “Go ahead, take all your basics. Get them all out the way, because you’re not going to need any of them.” If I’m

going into marketing, I’m not going to need any biology or chemistry or history, anything. I’m not going to need any of that in order for me to go and get my degree, so those are really just, those basics ... If you’re a business major, if you’re any other major that doesn’t utilize them later on, then go ahead. Take all of those. Get the credit and get them out the way. If you’re an engineering major...wait to take those math classes you’re going to need your whole college career, at the college you’re going to be at.”

“It depends, I feel like, on a lot of different factors. Also, if you’re paying for college or not, because for me at least since my tuition is covered, it’s a nice cushion. I don’t really have to worry about that, but if I was paying for it, then I would definitely have that pressure to get out as soon as I could. In the hypothetical scenario that everything is covered for, I would say yeah. Stay here four years, because this is your time to be a little selfish and figure yourself out, without having to worry too much about just bigger responsibilities. Although we’re stressed now, I don’t think I’m prepared for the real world.”

MARVIN

The University of Texas at Austin

Marvin graduated from high school with 31 hours of dual credit. He is currently a biology major at The University of Texas at Austin. He expects to graduate in 2018.

Marvin's Dual Credit Experience

Marvin attended Nimitz High School in the Houston area. Through a partnership with Lone Star College System, he was able to earn 31 hours of college credit during high school. Nimitz is a traditional high school, but since it is located across the street from a Lone Star College campus, the campuses share a close relationship. During the school year, the dual credit courses were taught on the high school campus, but during summer, Marvin took courses on the Lone Star College campus.

Marvin began taking dual credit courses as a high school junior. He was motivated by the low cost of dual credit and the possibility of graduating college early. "At my high school, we didn't have to pay our tuition. They covered everything. So, a class might be \$60, and that's like, Okay. I can do that. That's easy to do." By the start of his junior year, Marvin knew that he would be going into a science field, though he didn't know his exact major yet. He chose to take dual credit classes in areas outside of science (English, social studies, math) in an effort to "knock out" core classes, so that he could focus on STEM-specific classes once at UT Austin. He also took AP courses like AP Calculus during high school.

At the University

Once Marvin enrolled at UT Austin, he participated in the Summer Bridge program, which jump-starts invited participants with two UT Austin summer courses, providing Marvin with an additional opportunity to transition into rigorous university coursework. He described one of the courses he took as "really intense... [dual credit] definitely helped me out with that class." Marvin feels like his coursework through Lone Star College was "rigorous enough" to prepare him for the rest of his first year at UT. "While a lot of the content learned doesn't necessarily transfer to STEM courses, I do think that a lot of the processes, mainly studying for exams, do transfer over. I did very well my freshman year, and I do think DC helped a lot with that preparation. However, as it should, the classes became progressively more difficult, so it took some adjusting of processes and priorities to get used to the classes. So there have definitely been some rough patches, but figuring out how to adjust to the class has helped out."

Marvin also cites practical benefits of entering a large university with dual credit hours. He was able to register for classes earlier than other incoming first-year students due to his classification, which gives him a leg up on getting the biology classes that he needs.

Advice to Younger Students

Marvin's advice to other students is, "Don't mess up...obviously, take it serious." He recommends a shift in stance from wondering, "Can I get college credit for this?" to understanding "If I mess up, I won't get anything."



RECOMMENDATIONS

Based on the dual credit study findings, six recommendations focusing on dual credit data collection, program evaluation, research, and communication for UT System academic institutions are given. Each recommendation provides a description of the problem and the potential solutions.

Improve student record-level data collection for students participating in Texas dual credit programs

Problem:

Based on the dual credit study findings, there are data limitations on dual credit data collection at the state and institutional levels.

1) State-level: There is a need to improve state reporting of students' dual credit participation to the THECB to account for all students. Special state funding and privately funded programs are not required to submit dual credit participation to the THECB. 2) Institutional-level: There are no standard reporting requirements when transcribing dual credit hours onto students' academic records. It can be difficult to distinguish between dual credit courses and traditional transfer courses on the academic transcript.

Solution:

1) Require all post-secondary institutions who provide dual credit programs to Texas residents to submit detailed dual credit data (course type and title, course location, instructor type, grade given, and semester credit hours) to the THECB. 2) Establish a standardized dual credit flag for ANY academic dual credit course on the students' academic record. The dual credit flag must distinguish between academic dual credit and career/technical education (CTE) credit.

Encourage UT System academic institutions' dual credit programs to conduct program evaluation

Problem:

Due to the rapid growth of dual credit and the vast range of how dual credit programs are delivered, quality assurance is needed to ensure UT System institutions provide high quality and rigorous programs.

Solution:

UT System academic institutions' dual credit programs should periodically evaluate the quality and rigor of their programs. The use of the National Alliance of Concurrent Enrollment Partnerships' (NACEP) standards of program quality (partnerships, curriculum, faculty, students, assessment, and program evaluation) can provide a comprehensive framework needed to perform the program evaluation.

Continue to monitor and research the relationship between dual credit and student success

Problem: There are several unanswered dual credit research questions (e.g., How many hours should students take? Which mode of delivery is best suited for students? Does dual credit participation save students money? How could quality in dual credit courses be best measured? Is dual credit financially sustainable for the state?). These unanswered questions are compounded by the ever-changing Texas dual credit legislation, the rapid growth of students participating in dual credit, and the introduction of different types of dual credit programs.

Solution: Research efforts are needed to examine how changes to Texas dual credit legislation have impacted students who participated in dual credit after 2015 (HB 505) for different modalities (ECHS, major, number of hours, STEM degrees) associated with student success. Moreover, a dual credit cost-benefit analysis is needed at the state-level and student-level.

Enhance dual credit communication with students and families to enable informed decisions

Problem: There are several mixed messages communicated to students and parents on the types of dual credit hours, dual credit policies, dual credit benefits and limitations, and the types of dual credit courses students should take.

Solution: Dual credit information based on empirical research should be provided to *ALL* high school students and parents and to those who work with them. Dual credit information should include a description of dual credit, important dual credit policies, and the benefits and limitations of dual credit. This information can be provided through online modules (OnCourse), UT System institutions' admissions web pages, and student brochures (see Appendix F).

Establish a list of dual credit-related policies, empirical dual credit research findings, and dual credit practices that can be communicated to staff at the UT System institutions

Problem: The dual credit study found that dual credit policies and research can be misinterpreted and miscommunicated to students, faculty, academic advisors, and admissions counselors. Moreover, there is a lack of sharing of dual credit practices taking place at the UT System institutions.

Solution: Annual publication of dual credit policies, research, and practices should be prepared and given to UT System Institutions' personnel (faculty, admissions offices, academic advisors, and financial aid offices).

Improve dual credit program alignment among high schools, two-year and four-year institutions

Problem: There appears to be a lack of dual credit program alignment among high schools, two-year, and four-year institutions. For example, students and university personnel reported challenges associated with applicability and transferability of dual credit courses.

Solution: Improved communication will facilitate better alignment among stakeholders. The El Paso Collaborative provides a model for improving communications. In addition to bringing together institutional and community partners, this collaboration has led to innovations that serve dual credit students. For example, UT El Paso hosts meetings between high school and college advisors together to discuss alignment toward bachelor's degrees. Also, UT El Paso has established an Early College High School center creating a student space for former dual credit students. Collaborations like this will assist in establishing robust programs, fostering dialogue to align learning outcomes by discipline, and ensuring applicability of dual credit courses leading to a baccalaureate degree.

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CONCLUSION

Dual credit raises questions on our longstanding perception of what it means to be a college student. The university community has assimilated to the concepts of first-time freshmen and transfer students. Dual credit has created a blurred space between high school and college. As a result, a new type of student has been produced. There are now students entering their first-fall semester at a UT System institution with 60 hours of dual credit, yet they are labeled as first-time freshmen. However, by the very next spring semester, these students are reclassified as juniors. The sudden transition disorients some students, faculty, and others who believe in a “traditional” college experience. This UT System Study is attempting to peel back the layers of dual credit to examine the relationship between dual credit and success in college.

Based on the quantitative and qualitative data, most first-time freshmen entering UT System academic institutions have some college credit experience. Students reported multiple reasons why they are taking college credit courses during high school (to save money, increase high school rank, and “knock out” courses). Over and above its limitations, early college credit has gained momentum among high school students, school districts, and two-year and four-year institutions.

With such rapid growth in dual credit popularity, concerted research and assessment efforts are needed to understand dual credit models and modes of teaching that impact student learning. Future studies are also needed to examine how changes to Texas dual credit legislation have impacted more recent students who participated in dual credit after 2015. Questions must be asked: Do ninth-grade high school students benefit from taking college credit? Are Early College High Schools beneficial to all students? What does it mean to be college ready? Are there things (life experiences, maturity) other than test scores that signal whether students are ready to take college courses?

Ultimately, it is critical to identify pathways for students who are ready for college courses and to ensure the courses have the quality and rigor needed for students to be successful when pursuing an undergraduate degree. To truly understand students dual credit learning experiences, state-wide assessment standards and standardized data collection are needed to ensure equity and access to high-quality dual credit programs, making sure they are available for eligible Texas high school students. Additionally, a standardization of the academic transcript will provide the opportunity to align four-year degree programs with dual credit programs.

Some faculty members are deeply concerned with the quality of dual credit courses and how the perceived lack of quality will impact students’ ability to be successful at a four-year institution. There are two dimensions of quality: 1) quality as it relates to course content and assessment of learning outcomes, and 2) quality as it relates to dual credit students who are not

academically prepared (compared to students who take all their college courses at a four-year institution). This study focuses on the latter. Based on the quantitative analyses, when compared to students with no entering college credit, dual credit students are more likely to be retained, have higher GPAs, and graduate in four years. However, the amount of money students save by taking dual credit is inconclusive.

Further studies are needed to examine the financial gains that come from taking dual credit. Moreover, further studies are needed to determine the right number of dual credit hours students should take before attending a four-year institution. Using a dual credit sample comparison (comparing students with 15 hours versus 60 hours), the amount of dual credit hours does not increase the likelihood of student retention, but it does for graduation. One interpretation of this finding is that the amount of dual credit hours gives students the flexibility needed to still succeed in four years, even though they might not perform well in a semester, or might even take a break from an institution for a semester or two, and then return to graduate. Due to the quasi-experimental design of the UT System Dual Credit Study, further studies are needed to identify the right number of hours needed for students to succeed in college.

Students who take dual credit are performing well in college, but we need to be thoughtful on what is working well and what is not working and continually reevaluate this to ensure quality education. One area for improvement is communication. This includes improved communication between K-12 and post-secondary education (dual credit instructors and four-year faculty; high school counselors and four-year academic advisors; high school registrars and four-year registrars). Improved communication with prospective dual credit students is necessary to ensure all communication they receive is based on empirical work, and not based on anecdotal information. For this reason, this study produced a student brochure (see Appendix F) providing the possible advantages and disadvantages of dual credit participation, as well as communicating what former dual credit students said they wish they had known.

The analysis of dual credit at UT academic institutions presents a complex story that includes personal and philosophical differences about whether high school students should take college courses. Students report that dual credit has a positive impact on their college experience, while at the same time faculty, advisors, and enrollment managers from UT System institutions voice concerns about the quality and rigor of dual credit opportunities offered in Texas.

Aside from the varying perspectives—derived from quantitative and qualitative analyses—the outcomes based on the data reveal that students benefit from taking dual credit in high school. Overall, students' exposure to even one dual credit courses has a positive impact on student success outcomes. More time and research are needed to understand better how dual credit programs can personalize the dual credit experience (number of hours and type of courses) and maximize timely graduation and success based on students' future interests and academic goals.

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APPENDIX A: REFERENCES

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APPENDIX B: METHODOLOGY

Data Discovery Request

The UT System institutions were asked to provide the Office of Strategic Initiatives with information on first-time-in-college students who entered the institution from 2010 to 2015.

Dataset #1: Student Information

Instructions: Please include only first-time-in-college students who entered your institution from academic year 2010/11 to 2015/16.

Column	Definition
FICE	Institutional FICE code
SSN	Student nine-digit social security number (no dashes)
Last Name	Student's last name
First Name	Student's first name
Middle Name Initial	Student's middle name
Date of Birth	YYYYMMDD
Entering_Status	1 = First time in college; 6 = Coordinated Admission Program student
Entering_Semester	1 = Fall; 2 = Spring; 3 = Summer
Entering_Year	Calendar year
Ethnic Origin	1 = Hispanic or Latino origin; 2 = Not Hispanic or Latino origin; 3 = Not answered
Race	1 White 2 Black or African-American 4 Asian 5 American Indian or Alaskan Native 6 International 7 Unknown or Not Reported 8 Native Hawaiian or Other Pacific Islander
Gender	M = Male F = Female
Residence	Texas Resident - Enter County Code; Out-of-State Resident - Enter State Code; Foreign Country Citizen - Enter Foreign Country Code
High School Percentile	High school percentile (99% to 1%) (99% best; 1% worst)
High School Diploma date	YYYYMM

High School Name	Name of High School
High School Code	Enter the College Board CEEB High School code of the high school that the student graduated from.
SAT Composite Score	Score
SAT Math Scores	Score
SAT Verbal Scores	Score
ACT Composite Score	Score
ACT Math Scores	Score
ACT English Scores	Score
Entering College	Example: Engineering, Business, Liberal Arts
Major	8-digit CIP code of first major
AP/IB Credit	Total Number of Attempted credit hours from Advanced Placement(AP)/ International Baccalaureate (IB) tests at time of matriculation
Dual Credit	Total Number of Attempted dual credit hours at time of matriculation (college credit prior to high school graduation)
AP/IB Credit	Total Number of Accepted credit hours from Advanced Placement(AP)/ International Baccalaureate (IB) tests at time of matriculation
Dual Credit	Total Number of Accepted dual credit hours at time of matriculation (college credit prior to high school graduation)

Dataset #2: College Courses During High School and Prior to College Matriculation

Instructions: Please include any college credit courses taken prior to high school diploma date (entering first time in college cohorts between 2010/11 and 2015/16).

This dataset will contain multiple rows per students based on the number of dual credit or advance credit courses a student takes before college matriculation. Students with no incoming college credit will have one row indicating their last name, first name, and DOB.

Column	Definition
UT System Component FICE	Institutional FICE code
SSN	Student nine-digit social security number (no dashes)
Last Name	Student's last name
First Name	Student's first name
Middle Name Initial	Student's middle name
Date of Birth	YYYYMMDD
Course Indicator	Advanced Placement = AP; Dual credit = DC, International Baccalaureate = IB, Other = O
Course Semester	Semester course was taken
Course Year	Year course was taken
Course Prefix	Discipline: ENG; BIO
Course Number	Course number
Course Title	Course title
Texas Common Course Number	TCCNS
FICE code	FICE code where the course was taken (ex. 012015)
Institution Name	Name of institution where the course was taken (ex. Austin Community College)
Course grade	Grade (however it is reported in your system) [(A, B, C, D, F, W) or (A, A-, B+, etc.)]
Course hours	Number of hours

Dataset #3: Student Progress

Instructions: Include first-time-in college students between academic years 2010/11 and 2015/16. (identical to Dataset #1 group)

Each row will represent each semester the student was enrolled at the institution.

FICE	Institutional FICE code
SSN	Student nine-digit social security number (no dashes)
Last Name	Student's last name
First Name	Student's first name
Middle Name Initial	Student's middle name
Date of Birth	YYYYMMDD
Year and Semester	YYYYS (ex. Fall 2010 = 20101; Spring 2011 = 20112; Summer 2011 = 20113)
Number of Hours Enrolled	Hours enrolled per semester at Census
Major	8-digit Texas CIP code of first major (ex. 14050100)
Second Major	8-digit Texas CIP code of second major (ex. 14050100)
In-resident HRS ATT	Hours attempted at your institution
In-resident HRS EARN	Hours earned at your institution
Transfer HRS EARN	Hours transferred to your institution after matriculation
GPA Semester	Ex. 3.125
Cumulative GPA	Cumulative GPA per semester
Grad semester	Graduating semester
Grad Year	Graduating calendar year
Degree	BA; BS; etc.
Degree Major	6-digit CIP
Multiple Degree Indicator	"Y" if a student earned more than one bachelor degree in the same semester as their first bachelor degree. In these instances, additional row(s) will need to be provided.

ONLINE SURVEY

The UT System institutions were asked to provide the Office of Strategic Initiatives with students' email address information for first-time-in-college students who entered the institution from the academic years of 2010-2015 with any dual credit, advanced placement, or international baccalaureate credit. Once the information was received, students from each institution were sent an invitation to participate in the survey. After surveys from the institutions were collected, 30 students were randomly selected to receive a \$100 Amazon gift card. The survey provides a description of the survey and questions on credit and courses, dual credit questions, advanced placement/international baccalaureate questions, one open-ended question on advice for high school students, and one question on whether students would be interested in participating in a focus group. The following are the survey instructions and questions.

Welcome to the Survey

The purpose of this survey is to get a better idea of your experiences with earning college credit prior to your high school graduation through dual credit coursework, Advanced Placement, or other means. We want to gain more information about how these programs have impacted your college experience in order to better serve your fellow University of Texas at () students.

This survey will take about 5-10 minutes of your time and may be completed on your mobile device. Your answers will be kept confidential. After completing the survey, you will be entered into a drawing for a chance to win a \$100 gift card.

To enter the drawing without completing the survey, please send a postcard with your name and contact information to ATTN: OSI Survey; 601 W. Colorado; Austin, TX 78701.

(* question required to answer)

* 1. Do you consent to participate in this survey?

- Yes, I provide consent to participate in this survey. I understand that my answers will be kept secure and confidential.

Credits and Courses

* 2. What type of advanced coursework/college credit courses did you take while in high school? (Choose all that apply.)

- No advanced coursework/college credit prior to college
- Dual credit (sometimes known as dual enrollment or concurrent enrollment)
- Early College High School (typically includes a full program of dual credit courses)
- Advanced Placement (AP) or International Baccalaureate (IB)
- Other (please specify)

* 3. How many college credit hours did you earn by the time you graduated from high school?

(Note: Most college courses are equivalent to 3 credit hours. AP/IB credit is typically worth 3-6 hours depending on your score. Include all hours earned even if they were not accepted by your university.)

- 0
- 1-9 (typically 1-3 courses)
- 10-18 (typically 4-6 courses)
- 19-27 (typically 7-9 courses)

- 28-59 (typically 10-20 courses)
- 60+ or an earned associate degree

Dual Credit Questions

* 4. Where did you take your dual credit courses? (Choose all that apply.)

- Online
- On a traditional high school campus
- On an Early College High School campus
- On a two-year/community college campus
- On a four-year college campus
- Other (please specify)

* 5. Who taught your dual credit courses? (Choose all that apply.)

- A high school teacher (likely dual employed as a professor)
- A college instructor (likely employed only by a college)
- I don't know
- Other (please specify)

6. How did you find out about dual credit courses? (Choose all that apply.)

- Middle school counselor
- High school counselor
- College counselor, adviser, or recruiter
- Middle school teacher
- High school teacher
- A peer (such as a classmate, sibling, or friend)
- Parent or guardian
- Other (please specify)

* 7. How much did your dual credit course and textbooks cost you?

- \$0 for the course and textbooks
- \$0 for the course, but I paid for the textbooks
- Less than \$200 per course including textbooks
- \$200-\$400 per course including textbooks
- More than \$400 per course including textbooks
- I am not sure of the cost

* 8. For which courses or subject areas did you obtain credit through dual credit enrollment at any location? (Choose all that apply.)

- Math (such as College Algebra, Pre-Calculus, Calculus, Statistics, or Trigonometry)
- English (such as Composition/Rhetoric, Literature, Humanities)

- Social Studies (such as Government, Economics, History, Psychology, Sociology)
- Science (such as Biology, Chemistry, Physics, Anatomy and Physiology, or Microbiology)
- Other academic courses (such as Spanish or Art Appreciation)
- Career and Technical Education Credits (such as an automotive, computer science, or health occupations course)

* 9. What motivated you to take dual credit courses? (Choose all that apply.)

- Potential financial savings
- Potential time savings (receiving my degree faster)
- Challenge in a subject area of interest
- Eliminate coursework due to lack of interest (getting courses out of the way)
- Satisfy a high school graduation plan requirement (sometimes known as “advanced measures”)
- Becoming more competitive when applying to colleges
- Other (please specify)

* 10. Which of the following benefits did you experience as a result of taking dual credit courses? (Choose all that apply.)

- Exposure to college-level course expectations while in high school
- Increased academic challenge while in high school
- Financial or time savings at the university
- Familiarity with college processes such as registration
- Familiarity with college resources such as tutoring labs or library databases
- More focused selection of courses at the university
- Subject-specific skills such as writing research papers or lab procedures
- No benefits
- Other (please specify)

* 11. Which of the following disadvantages have you experienced as a result of taking dual credit courses? (Choose all that apply.)

- Lack of rigor or quality in dual credit course
- Lack of subject-specific skills needed in college, such as writing research papers or lab procedures.
- Negative experiences with dual credit faculty
- Credit loss--courses were not accepted by the university
- Credit loss--courses were accepted by the university but not applied to your degree plan
- Need to backtrack by repeating courses or taking more lower-level courses at the university
- Loss of time for exploring various majors (having to take upper-level courses, choose a major, or apply to programs too quickly)
- No disadvantages
- Other (please specify)

* 12. In your experience, how well did dual credit courses prepare you for traditional college courses at your current institution?

- My dual credit courses did not prepare me well for college
- My dual credit courses prepared me somewhat well for college
- My dual credit courses prepared me well for college

13. Based on your dual credit experiences, please rate (Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree) the following responses:

- I developed more realistic expectations about college.
- I was more confident about my ability to succeed in college.
- I improved my time management skills.
- I was prepared for the take on more challenging college courses.

14. How would you rate your overall dual credit experience?

- Excellent
- Good
- Neutral
- Poor
- Very Poor

* 15. Did you also take AP/IB courses?

- Yes
- No

Advanced Placement /International Baccalaureate Questions

* 16. Which subject areas or courses did you complete through AP or IB courses? (Choose all the apply.)

- Math (such as AP Calculus or AP Statistics)
- English (such as AP English III, which is also known as English Language and Composition)
- Social Studies (such as AP US History or AP World History)
- Science (such as AP Biology or AP Environmental Science)
- Other academic courses (such as AP Art History or AP Spanish Language and Culture)

* 17. What motivated you to take AP or IB courses? (Choose all that apply.)

- Potential financial savings
- Potential time savings (receiving my degree faster)
- Challenge in a subject area of interest
- Eliminate coursework due to lack of interest (getting courses out of the way)
- Satisfy high school graduation plan requirements (sometimes known as “advanced measures”)
- Becoming more competitive when applying to colleges
- Other (please specify)

* 18. Which of the following benefits did you experience as a result of taking AP or IB courses? (Choose all that apply.)

- Exposure to college-level course expectations while in high school
- Financial savings
- Time savings
- Increased academic challenge while in high school
- Subject-specific skills such as writing research papers or lab procedures
- No benefits
- Other (please specify)

* 19. Which of the following disadvantages did you experience as a result of taking AP or IB courses? (Choose all the apply.)

- Lack of rigor or quality in AP course
- Skills in AP courses were different from those required for college
- AP score was not accepted by your university
- AP score was not accepted by your university, or the credits were not applied to your degree plan
- Need to repeat courses or backtrack to lower-level courses
- Loss of time for exploring various majors (having to choose a major or apply to programs too quickly)
- No disadvantages
- Other (please specify)

* 20. How well did your AP/IB courses prepare you for traditional college courses at your current institution?

- My AP/IB courses did not prepare me well for college
- My AP/IB courses prepared me somewhat well for college
- My AP/IB courses prepared me well for college

Concluding Question

21. Looking back on your own high school course experiences, what advice would you give to a high school student selecting courses in preparation for college? What do you wish you had known?

Focus Group Participation

* 22. Would you be willing to participate in a focus group on this topic? This would require about 45 minutes of your time and for participating you will have a chance to win a \$100 gift card. We will be offering three focus group times on your campus:

- Date, time, and location listed
- Provide your best email contact if you'd like to participate. Indicate which session you plan to attend.

FOCUS GROUP QUESTIONNAIRES

OSI Research team created semi-structure interview protocols for four types of focus groups: students, faculty, academic advisors, and admissions (enrollment managers). The student focus groups were from 45 to 60 minutes long. Pizza was provided during the focus group interviews. The faculty, academic advisors, and admissions focus groups were from 60 to 75 minutes long. All focus groups interviews were transcribed.

Student Focus Group Questionnaire

Dual Credit Student Focus Group Guide

Getting Started

As students enter the focus group area, they should fill out the Quick Questionnaire card, and return it to the moderator or assistant.

Double check that audio recorder is on with microphones plugged in. Voice activated recording will begin automatically.

Assistant will take notes: Room arrangement, emerging themes, visual info, topics for further exploration in this or next group. Can also index interesting segments on the recorder if this is not obtrusive.

Explain the purpose of the focus group: Thank you for joining us today. We've organized this focus group to gather some information about dual credit courses from your perspective as a student. We are interested in learning about your motivation for taking dual credit, your impression of the courses, and how dual credit may have impacted your success at the University of Texas at {campus}.

Focus group directions: This is a 45-minute focus group. During this time, we would like to hear from a variety of voices. To ensure this, please:

Speak one at a time. Stay with the group. Avoid side conversations and technological distractions.

Express your experience, but don't worry about persuading others. We know that we won't all agree.

Introductory Questions—Dual Credit Experiences (Now we are going to ask you some questions about your dual credit experiences while in high school.)

1. Let's start off by going around the circle to introduce yourselves. Please say your name, major, and classification.
2. Anyone can answer: Please share a little bit about your dual credit experiences. What subjects did you take, where did you take the courses, and who taught them? (Probe first participant to find out what type of campus and instructor if needed.)
3. What factors and influences motivated you to take dual credit courses? What did you consider,

what were your other options (like AP) and what did you expect to gain from the dual credit course(s)?

4. What was your overall impression of the dual credit courses you took? How did they compare to your expectations?

College Access and Enrollment (Now we are going to ask you some questions about the time when you were transitioning to college.)

5. In what ways did dual credit impact or influence the college application and enrollment choices you made? -- Can you provide examples?
6. As you were getting ready to attend UT {campus} as a full-time student, how confident were you in your ability to be successful? In what ways did dual credit impact this?

College Success (Now we are going to ask you some questions about your recent and current college experiences.)

7. From your perspective, how has dual credit contributed to successes and/or struggles in your academic career?
8. Did anyone experience any particular advantages or disadvantages in a sophomore or upper-level course as a result taking the introductory course as a dual credit course during high school? (Example—If you took College Algebra during high school, did this impact Calculus at UT {campus}?)
9. For those of you who took your freshman writing courses as a dual credit course (or an AP course?) in high school, what can you tell us about your experiences with writing for UT {campus} courses?
10. Which courses do you recommend taking as dual credit and which courses do you recommend waiting to take at UT {campus}? (Does it make a difference based on major, like if you are a STEM major.) (Note that STEM at UT {campus} is computer science, nursing, health...)

Concluding Questions

11. Let's hear from everyone again: If you could give a younger friend a few sentences of advice about preparing for college, what would you tell them about dual credit?
12. We are happy to have had a chance to discuss dual credit and its impact on your academic success in high school, transitioning to college, and while in college. Is there anything else we missed? Anything else we need to know?

Wrapping Up

Thank students for their time and let them know the focus group is done. Let them know to be on the lookout for a "You WON" email regarding gift cards.

Stop digital voice recorder. Make sure file is saved. Transfer to computer and cloud immediately.

Debrief and reflect on the session. Note immediate themes and needed adjustments.

Faculty Focus Group Questionnaire

Dual Credit Study Faculty Focus Group Guide

Getting Started

As faculty enter the focus group area, they should fill out the Quick Questionnaire card, and return it to the moderator or assistant.

Voice activated recording will begin automatically.

Assistant will take notes: Room arrangement, emerging themes, visual info, topics for further exploration in this or next group. Can also index interesting segments on the recorder if this is not obtrusive.

Explain the purpose of the focus group: Thank you for joining us today. We've organized this focus group to gather some information about dual credit courses from your perspective as a faculty. We are interested in learning about your perspectives on college readiness at UT {campus} and in your discipline, the benefits and disadvantages of dual credit, and the future of dual credit at UT schools and UT {campus} in particular.

Focus group instructions: This a 60-90 minute focus group. We are sure you will be respectful of everyone's voice, but a few basic ground rules are:

Speak one at a time.

Leave space for everyone to participate. Avoid side conversations and stay with the group.

There's no need to achieve a consensus today. Express your perspective, but don't feel compelled to persuade others.

College Readiness Questions—Before we dive into dual credit specifically, we'd like to hear about your perspective on educational experiences and college readiness on your {campus}.

1. Going around the group, please briefly state your name and discipline.
2. What do you think prospective students need to be ready for UT {campus}?
3. What about your discipline? What skills, experiences, and dispositions are necessary for success in courses and majors in your discipline?

Dual Credit Questions—Now we would like to ask you some questions about dual credit students and success, specifically.

4. Typically, how many students in your classes obtained credits for prerequisites (or otherwise essential courses) through dual credit? How do you know this information?
5. From your perspective, what are the advantages and disadvantages of dual credit participation?
6. How does the readiness of students with dual credit (in general or for particular courses) compare

to that of more traditional students, transfers from two-year institutions, or students with credit through AP?

7. What else do we need to know about dual credit participation as it relates specifically to your {campus} and its programs or your discipline at your college?

Moving Forward— Finally, we have a few questions about your recommendations for the future of dual credit in UT System schools and UT {campus} specifically.

8. How do you think dual credit programs can be improved to meet the current structures, goals, and requirements of post-secondary education?
9. How does or should the existence of dual credit change the ways that institutions view college and high school? What new possibilities should post-secondary institutions embrace?
10. Thinking about all that has been discussed here today, what 1-2 key pieces of information do you want to communicate to high school personnel, parents, students, law/policy makers, the general public about dual credit and success at UT {campus}?

Closing

Thank you for your time and perspective today. We realize that there is more to say than what has been possible today. Please let us know if you are interested in extending your opinion or answering additional questions, either by communicating with us directly or through participation in an online focus group.

Academic Advisors Focus Group Questionnaire

Dual Credit Study: Advisors Focus Group Guide

Getting Started

- Have participants provide information on the signup sheet
- Double check that audio recorder is on with microphones plugged in. Voice activated recording will begin automatically.
- Assistant will take notes: Room arrangement, emerging themes, visual info, topics for further exploration in this or next group. Can also index interesting segments on the recorder if this is not obtrusive.

SCRIPT: Thank you for joining us today. UT System is conducting a system-wide dual credit study. We've organized this focus group to gather some information about dual credit student from your perspective as an advisor. Our objective is to obtain information on college readiness at UT {campus} and in your discipline, the benefits and disadvantages of dual credit and the future of dual credit at UT schools and UT {campus} in particular. UT System will prepare a report that captures your voices and major themes of this conversation. Your voice counts! However, you will not be identified by name. Participation is absolutely voluntary.

My role as facilitator is to ask questions and keep the group on track. We will be moving through the material for the next 60 minutes, so I may have to cut conversations short even when there is much to say about a topic.

Each participant is encouraged to share experiences and opinions, both positive and negative; understand that there are no right or wrong answers; respect the request that everyone is to participate in the discussion; Speak one at a time. Avoid side conversations and stay with the group. There's no need to achieve a consensus today. Express your perspective, but don't feel compelled to persuade others. Lastly, please silent your phones.

College Readiness Questions—Before we dive into dual credit specifically, we'd like to hear about your perspective on educational experiences and college readiness on your campus.

1. Going around the group, please briefly state your first name, discipline/college of where you work, and number of years you have been an advisor.
2. From your perspective as an advisor, what do you think prospective students NEED to be ready academically for UT {campus}?
3. From your perspective as an advisor, what are the most common academic challenges ANY student faces when they begin college?

Dual Credit Questions—Now we would like to ask you some questions about dual credit students and success, specifically.

4. How do you advise students who enter with dual credit hours?
 - a. What types of challenges have you experienced in advising students with dual credit?
 - b. How do you know they are dual credit students?
 - c. Do you have all of the student's information that you need to advise them? What are the types of information (student information) do you use when advising them?
5. Does your advising approach differ based on the students' number of dual credit hours students bring in with them (3; 30; 60 hours)?
 - a. Does your advising approach differ based on the type of major (STEM/non-STEM) for dual credit students?
6. Do you ever advise students to repeat certain courses/experiences on a college campus despite already having credit through AP, IB, or Dual Credit?
 - a. Which particular courses?
 - b. What triggers this—major? Original course grade? SAT/ACT score? An understanding of the DC course based on your experience?
7. From your perspective, what are the advantages and disadvantages of dual credit participation?
 - a. Does this vary by major (STEM/Non-STEM)?
 - b. Does this vary by specific courses?

8. Based on your experience as an advisor, what information would you like for high school students to have and consider when they are contemplating college credit earned during high school?

Moving Forward— Finally, we have a couple of questions about your recommendations for the future of dual credit in UT System schools and UT {campus} specifically.

9. How do you think dual credit programs can be improved to meet the current structures, goals, and requirements of post-secondary education?
10. In 2015, House Bill 505 removed the limitation of the number of dual credit hours for public school students, how should post-secondary education respond?
11. Thinking about all that has been discussed here today, what 1-2 key pieces of information do you want to communicate to high school personnel, parents, students, law/policy makers, the general public about dual credit and success at UT {campus}?
12. We are happy to have had a chance to discuss dual credit and its impact on academic success. Is there anything else we missed? Anything else we need to know?

Closing

Thank you for your time and perspective today. We realize that there is more to say than what has been possible today. Please let us know if you are interested in extending your opinion or answering additional questions, either by communicating with us directly or through participation in an online focus group.

Admissions (Enrollment Management) Focus Group Questionnaire

Dual Credit Study: Admissions Interview/Focus Group Guide

Getting Started

- Have participants provide information on the signup sheet
- Double check that audio recorder is on with microphones plugged in. Voice activated recording will begin automatically.
- Assistant will take notes: Room arrangement, emerging themes, visual info, topics for further exploration in this or next group. Can also index interesting segments on the recorder if this is not obtrusive.

SCRIPT: Thank you for joining us today. UT System is conducting a system-wide dual credit study. We've organized this focus group to gather some information about dual credit courses from your perspective as admissions officials. Our objective is to obtain information on college readiness at UT {campus} and in your discipline, the benefits and disadvantages of dual credit and the future of dual credit at UT schools and UT {campus} in particular. UT System will prepare a report that captures your voices and major themes of this conversation. Your voice counts! However, you will not be identified by name. Because we will be recording the focus group conversation, we have requested that you provide your

consent for participating in today's focus group. Participation is absolutely voluntary.

My role as facilitator is to ask questions and keep the group on track. We will be moving through the material for the next 60 minutes, so I may have to cut conversations short even when there is much to say about a topic.

Each participant is encouraged to share experiences and opinions, both positive and negative; understand that there are no right or wrong answers; respect the request that everyone is to participate in the discussion; speak one at a time. Avoid side conversations and stay with the group. There's no need to achieve a consensus today. Express your perspective, but don't feel compelled to persuade others. Lastly, please silent your phones.

College Readiness Questions—Before we dive into dual credit specifically, we'd like to hear about your perspective on educational experiences and college readiness on your campus.

1. Going around the group, please briefly state your first name, role in admissions, and number of years as an admissions officer.
2. What do you think prospective students need to be ready for UT {campus}?
 - a. Will this vary by discipline?

Dual Credit Questions—Now we would like to ask you some questions about dual credit students and success, specifically.

3. What are the most frequently asked questions you receive from prospective students who are participating in dual credit?
4. How do you advise perspective UT {campus} students who are taking dual credit courses during high school?
 - a. Are there specific UT {campus} policies that guide your messaging?
 - b. Are there written materials or information on your website for dual credit students to follow when transferring dual credit courses to UT {campus}?
5. From your perspective as an admissions officer, what are the most common challenges dual credit students face when they begin college?
 - a. In your view, does the admissions have communication/process/policies in place help students address those challenges?
 - o If so, in what ways?
 - i. If not, are there steps you believe would be important for admission officers to take to help students overcome those challenges?
 - b. Do these challenges differ based on the type of school students are receiving dual credit (specific feeder schools; Early College High Schools, PACE)?
6. What are your policies/procedures for review dual credit students' community college transcripts?
 - a. What determines which credit will be accepted versus rejected?
7. From your perspective, what are the advantages and disadvantages of dual credit participation?


- a. Are there particular situations that seem to be more advantageous or less?
8. What do you know about the dual credit programs (the high school- community college partnership) that your incoming students participated in?
 - a. How did you find this out?
 - b. What else would you like to know to strengthen your ability to advise students?
9. Based on your experience as an admissions officer, what information would you like for high school students to have and consider when they are contemplating college credit earned during high school?

Moving Forward— Finally, we have a few questions about your recommendations for the future of dual credit in UT System schools and UT {campus} specifically.

10. In 2015, House Bill 505 removed the limitation of the number of dual credit hours for public school students, how should post-secondary education respond?
 - a. Have you seen any impact from HB 505 when communicating with perspective students?
11. How does or should the existence of dual credit change the ways that institutions view college and high school? What new possibilities should post-secondary institutions embrace?
12. Thinking about all that has been discussed here today, what 1-2 key pieces of information do you want to communicate to high school personnel, parents, students, law/policy makers, the general public about dual credit and success at UT {campus}?
13. We are happy to have had a chance to discuss dual credit and its impact on academic success. Is there anything else we missed? Anything else we need to know?

Closing

Thank you for your time and perspective today. We realize that there is more to say than has been possible today. Please let us know if you are interested in extending your opinion or answering additional questions, either by communicating with us directly or through participation in an online focus group.



**APPENDIX C:
DESCRIPTIVE AND INFERENTIAL
STATISTICAL TABLES AND GRAPHS**

Table 2. College Credit while in High School by Cohort Year and Type of Credit

	DC Only		AP Only		Both		Neither	
	N	%	N	%	N	%	N	%
2010	5,004	27	3,510	19	2,480	14	7,234	40
2011	5,131	27	3,846	20	2,818	15	6,983	37
2012	5,501	29	4,237	22	2,928	15	6,460	34
2013	4,863	26	4,267	23	2,731	15	6,523	35
2014	5,357	27	4,878	24	2,833	14	7,147	35
2015	6,780	27	5,638	23	2,845	11	9,695	39
All	32,636	27	26,376	22	16,635	14	44,042	37

Table 3. Number and Percentage of Students Receiving College Credit while in High School by Race/Ethnicity and Type of Credit (Entering first-time freshmen from 2010 to 2015)

	DC Only		AP Only		Both		Neither	
	N	%	N	%	N	%	N	%
American Indian/Alaskan Native	89	29	42	14	27	9	144	48
Asian	3,618	20	6,547	37	3,687	21.0	3,850	22
Black/African-American	2,234	29	805	10	444	6.0	4,273	55
Hispanic	15,634	31	6,612	13	5,272	11.0	22,348	45
International	60	15	72	18	50	12.0	229	56
Native Hawaiian/Pacific Islander	62	30	42	20	13	6.0	90	43
Two or more races	852	24	988	28	586	16.0	1,163	32
Unknown	479	24	346	17	165	8.0	1,004	50
White	9,608	25	10,922	29	6,391	17.0	10,941	29
All	32,636	27	26,376	22	16,635	14.0	44,042	37

Table 4. Number and Percentage of Students Receiving College Credit while in High School by SAT/ACT Score and Type of Credit (Entering first-time freshmen from 2010 to 2015)

	DC Only		AP Only		Both		Neither	
	N	%	N	%	N	%	N	%
1300 and Above	3,064	11	14,139	52	6,988	26	2,875	11
1100-1300	11,290	29	8,878	23	6,956	18	11,277	29
Less than 1100	17,692	34	3,241	6	2,644	5	27,763	54
SAT Not Reported	590	20	118	4	47	2	2,127	74
All	32,636	27	26,376	22	16,635	14	44,042	37

Table 5. Number and Percentage of Students Receiving College Credit while in High School by High School Percentile and Type of Credit (Entering first-time freshmen from 2010 to 2015)

	DC Only		AP Only		Both		Neither	
	N	%	N	%	N	%	N	%
1st-5th Percentile	7,011	26	9,366	35	7,042	26	3,179	12
6th-10th Percentile	6,321	32	5,897	30	3,701	19	3,956	20
11th-15th Percentile	3,764	32	2,874	24	1,711	14	3,592	30
16th-20th Percentile	3,224	31	2,202	21	1,167	11	3,903	37
20th-25th Percentile	2,034	31	1,085	17	603	9	2,839	43
26th+ Percentile	8,137	24	3,676	11	1,829	5	20,214	60
HS Percentile N/A	2,145	21	1,276	12	582	6	6,359	61
All	32,636	27	26,376	22	16,635	14	44,042	37

Table 6. Amount of AP/IB/DC Credits by Cohort Year

	DC Only				AP Only				Both			
	25 TH PCTL	Median	75 TH PCTL	90 TH PCTL	25 TH PCTL	Median	75 TH PCTL	90 TH PCTL	25 TH PCTL	Median	75 TH PCTL	90 TH PCTL
2010	6	12	21	32	6	12	21	31	15	21	29	38.5
2011	6	12	23	38	6	13	22	33	15	22	30	40
2012	9	15	24	45	6	14	22	32	15	22	32	41
2013	9	15	25	51	6	14	22	33	16	22	31	40
2014	9	18	27	60	6	13	21	31	16	22	31	40
2015	9	18	29	60	6	12	20	29	16	23	32	45
All	9	15	24	50	6	13	21	31	15	22	31	41

Table 7. Dual Credit Earned while in High School by Race/Ethnicity (Entering first-time freshmen from 2010 to 2015)

	Dual Credit Earned			
	25 TH Percentile	Median	75 TH Percentile	90 TH Percentile
American Indian/Alaskan Native	6	12	18	25
Asian	6	12	21	36
Black/African-American	6	12	18	30
Hispanic	8	15	25	52
International	6	11.5	18	28.5
Native Hawaiian/Pacific Islander	6	12	20	30
Two or more races	6	12	21	34
Unknown	6	12	18	31
White	6	12	20	29
All	6	12	22	36

**Table 8. Dual Credit Earned while in High School by Gender
(Entering first-time freshmen from 2010 to 2015)**

	Dual Credit Earned			
	25 TH Percentile	Median	75 TH Percentile	90 TH Percentile
Female	6	12	22	36
Male	6	12	22	37
All	6	12	22	36

**Table 9. SAT/ACT Scores by Type of College Credit while in High School
(Entering first-time freshmen from 2010 to 2015)**

	SAT/ACT		
	25 TH Percentile	Median	75 TH Percentile
DC Only	970	1070	1190
AP Only	1190	1300	1420
Both	1150	1260	1370
Neither	910	1020	1140
All	990	1120	1270

**Table 10. Dual Credit Earned while in High School by SAT/ACT Score
(Entering first-time freshmen from 2010 to 2015)**

	Dual Credit Earned			
	25 TH Percentile	Median	75 TH Percentile	90 TH Percentile
1300 and Above	6	12	21	35
1100-1300	6	12	22	34
Less than 1100	6	12	23	39
SAT Not Reported	11	22	62	68
All	6	12	22	36

**Table 11. AP/IB Credit Earned while in High School by SAT/ACT Score
(Entering first-time freshmen from 2010 to 2015)**

	AP/IB Credit Earned			
	25 TH Percentile	Median	75 TH Percentile	90 TH Percentile
1300 and Above	9	15	24	34
1100-1300	3	7	14	21
Less than 1100	4	9	15	18
SAT Not Reported	12	15	18	22
All	6	12	19	29

**Table 12. Dual Credit Earned while in High School by High School Percentile
(Entering first-time freshmen from 2010 to 2015)**

	Dual Credit Earned			
	25 TH Percentile	Median	75 TH Percentile	90 TH Percentile
1st-5th Percentile	9	15	24	36
6th-10th Percentile	7	12	22	32
11th-15th Percentile	6	12	21	31
16th-20th Percentile	6	12	20	30
20th-25th Percentile	6	12	18	29
26th+ Percentile	6	12	21	57
HS Percentile N/A	6	13	28	65
All	6	12	22	36

**Table 13. Number of Dual Credit and AP Courses by Subject Area
(Entering first-time freshmen from 2010 to 2015)**

			N
Biology	BIOL	Biology	29,155
Business/ Economics	ACCT	Accounting	2,118
	BUSI	Business	838
	ECON	Economics	30,481
COSC/BSIC	BCIS	Business Computer Information Systems	3,176
	COSC	Computer Science	5,534
Chemistry	CHEM	Chemistry	21,133
Comm/Speech Comm	COMM	Communications (Including RTF, Journalism, etc.)	697
	SPCH	Speech Communication, Public Speaking, etc.	9,194
Education	EDUC	Education	1,112
	TECA	Early Childhood Education	95
Engineering	ENGR	Engineering	1,009
	ENGT	Engineering Technology	2
English	ENGL	English	110,995
Fine Arts	ARTS	Art, Art History, etc.	6,766
	DANC	Dance	521
	DRAM	Drama	1,040
	MUSI	Music, Ensemble Courses, etc.	3,774

Foreign Language	ARAB	Arabic	90
	CHIN	Chinese	1,296
	FORL	Foreign Language Not Elsewhere Categorized	116
	FREN	French	2,490
	GERM	German	679
	ITAL	Italian	18
	JAPN	Japanese	171
	KORE	Korean	14
	LATI	Latin	547
	PORT	Portuguese	8
	RUSS	Russian	29
	SGNL	American Sign Language	165
	SPAN	Spanish	30,023
Government	GOVT	Government	47,466
Health Sciences	HSCI	Health Science (derived subject)	483
	RNSG	Nursing	797
History	HIST	History	85,000
Humanities/ Philosophy/ Architecture	ARCH	Architecture	125
	HUMA	Humanities, American Studies, African American Studies, Gender Studies, Linguistics, etc. (partially derived)	1,397
	PHIL	Philosophy and Religion	2,621
Math/Stats	MATH	Mathematics and Statistics	60,854
Military/ Leadership	MILS	Military Science, Military courses, Leadership courses (derived subject)	421
Misc Science	AGRI	Agriculture	10
	ENVR	Environmental Science	716
	GEOG	Geography	3,122
	GEOL	Geology	3,895
	HORT	Horticulture	1
	MSCI	Miscellaneous Science (derived subject)	494
Phys Ed/Kine	PHED	Phys Ed/Kinesiology	4,355
Physics/ Astronomy	ASTR	Astronomy	283

	PHYS	Physics	27,536
Social Sciences	ANTH	Anthropology	473
	CRIJ	Criminal Justice	1,163
	MSOC	Miscellaneous Social Science (derived subject)	2
	PSYC	Psychology	15,264
	SOCI	Sociology	4,000
	SOCW	Social Work	60
University General	UNIV	University-required freshmen seminars, etc. (derived subject)	2,118
Unknown	UNKN	Unknown (derived subject)	4,932
Vocational/ WECM	VOCA	Vocational (derived subject)	182
	WECM	Workforce Education (derived subject)	1,990
All			533,046

Table 14. Dual Credit Success (Comparing Dual Credit Students with 16-30 Hours to Dual Credit Students with 1-15 DC Hours, No AP/IB Hours)

			16 - 30 DC Hours (Odds Ratio)			
	# Students	Max rescaled R Square	Same Institution	Other Institution	Same Institution Pr > Chisq	Other Institution Pr > Chisq
Second Fall Enrollment	39,747	0.2028	1.061	1.058	0.2547	0.3626
Third Fall Enrollment	31,572	0.2059	1.158	1.061	0.0022	0.301
Fourth Fall Enrollment	23,966	0.1925	0.923	0.863	0.0729	0.0086
Four Year Graduation	23,966	0.2981	1.442	1.291	<.0001	0.005
Five Year Graduation	15,528	0.322	1.284	1.083	<.0001	0.3661
Six year Graduation	7,542	0.3077	1.262	0.998	0.002	0.9896

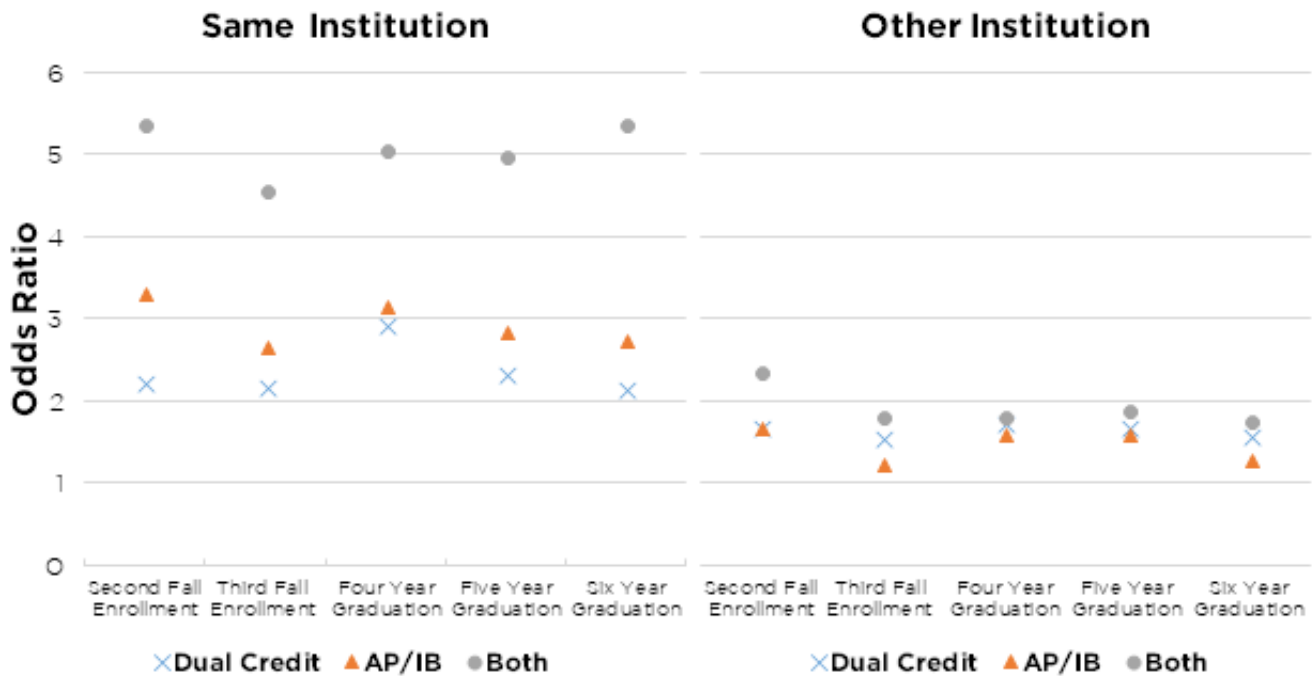
Table 15. Dual Credit Success (Comparing Dual Credit Students with 31-59 Hours to Dual Credit Students with 1-15 DC Hours, No AP/IB Hours)

	# Students	Max rescaled R Square	31- 59 DC Hours (Odds Ratio)			
			Same Institution	Other Institution	Same Institution Pr > Chisq	Other Institution Pr > Chisq
Second Fall Enrollment	39,747	0.2028	0.788	1.095	0.005	0.3696
Third Fall Enrollment	31,572	0.2059	0.543	0.99	0.3138	0.9185
Fourth Fall Enrollment	23,966	0.1925	0.543	0.658	<.0001	<.0001
Four Year Graduation	23,966	0.2981	1.89	2.17	<.0001	<.0001
Five Year Graduation	15,528	0.322	1.426	1.296	<.0001	0.1146
Six year Graduation	7,542	0.3077	1.576	1.376	0.0014	0.1669

Table 16. Dual Credit Success (Comparing Dual Credit Students with 60+ Hours to Dual Credit Students with 1-15 DC Hours, No AP/IB Hours)

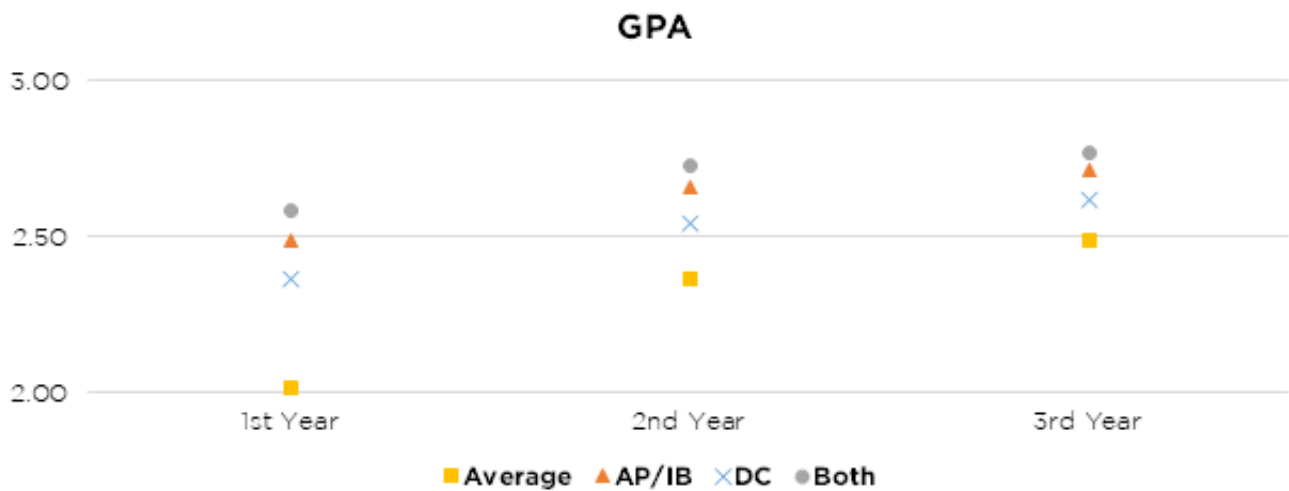
	# Students	Max rescaled R Square	60+ DC Hours (Odds Ratio)			
			Same Institution	Other Institution	Same Institution Pr > Chisq	Other Institution Pr > Chisq
Second Fall Enrollment	39,747	0.2028	1.622	1.048	<.0001	0.7448
Third Fall Enrollment	31,572	0.2059	1.001	0.874	0.9916	0.2874
Fourth Fall Enrollment	23,966	0.1925	0.25	0.497	<.0001	<.0001
Four Year Graduation	23,966	0.2981	4.822	3.442	<.0001	<.0001
Five Year Graduation	15,528	0.3220	3.609	2.173	<.0001	0.006
Six year Graduation	7,542	0.3077	2.774	1.979	<.0001	0.0587

Graph 1. Student Retention and Graduation Models (Odds Ratios)



Model Description					
	Second Fall Enrollment	Third Fall Enrollment	Four Year Graduation	Five Year Graduation	Six Year Graduation
Max rescale R Square	0.27	0.28	0.39	0.41	0.38
Significance	p <.0001	p <.0001	p <.0001	p <.0001	p <.0001
Variables in Model	AP/IB/Dual Credit earned, high school percentile, SAT/ACT score, admitted under Coordinated Admission Program, entering cohort year, economically disadvantaged, gender, race/ethnicity, first-generation status, Pell recipient, high school location, average high school enrollment, high school type				
Cohort Years	2010-2014	2010-2013	2010-2012	2010-2011	2010
N	95,186	74,933	56,387	37,233	18,366
Same	72,081	49,533	19,160	18,719	10,090
Other	12,875	13,042	1,904	2,756	1,739
None	10,230	12,358	35,323	15,758	6,537

Graph 2. Average Student GPA by Year

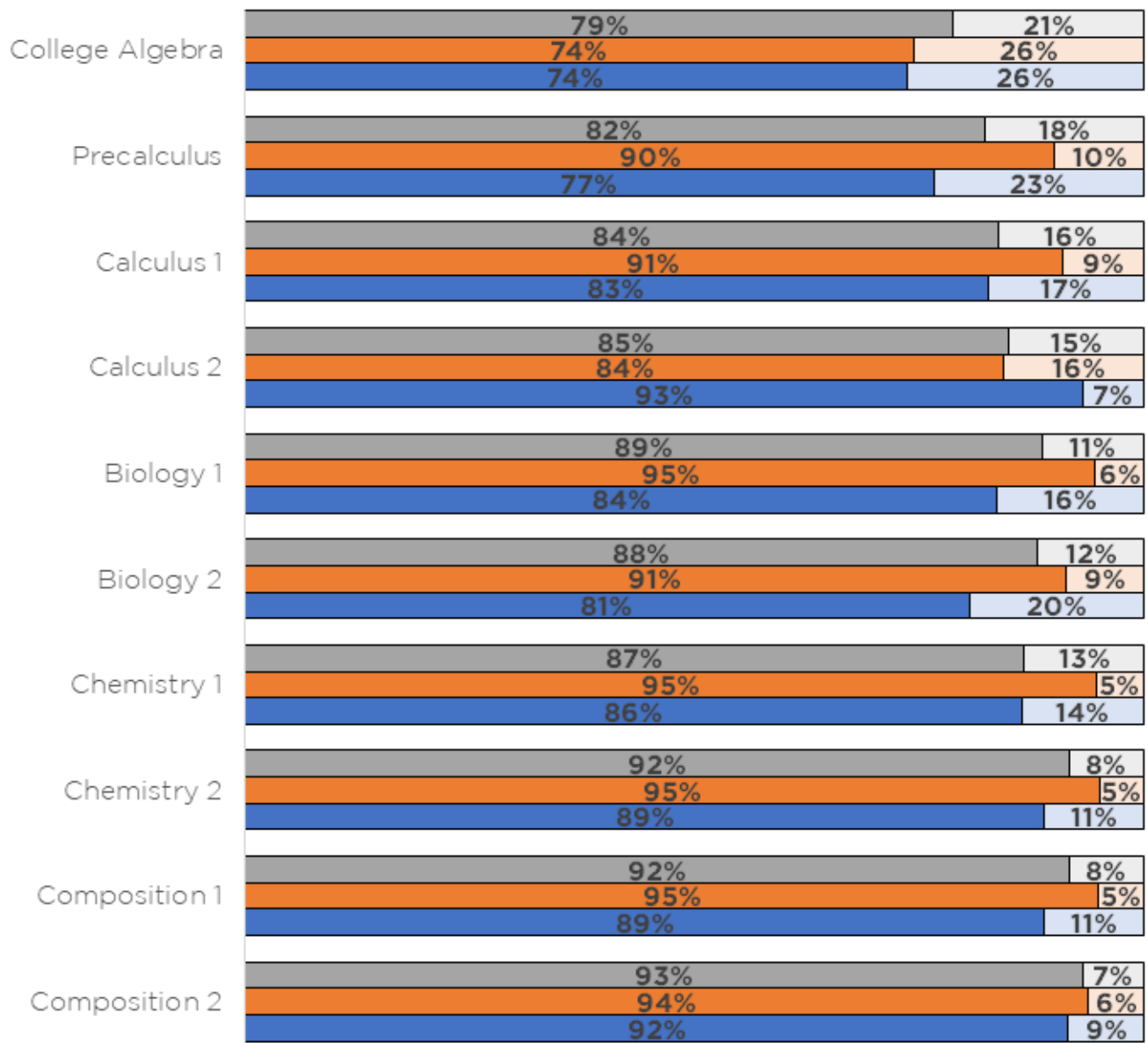


	1st Year	2nd Year	3rd Year
Intercept	2.02	2.37	2.49
AP/IB	2.49	2.66	2.72
DC	2.37	2.55	2.62
Both	2.59	2.73	2.77

Table 17. Percentage of Students Receiving College Credit by Gender and Type of Credit (Entering first-time freshmen from 2010 to 2015)

	DC Only		AP Only		Both		Neither	
	N	%	N	%	N	%	N	%
Female	18,853	30	12,863	21	9,134	15	21,132	24
Male	13,783	24	13,513	23	7,501	13	22,910	40
All	32,636	27	26,376	22	16,635	14	44,042	37

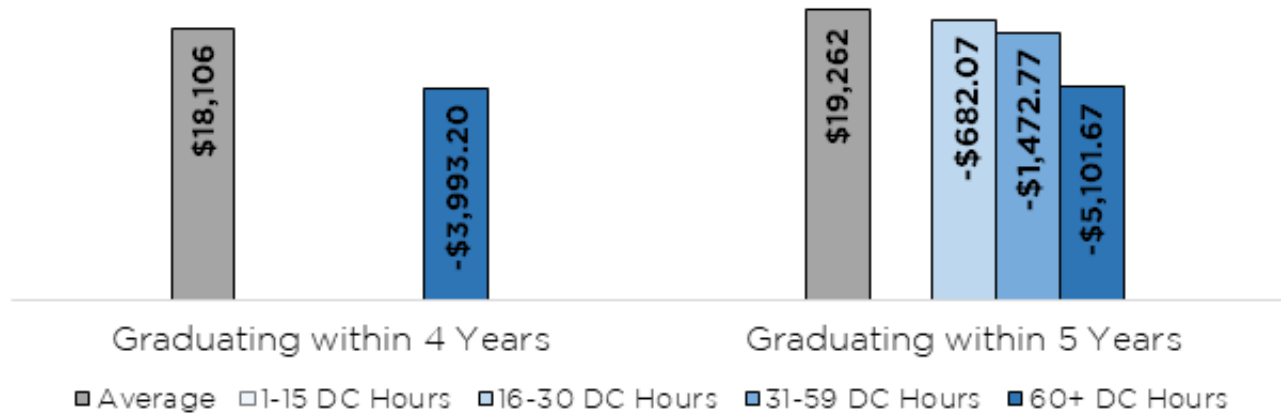
Graph 3. Subsequent Courses Completion



■ All - A, B, C, or Passed
 ■ AP/IB - A, B, C, or Passed
 ■ DC - A, B, C, or Passed

□ All - D, F, Incomplete, or Withdrawn
 □ AP/IB - D, F, Incomplete, or Withdrawn
 □ DC - D, F, Incomplete, or Withdrawn

Graph 4. Student Debt for UT System Academic Institution Graduates



	Graduating within 4 Years		Graduating within 5 Years	
	Debt	Significance	Debt	Significance
Intercept	\$18,106	<.0001	\$19,262	<.0001
1-15 DC Hours	Not significantly different		Not significantly different	
16-30 DC Hours	Not significantly different		-682.07	0.0119
31-59 DC Hours	Not significantly different		-1,472.77	0.0015
60+ DC Hours	-3,993.20	<0.0001	-5,101.67	<.0001

Table 18. Time to Degree: 4-Year Graduation (Reference group is no dual credit: includes AP/IB students)

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	Approx Pr > t
1-15 SCH	1	-0.209	0.041	-5.06	<.0001
16-30 SCH	1	-0.856	0.050	-16.91	<.0001
31-59 SCH	1	-1.717	0.075	-22.88	<.0001
60+ SCH	1	-2.757	0.096	-28.75	<.0001

Table 19. Time to Degree: 5-Year Graduation (Reference group is no dual credit: includes AP/IB students)

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	Approx Pr > t
1-15 SCH	1	-0.149	0.015	-10.19	<.0001
16-30 SCH	1	-0.397	0.020	-20.06	<.0001
31-59 SCH	1	-0.849	0.034	-25.33	<.0001
60+ SCH	1	-1.772	0.044	-40.09	<.0001

Table 20. Time to Degree: 6-Year Graduation (Reference group is no dual credit: includes AP/IB students)

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	Approx Pr > t
1-15 SCH	1	-0.161	0.016	-11.05	<.0001
16-30 SCH	1	-0.403	0.019	-20.36	<.0001
31-59 SCH	1	-0.843	0.034	-25.1	<.0001
60+ SCH	1	-1.821	0.044	-41.02	<.0001

Table 21. Average Attempted SCH In Residence - Texas Residents - Students who graduated within 4 years from their starting Institution - UTPB Excluded

Credit Type	N	Mean	Std Dev	Minimum	Maximum
AP Only	6,096	103.64	17.16	28	160
Both	5,321	100.64	17.55	27	186
DC Only	5,960	97.37	20.08	8	169
Neither	2,289	110.27	17.98	26	175

Table 22. Average Attempted SCH In Residence - Texas Residents - Students who graduated within 5 years from their starting institution - UTPB Excluded

Credit Type	N	Mean	Std Dev	Minimum	Maximum
AP Only	7,632	107.54	18.86	28	220
Both	6,303	103.87	19.19	27	198
DC Only	7,839	102.47	21.61	8	217
Neither	4439	117.48	19.06	26	193

Table 23. Average Attempted SCH In Residence - Texas Residents - Students who graduated within 6 years from their starting institution - UTPB Excluded

Credit Type	N	Mean	Std Dev	Minimum	Maximum
AP Only	7,761	107.94	19.18	28	220
Both	6,401	104.21	19.46	27	198
DC Only	8,135	103.27	22.03	8	217
Neither	4,901	118.52	19.63	13	193

Table 24. Average Attempted SCH In Residence - Texas Residents - Students who did not graduate within 6 years from their starting institution - UTPB Excluded

Credit Type	N	Mean	Std Dev	Minimum	Maximum
AP Only	2,285	81.99	28.88	0	175
Both	1,130	82.35	27.40	0	197
DC Only	3,872	69.34	33.58	0	178
Neither	8,155	59.40	36.56	0	200



**APPENDIX D:
UT SYSTEM INSTITUTION
DUAL CREDIT PROGRAMS**

The University of Texas at Arlington

Honors Academy Dual Credit Program	
Website	https://www.uta.edu/dualcredit/
Guiding Principles	To allow high school students to experience an actual university course on our campus.
Mission	To help prepare all high school students for university, provide a seamless transition from high school to university, and recruit local high school students to attend UT Arlington.
Target Students	All local high school juniors and seniors.
Student Eligibility Requirements	<p>High school junior or senior and must meet one of the following:</p> <ul style="list-style-type: none"> – Rank in top 20% of the current class – PSAT score of at least 480 on reading & writing, 500 on math – PLAN composite score of at least 23 – 3.5 unweighted GPA (4.0 scale) – SAT score of at least 1070 (before March 2016) – SAT score of at least 1140 (after March 2016) – ACT composite score of at least 23 <p>Must also pass TSI Assessment Test or equivalent.</p>
Unique Aspects of the Program	<ul style="list-style-type: none"> • Up to eight hours of course credit per semester apply towards a college degree while also meeting high school graduation requirements. • Requires parent & high school counselor approval to enroll. • Students can take any UT Arlington courses they're eligible for but are encouraged to take the core curriculum.
Typical Delivery	At UT Arlington or UT Arlington online course
Costs	\$60 application fee for the program plus \$50 per semester hour. Does not include the cost of parking or books.
Teacher Preparation	N/A - University professors instruct these courses.
Contact Details	dualcredit@uta.edu, 817-272-7215

The University of Texas at Austin

OnRamps	
Website	https://onramps.utexas.edu/
Guiding Principles	The purpose of OnRamps is to extend the reach of the university in order to transform lives, specifically by accelerating postsecondary student success.
Mission	OnRamps seeks to increase the number and diversity of students who engage in learning experiences aligned with the expectations of leading research universities.
Target Students	No target students identified.
Student Eligibility Requirements	<p>There are no eligibility requirements to participate in the program; however, courses have pre-requisites.</p> <p>There are grade-based or TSI-based eligibility to earn college credit. Students are considered eligible if they meet one of the following requirements: Students have met grade-based eligibility, D- or higher, on the college assignments that are designated and evaluated by a credentialed college instructor of record in the OnRamps course OR students have met the TSI-based requirements or an exemption.</p>

Unique Aspects of the Program	<ul style="list-style-type: none"> • Students are separately enrolled in a high school and college course. Students should expect the rigor of a college course. • High school credit is awarded on the high school transcript, and college credit is awarded on a college transcript. These grades can be different. • The high school course is evaluated and facilitated by an OnRamps-certified high school instructor of record. • The college course is evaluated and monitored separately by a credentialed college instructor of record. UT Austin faculty and staff design, deliver, assess, and provide feedback on all college assignments. • All OnRamps courses can be applied to the Texas Core Curriculum Courses at UT Austin or have a Texas Common Course Number to aid in transfer to any public institution in Texas. • If a student successfully completes the college course, the student may choose to accept or decline the college credit. If the student accepts the credit earned, that student will receive three undergraduate credit hours reflected on a university transcript. • If a student successfully completes the college course and declines the college credit, there is no penalty and no official transcript of record at the university. • Credit from The University of Texas at Austin is earned through the University Extension (UEX) within the TEXAS Extended Campus. • Minimum requirements for the high school instructor of record include a bachelor's degree in the discipline of the OnRamps course or a related field and one or more years of teaching experience in the instructional course or a higher-level course.
Typical Delivery	At the high school campus utilizing Canvas learning management system and facilitated by a high school teacher
Costs	No cost to students or districts. The 85th Legislature provided a state appropriation that reimburses all partnering districts' student activity cost for implementing OnRamps during this biennium.
Teacher Preparation	OnRamps brings together teachers, faculty, and OnRamps staff in an extensive facilitated network designed to provide yearlong support and enhance teachers' content knowledge, pedagogy, use of educational technology, and leadership through: 1:1 ongoing training and support in-person and virtual, two-week summer professional learning institute to cultivate a community of practice, and one-day workshops held in the fall and spring to address immediate challenges and opportunities teachers face in their implementation of OnRamps.
Contact Details	info@onramps.org, 512-475-7877

Texas MicroMajor	
Website	http://onramps.utexas.edu/initiatives/txmm/
Guiding Principles	Not stated
Mission	The purpose of the Texas MicroMajor initiative is to provide a formal recognition from The University of Texas at Austin (UT Austin) for students who succeed in completing a set of four rigorous college-level courses that have been developed or endorsed by UT Austin faculty for their relevance to earning a college degree.
Target Students	No target students identified.
Student Eligibility Requirements	Students must apply through an online application and be endorsed by their high school counselors to participate in the program.
Unique Aspects of the Program	<ul style="list-style-type: none"> • UT Austin partnered with Austin Independent School District (AISD) to pilot the MicroMajor program in the 2017-18 academic year, building on established OnRamps dual enrollment partnerships and other UT Austin programs. • Students must complete at least four courses from an approved list of dual credit, dual enrollment, or Advanced Placement (AP) courses. At least two courses must be UT Austin courses. • MicroMajors are for three broad areas: Science, Technology, Engineering and Math (STEM); Arts and Humanities; and Multidisciplinary Studies. • Students receive advising and ongoing academic support through their high schools and from UT Austin.
Typical Delivery	Not stated
Costs	Not stated
Teacher Preparation	Not stated
Contact Details	info@onramps.org , 512-475-7877

OnRamps Dual Credit Innovation Collaborative (DCIC)	
Website	http://onramps.utexas.edu/initiatives/dcic/
Guiding Principles	Not stated
Mission	To develop a centralized, facilitated network charged with creating, testing, and refining a model for infusing rigor, quality, and instructional excellence, as well as igniting innovation, in dual credit in the state of Texas.
Target Students	No target students identified.
Student Eligibility Requirements	No requirements identified

Unique Aspects of the Initiative

- The University of Texas at Austin’s OnRamps Program launched an initiative to bring together leading educational innovators and faculty from universities, community colleges, and school districts from various regions of the state. The principal strategy of the institutions is to increase the long-term value of dual credit for students and institutions through diffusion of innovation.
- The inaugural partners are: Austin Community College, El Paso Community College, Houston Community College, San Jacinto College, Tarrant County College, Texas Tech University, and The University of Texas at Austin (UT Austin).
- Coordinated by TEXAS OnRamps at UT Austin, the TEXAS OnRamps DCIC led the development of a three-part Dual Credit Innovation Model over the course of two years. The model will include:
 - A dual credit innovation framework that defines voluntary standards and metrics within six overarching focus areas pertaining to Texas dual credit:
 - Advising, Applicability, Pathways, and Transferability
 - Professional Learning
 - Metrics and Research
 - Rigor and Quality
 - Rapid Growth of Dual Credit
 - Access and Equity

The DCIC standards are aligned with SACSCOC and the National Alliance of Concurrent Enrollment Partnerships (NACEP). This phase of work may include an Endorsement Infrastructure developed and overseen by the DCIC.

- Dual credit faculty fellowships for pods of embedded community college, university faculty, and/or school district partners. Fellows will receive appointments and stipends from the TEXAS OnRamps program and be trained in the framework through intensive professional development experiences designed by the DCIC on-site at UT Austin; and

Typical Delivery Not stated

Costs Not stated

Teacher Preparation Not stated

Contact Details info@onramps.org, 512-475-7877

Pre-College Academic Readiness Program (PCARP)	
Website	http://diversity.utexas.edu/schoolpartnerships/
Guiding Principles	Taking what happens on campus out to high school students across the state and making sure that it mirrors in pacing, depth, expectations, products, and the work that they would be doing if they were on campus.
Mission	Increasing diversity on campus, increasing access, and increasing persistence.
Target Students	Free and reduced lunch students. Students from Title 1 schools are actively recruited.
Student Eligibility Requirements	Criteria for getting students involved is mostly pre-requisites and test scores, per TEA suggestions. However, acceptance into the program is based on the professional discretion of teachers, administrators, and councilors.
Unique Aspects of the Program	<ul style="list-style-type: none"> • Four programs are offered: ChemBridge (6 hrs credit), Students Partnering for Undergraduate Rhetoric Success (SPURS) (6 hrs credit), MathBridge (3 hrs credit), and CalcBridge (6 hrs credit). • There is one set of curriculum with dual grades - one for HS and one for college credit assessed independently by the high school and UT Austin faculty respectively. • Students can choose to drop at any time; if they fail a course, they are Q dropped, so it doesn't show up on their transcript/count against them. • The high school teacher facilitates the class, but class content and grading (for college credits) is done by the university instructor via Canvas/an online tool. • Unlike a normal online class, it is not self-paced. Students attend a high school class and go into the online tool every day. • If a student fails a class in the fall semester, they can still attend spring semester, but won't receive college credit. • Video tutoring is offered to students. • Students are brought on campus once a year to meet their program coordinator and talk to past PCARP students from their high school.
Typical Delivery	Online content delivered on the high school campus, facilitated by the high school teacher.
Costs	The year-long course costs \$300, which is invoiced to the high school (not the student).
Teacher Preparation	Week-long summer workshop and a follow-up winter workshop are provided for high school teachers to get them familiar with the rhythms of the college semester, the curriculum, expectations, and to answer their questions and concerns. Teachers with AP and/or Gifted and Talented training preferred. A master's degree is not required.
Contact Details	Dr. Eric Dieter, ericdieter@austin.utexas.edu , 512-217-6977

Engineer Your World	
Website	http://engineeryourworld.org/
Guiding Principles	To address the Texas requirement for high school engineering, giving students a really good foundation coming into engineering, and knowing what the expectations of faculty, graduate students, and graders at the university will be.
Mission	To make engineering accessible, exciting, and relevant to young men and women and to inspire students to discover the value and relevance of engineering approaches to solving real-world problems.
Target Students	A commitment was made to the National Science Foundation to serve under-represented populations. The current student population served is more than 50% combined Latino, Latina, and African-American and just over 30% female
Student Eligibility Requirements	Students enroll in the course, and midway through the fall semester, they apply to the dual credit program by submitting a portfolio of their work (designs). Several UT system institutions grade the work similar to an AP exam; if the student scores a 3 they're eligible to enroll. Students submit their first, second, and third choice of campus (from among UT Austin, UTSA, UTRGV, UTPB). Top 50 applicants are offered a spot at UT Austin or whatever their first choice is - the rest are distributed based on their choices and scores.
Unique Aspects of the Program	<ul style="list-style-type: none"> • Project-based, hands-on, design-based course that's broadly based and makes young men & women aware of what engineering is, what engineers do, and the role that they can play in shaping the world if they became engineers. • Engineering programs remain extremely heterogeneous in terms of what they count and what they require for freshmen engineering. As a result, courses will count as university credit, but no guarantees can be made that the student will be able to count this towards graduation credit. • The program is designed to be teachable in high and low performing schools, in rural, or suburban areas, by teachers with engineering backgrounds, without engineering backgrounds, brand new teachers, or teachers with 20 years of experience. • The program is offered at schools throughout the US - currently 20 states.
Typical Delivery	At high school by a high school teacher.
Costs	\$300 for out-of-state students and free in Texas since it is currently sponsored by UT system. Each school participating in the program invests \$5,500 in the first year for curriculum licensing, professional development, and induction support for their teacher. Initial equipment cost (for the school) for one section of 24 students is around \$4,000. There is an annual curriculum licensing fee of around \$2,000 for subsequent years and an Induction Support for Teacher fee of around \$800 for year 2.

Teacher Preparation	Teachers receive two weeks of training at UT Austin. They are also connected with veteran Engineer Your World teachers who share tips for successfully managing the project-based classroom, facilitating effective collaboration, promoting productive failure, differentiating instruction, and assessing student learning. In addition, teachers have access to a virtual professional learning community of Engineer Your World teachers and engage in monthly collaborative videoconferences and online discussion forums. Individual teachers work with UTeach Engineering instructional support specialists to reflect on practice in one-on-one debriefs and all Engineer Your World teachers have on-demand access to staff engineers, instructional support specialists, and learning technology specialists to meet their technical and instructional needs.
Contact Details	Theresa Dobbs, tdobbs@mail.utexas.edu, 512-471-3017

The University of Texas at El Paso (UTEP)

Early College High School Academic Success Center and Other Dual Credit-Related Activities	
Website	http://www.utep.edu/student-affairs/echs
Guiding Principles	Not stated
Mission	To improve the quality of the university experience for Early College High School (ECHS) students, increase the number of ECHS students attending UTEP, and prepare ECHS students for successful transition to post-baccalaureate studies or career engagement.
Target Students	No target students identified.
Student Eligibility Requirements	Students must apply through an online application and be endorsed by their high school counselors to participate in the program.

Unique Aspects of the Initiative	<ul style="list-style-type: none"> • Work with Early College High Schools and El Paso Community College (EPCC) to ensure there are clear pathways for students to continue to UTEP for a 4-year degree with minimal credit loss. • Activities to ensure alignment include: <ul style="list-style-type: none"> – High schools and community college advising staff work closely with the UTEP liaison to ensure that students choose a transferable program of study and that the 60 credits required for the associate degree all count towards their UTEP program of study. – UTEP has an array of orientation and support services provided by their ECHS Academic Success Center that facilitate the transition for Early College High School students during their matriculation into UTEP with junior-level standing. – The ECHS Administrators and Counselors Academy is held each semester to provide current and relevant program information about colleges, majors, and degree plans to the ECHS community. – The ECHS Academic Success Center schedules monthly meetings with college advisors to communicate information and to ensure they remain informed about changes in ECHS. – There is an ECHS Leadership Council that meets once a semester for information sharing and problem-solving. There are reps from ECHSs, EPCC, and UTEP. – UTEP, EPCC, and the Early College High Schools have designed pathways by mapping backwards from the bachelor’s degree, taking into account the availability of courses, the schedule at each institution, and the sequencing requirements.
Typical Delivery	Not stated
Costs	Not stated
Teacher Preparation	Not stated
Contact Details	earlycollegesuccess@utep.edu, 915-747-7387 – Yvette Savina

The University of Texas of the Permian Basin (UTPB)

Dual Credit Academy	
Website	https://www.utpb.edu/academics/dual-credit
Guiding Principles	Not stated
Mission	Not stated
Target Students	Students in Region 18 area, which is public schools in west Texas and the upper Rio Grande Valley (Big Bend area) plus some of region 19, which is the El Paso area.
Student Eligibility Requirements	<p>Students must be in top 50% of their graduating class and meet TSI scores or be TSI exempt. If in 2nd quartile of their class, must meet or exceed the following in addition to meeting TSI scores:</p> <p>SAT (EBRW) 480, SAT (M) 530, ACT 19, PSAT 90, PLAN 19</p> <p>Minimum TSI scores: Reading 351, Writing/Essay 5 or 4 and 363 Multiple Choice, Math 350</p>
Unique Aspects of the Program	<ul style="list-style-type: none"> • A \$500 Spur Scholarship is awarded to all dual credit students who complete a dual credit course with a 70 or better (one per semester). These can be used after the student graduates from high school and can be applied toward any UTPB course for tuition, textbooks, or fees for online or on-campus courses (1 scholarship per semester). • Courses included in six-drop rule. • Students are given grades every 3 to 4 weeks so parents know how their students are doing.
Typical Delivery	Online with high school teacher facilitating.
Costs	\$150 per course per student except for ENGL 1301, ENGL 1302, MATH 2412, MATH 2413, SPAN 1411 & SPAN 1412, which are \$200 each. Some school districts pay for their students and UTPB bills districts directly. Students must purchase their books unless school provides them.
Teacher Preparation	The facilitator of each independent school district fills out a UAR Form for authentication purposes and observer access. They are provided with an orientation packet along with the Dual Credit Handbook in order to familiarize themselves with the policies and procedures for UTPB. The facilitator will have access and an understanding of the services provided by the UTPB Success Center and services available at the partner school. The facilitator will have observer access to the grade book for the students from that partner school in order to monitor the student's progress. The facilitator will be responsible for submitting the appropriate paperwork (drop slips or grade changes) or to investigate academic dishonesty allegations.
Contact Details	Heather Cress, cress_h@utpb.edu, 432-552-2106

The University of Texas Rio Grande Valley (UTRGV)

Dual Enrollment Program	
Website	http://www.utrgv.edu/undergraduate-admissions/dual-enrollment/index.htm
Guiding Principles	Not stated
Mission	To provide academically talented high school juniors and seniors with an opportunity to acquire university course credit and to introduce them to the “Total University Experience” while still attending high school.
Target Students	No target students identified.
Student Eligibility Requirements	<p>Students must be:</p> <ul style="list-style-type: none"> • A junior or senior in high school • Graduating under the Foundation with Endorsement or Distinguished Plan • Meet one of the following: Ranked top 10%; have a 90 GPA or higher; have a composite score of ACT 22 or SAT 1030 (using applicable scoring metrics)
Unique Aspects of the Program	<ul style="list-style-type: none"> • A large number of courses offered. • Students can choose from a multitude of options to take up to 43 hours of the core curriculum. • Students who complete the dual credit courses with a high GPA are eligible to apply to University Scholars scholarships.
Typical Delivery	College courses are taken at UTRGV
Costs	No tuition costs. Books, supplies, etc. are the student’s responsibility.
Teacher Preparation	N/A - University professors instruct these courses.
Contact Details	Michael Aldape, michael.aldape@utrgv.edu, 956-882-8960

Brownsville Early College High School (BECHS)	
Website	http://brownsville-echs.weebly.com/
Guiding Principles	<ul style="list-style-type: none"> • Student-centered education • Creation of a safe environment conducive to learning • Shared responsibility between teachers, administrators, parents, and the community of student learning • Differentiated instruction to accommodate diversity in the student body • Project-based learning to actively engage students • Commitment to a rigorous curriculum to produce life-long learners • Promotion of positive relationships between students and staff
Mission	To develop knowledgeable citizens and emerging leaders who are engaged in the life of their community.
Target Students	Local students. Due to community socio-economic status, 100% of students qualify for free and reduced lunch program, and 99.2% of students are Hispanic.
Student Eligibility Requirements	<p>To get into BECHS, students must:</p> <ul style="list-style-type: none"> - be in 8th grade and be promoted to the 9th grade - be in good academic standing - complete an application packet - meet expectations on the required mandated state assessments - commit to a 2-week summer bridge program <p>Once students are at BECHS, they must pass the TSI exam by the end of their sophomore year.</p>
Unique Aspects of the Program	<ul style="list-style-type: none"> • High school is located on the edge of UTRGV campus • Small high school of 427 students • Students have high school teachers in their freshman & sophomore years and attend UTRGV classes (taught by professors) their junior & senior years • The school utilizes block scheduling to enable students to attain 60+ college credits upon graduation • 20 different clubs and organizations are offered to students outside the normal academic program, most of which contain a community service element • Parents invited to monthly meetings • High attendance rate (average of 98.3% over last five years)
Typical Delivery	Junior- and senior-year college classes taken at UTRGV
Costs	No cost to students.

Teacher Preparation	N/A - University professors instruct these courses.
Contact Details	Michael Edward Aldape, Michael.aldape@utrgv.edu, 956-882-5135

Mathematics and Science Academy	
Website	http://www.utrgv.edu/msa/
Guiding Principles	Develop the whole person – increase student knowledge, develop imagination, explore ideas and feelings, find life-long friends, and strengthen their desire to serve their community.
Mission	To offer an accelerated educational program for bright, motivated Texas 11th and 12th-grade high school students who have demonstrated an interest in pursuing careers in mathematics and science.
Target Students	Advanced students with interest in pursuing careers in mathematics and science.
Student Eligibility Requirements	<ul style="list-style-type: none"> • Recommendation forms from counselor/principal and teachers (science, math & English) • Short answers & essay form • Meet SAT/ACT requirements or TSI scores: <ul style="list-style-type: none"> - SAT 1070 composite for math & reading with minimum 500 in both areas and minimum 500 in writing - ACT composite score of 23 with at least 19 in English & 19 in math
Unique Aspects of the Program	<ul style="list-style-type: none"> • Students take classes from UTRGV faculty with current UTRGV students and get the university experience during high school, but have more supervision & guidance than traditional university students • Offered at two locations: Brownsville & Edinburg • Offers students the opportunity to complete two years of college concurrently with the last two years of high school • Students complete 56-68 semester credit hours and receive an advanced high school diploma including college credits
Typical Delivery	Courses are taken at UTRGV
Costs	Academy funded by UTRGV and Foundation School Fund. Academy pays for tuition, fees, and books.
Teacher Preparation	N/A - University professors instruct these courses.
Contact Details	msa@utrgv.edu, 956-882-5742

The University of Texas at San Antonio (UTSA)

Early Birds Dual Credit Program	
Website	http://p20.utsa.edu/programs/utsa_early_birds_dual_credit_program/
Guiding Principles	Centered around three primary focuses: student experience, rigor, and college readiness
Mission	To provide the highest quality dual credit courses and experiences for our students and ensure they go on to successfully apply, attend, and graduate college with their degrees.
Target Students	Juniors and seniors from high schools across San Antonio.
Student Eligibility Requirements	<ul style="list-style-type: none"> • 16 years of age or older • In good academic standing with the current high school • College admissible through TSI completion OR exemption by SAT or ACT scores
Unique Aspects of the Program	<ul style="list-style-type: none"> • Dual credit onboarding: campus Dual Credit Day, on-site orientation, faculty meet & greet • Access to academic & student life resources • Consistent communication between faculty, program manager, and school counselors - weekly attendance, behavior and grade reports • Academic intervention strategies - monthly Saturday Academic Enrichment Seminars, tutoring, advising • Approaches college readiness holistically, providing not only academic enrichment but non-cognitive skill building (marketable skills)
Typical Delivery	Courses are taken at UTSA
Costs	One-time \$60 application fee per student. \$376 tuition fee per 3-hour course, which includes base tuition, textbooks, and other fees.
Teacher Preparation	N/A - University professors instruct these courses.
Contact Details	Jillian Woolard, jillian.woolard@utsa.edu , 210-458-2767

Dual Credit Scholars	
Website	http://p20.utsa.edu/programs/utsa_dual_credit/
Guiding Principles	Centered around three primary focuses: student experience, rigor, and college readiness
Mission	To provide the highest quality dual credit courses and experiences for our students and ensure they go on to successfully apply, attend, and graduate college with their degrees.
Target Students	High school seniors from Geneva School of Boerne, a private school

Student Eligibility Requirements	<ul style="list-style-type: none"> • 16 years of age or older • In good academic standing with the current high school • College admissible through TSI completion OR through exemption by SAT or ACT scores
Unique Aspects of the Program	Limited program: offers up to 6 hours of English credit for students of Geneva School of Boerne
Typical Delivery	At Geneva School of Boerne
Costs	One-time \$60 application fee. Average of \$800-\$850 tuition fee per 3-hour course, which includes base tuition, textbooks, and other fees.
Teacher Preparation	N/A - University professors instruct these courses.
Contact Details	Abel Gonzales, abel.gonzales@utsa.edu, 210-458-2763; Jillian Woolard, jillian.woolard@utsa.edu, 210458-2767

Cyber Security Academy	
Website	http://p20.utsa.edu/programs/utsa_cyber_security_academy/
Guiding Principles	P-20 programming is designed to increase the academic success of individuals who might not otherwise have access to postsecondary education. In particular, the Institute aims to support underrepresented ethnic minority students, women, and students who are the first in their family to attend college.
Mission	Not stated.
Target Students	Students from Judson ISD who have an interest in pursuing a cybersecurity career.
Student Eligibility Requirements	<ul style="list-style-type: none"> • 16 years of age or older • In good academic standing with the current high school • College admissible through TSI completion OR through exemption by SAT or ACT scores
Unique Aspects of the Program	<ul style="list-style-type: none"> • Starts with 9th-grade students who participate in immersive summer camp experiences to prepare them for dual credit coursework (which doesn't start until their junior year) • Classes count towards high school and college credit, with a focus on cybersecurity careers • Participating juniors and seniors attend classes at the UTSA main campus and are eligible to receive 21 - 27 college credits • Students from 5 Judson ISD middle schools are invited to apply • The program creates three cohorts of 50 students
Typical Delivery	Courses are taken at UTSA
Costs	The district pays all student programming and tuition. \$60 application processing fee, and \$376 per 3-hour course.

Teacher Preparation	N/A - University professors instruct these courses.
Contact Details	Jillian Woolard, jillian.woolard@utsa.edu, 210-458-2767

The University of Texas at Tyler

Partners in Academic Concurrent Enrollment (PACE)	
Website	http://www.uttyler.edu/success/dual-credit/index.php
Guiding Principles	Not stated
Mission	Not stated
Target Students	No target students identified.
Student Eligibility Requirements	<ul style="list-style-type: none"> • Official test scores from one of the following categories to prove proficiency and college readiness in the areas of reading, writing, and math <ul style="list-style-type: none"> ○ High School Exit: Highest level of STAAR or TAKS completed. ○ College Entrance: PLAN or ACT or SAT if taken. ○ College Placement: TSI Assessment, unless exempt.
Unique Aspects of the Program	<ul style="list-style-type: none"> • Video lectures from UT Tyler faculty, application exercises, assignments, and assessment measures have all been developed for each course by UT Tyler's academic departments. • A UT Tyler faculty member is the instructor of record for each online course. • The high school instructor is responsible for providing a structured environment for students to learn the material as well as supplement with the instructor's own knowledge and information. • The UT Tyler faculty member collaborates with the high school instructor throughout the semester to ensure that students are receiving the support and assistance they need to be successful. • A non-mandatory Student Resource Hub in Canvas is offered to help students achieve academic success in their college courses as well as general college readiness.
Typical Delivery	At the high school with online content developed by UT Tyler; at the high school with face-to-face content delivered by credentialed high school instructor; on UT Tyler campus with face-to-face content delivered by UT Tyler faculty.
Costs	\$50 per credit hour with high school teacher as an instructor of record, \$99 per credit hour with UT Tyler faculty as an instructor of record
Teacher Preparation	The instructor must meet criteria as required by the Southern Association of Colleges and Schools Comprehensive Standard 3.7.1. High school instructors are also required to attend a summer workshop in order to connect with the UT Tyler faculty and prepare for the course.
Contact Details	pace@uttyler.edu, 903-566-7295

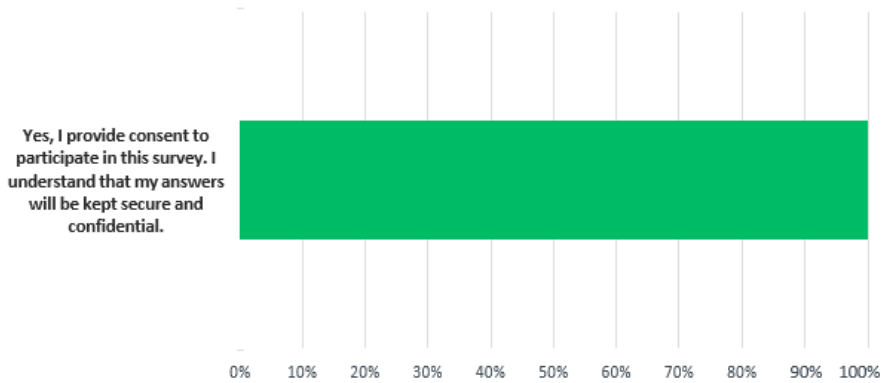
PACE / Texas Project Lead the Way (TPLW)	
Website	http://www.texaspltw.org/resources/college-credit
Guiding Principles	Not stated
Mission	Not stated
Target Students	No target students identified.
Student Eligibility Requirements	<ul style="list-style-type: none"> • Students must be enrolled in a High School with a Project Lead the Way (PLTW)-certified teacher • No TSI needed
Unique Aspects of the Program	<ul style="list-style-type: none"> • Students can earn engineering-related college credit by taking classes led by PLTW-certified high school teachers. • The concurrent enrollment courses (ENGR 1201 and 1304) were designed to add the college learning objectives to the high school curriculum for the PLTW Principles of Engineering course and Introduction to Engineering Design course. Students must be concurrently enrolled in POE or IED to take the college course. • The student has a high school teacher of record who teaches the high school course and gives a grade separate from the college grade.
Typical Delivery	At the high school with online content developed by UT Tyler.
Costs	\$99 per credit hour
Teacher Preparation	In order to facilitate content and implement the ENGR 1201/1304 courses into their course, the high school teacher has to be PLTW Certified to teach P.O.E./I.E.D. This is necessary to ensure the teacher understands and can apply course material in the classroom. The PACE Program and the College of Engineering at UT Tyler have developed a training webinar specifically for high school P.O.E./I.E.D. teachers in order to orient them to the course and outline their expectations.
Contact Details	Katy Buerger, kbuerger@uttyler.edu, 903-566-7295

Texas Project Lead the Way Transcribed Credit	
Website	http://www.texaspltw.org/images/documents/UT_Tyler_PLTW_Credit.pdf
Guiding Principles	Not stated
Mission	Not stated
Target Students	Students who have taken engineering classes associated with the Texas Project Lead the Way Engineering program
Student Eligibility Requirements	<ul style="list-style-type: none"> • Students who have successfully completed PLTW Introduction to Engineering Design and Principles of Engineering by passing both End of Course Exams with a score of 7 or higher will be given credit for ENGR 1204—Engineering Graphics I. • Students can't apply until passing a college entrance exams SAT or ACT (score requirements vary based on class percentile). • Students who have successfully completed PLTW Introduction to Engineering Design, Principles of Engineering, and one of the following PLTW specialization courses by passing all three End of Course exams with a score of 7 or higher: a.) Digital Electronics, b.) Aerospace Engineering, c.) Biotechnical Engineering, d.) Civil Engineering and Architecture, or e.) Computer Integrated Manufacturing, will be given credit for ENGR 1201 Introduction to Engineering in addition to ENGR 1204—Engineering Graphics I.
Unique Aspects of the Program	<ul style="list-style-type: none"> • The University of Texas at Tyler provides credit to students who successfully complete a selected series of Project Lead the Way End of Course Exams. • To receive the credit for the courses, the student must earn a Stanine score of 7 or higher.
Typical Delivery	At High School with a Texas Project Lead the Way-certified teacher
Costs	\$125 per credit hour. The total cost for each 2-hour course ENGR 1204 or ENGR 1201 is \$250.
Teacher Preparation	Teachers are certified through the Texas Project Lead the Way Program.
Contact Details	Linda Stearns, lstearns@uttyler.edu , 979-229-2322



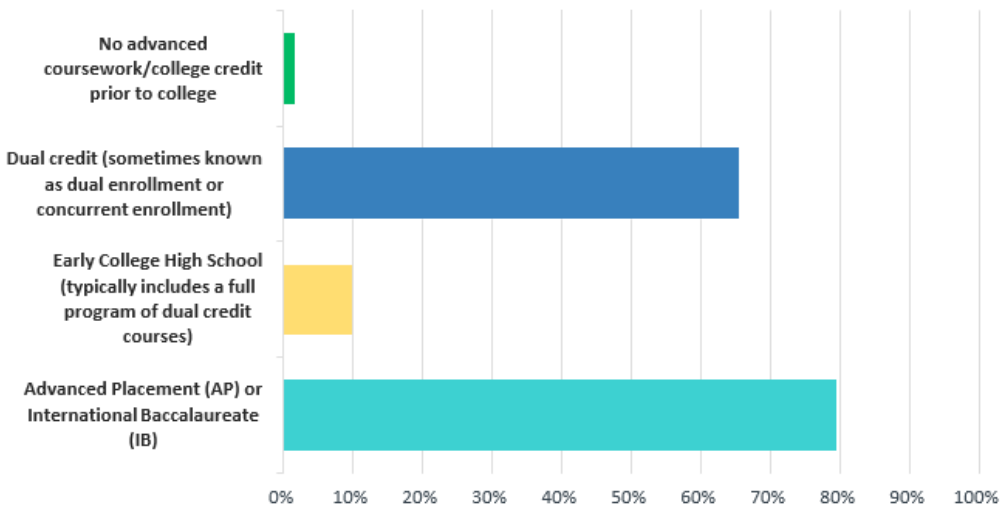
**APPENDIX E:
UT SYSTEM ONLINE SURVEY RESULTS**

Question 1: Do you consent to participate in this survey?



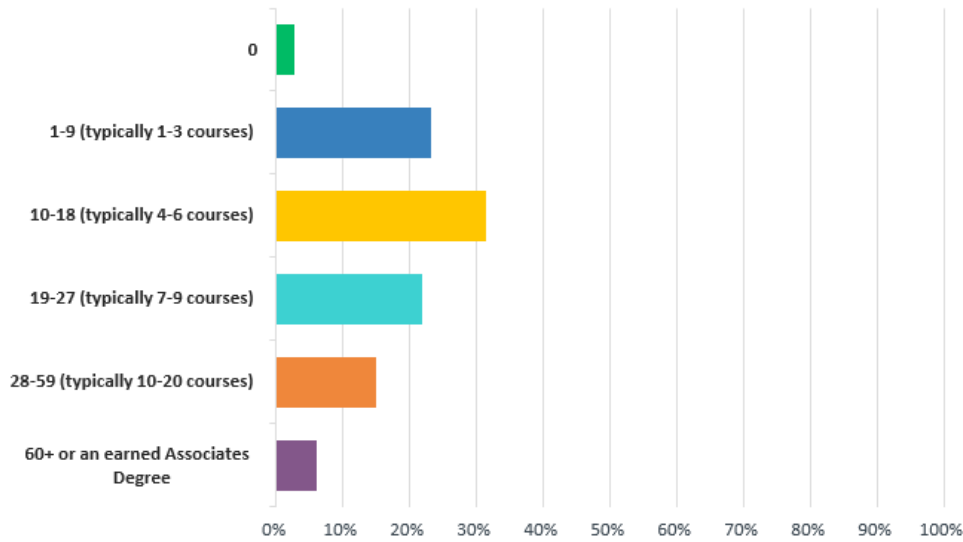
ANSWER CHOICES	RESPONSES	
Yes, I provide consent to participate in this survey. I understand that my answers will be kept secure and confidential.	100.00%	4,078

Question 2: What type of advanced coursework/college credit courses did you take while in high school? (Choose all that apply.)



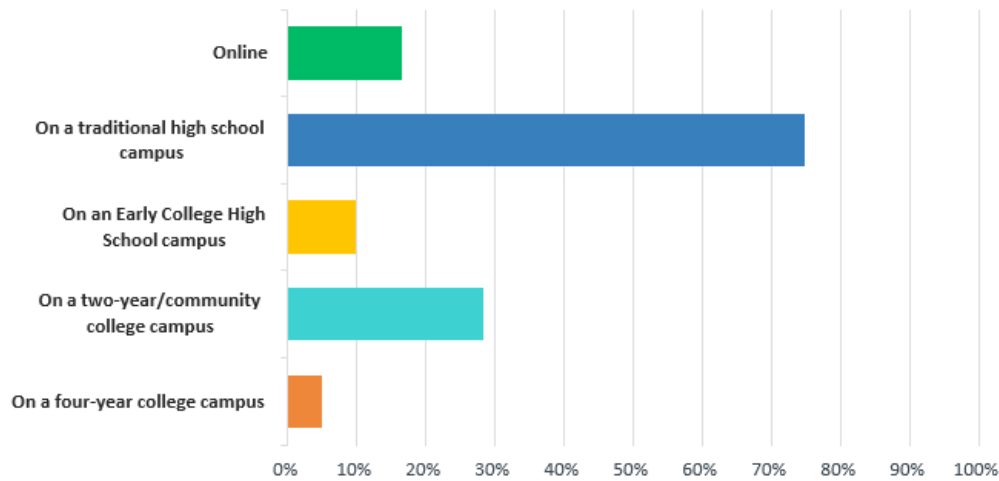
ANSWER CHOICES	RESPONSES	
No advanced coursework/college credit prior to college	1.55%	61
Dual credit (sometimes known as dual enrollment or concurrent enrollment)	65.37%	2,571
Early College High School (typically includes a full program of dual credit courses)	9.79%	385
Advanced Placement (AP) or International Baccalaureate (IB)	79.33%	3,120

Question 3: How many college credit hours did you earn by the time you graduated from high school? (Note: Most college courses are equivalent to 3 credit hours. AP/IB credit is typically worth 3-6 hours depending on your score. Include all hours earned even if they were not accepted by your university).



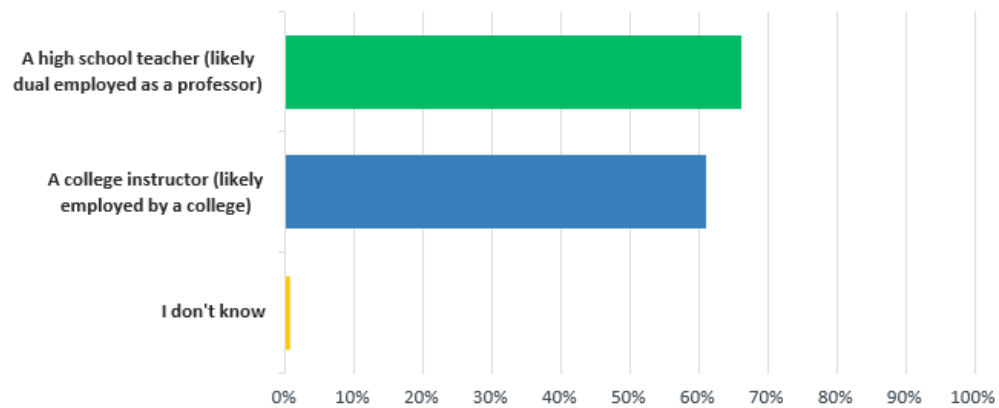
ANSWER CHOICES	RESPONSES	
0	2.64%	104
1-9 (typically 1-3 courses)	23.04%	906
10-18 (typically 4-6 courses)	31.43%	1,236
19-27 (typically 7-9 courses)	21.84%	859
28-59 (typically 10-20 courses)	14.92%	587
60+ or an earned Associate's degree	6.13%	241

Question 4: Where did you take your dual credit courses? (Choose all that apply.)



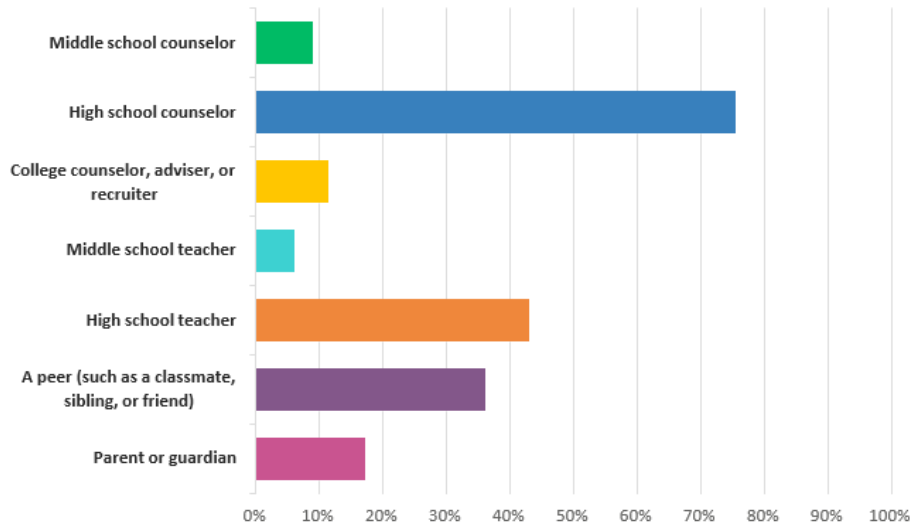
ANSWER CHOICES	RESPONSES	
Online	16.53%	439
On a traditional high school campus	74.59%	1,981
On an Early College High School campus	9.71%	258
On a two-year/community college campus	28.16%	748
On a four-year college campus	4.82%	128

Question 5: Who taught your dual credit courses? (Choose all that apply.)



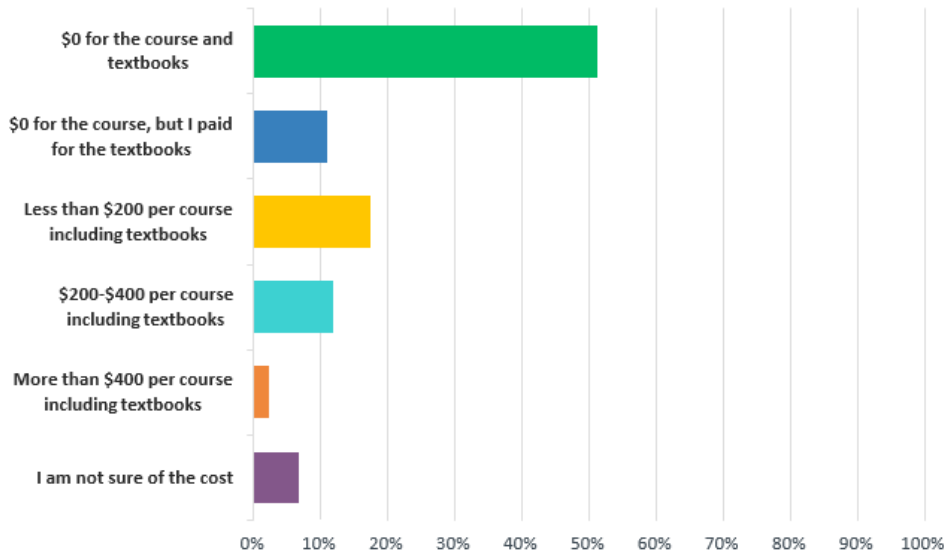
ANSWER CHOICES	RESPONSES	
A high school teacher (likely dual employed as a professor)	66.08%	1,755
A college instructor (likely employed by a college)	60.88%	1,617
I don't know	0.60%	16

Question 6: How did you find out about dual credit courses? (Choose all that apply.)



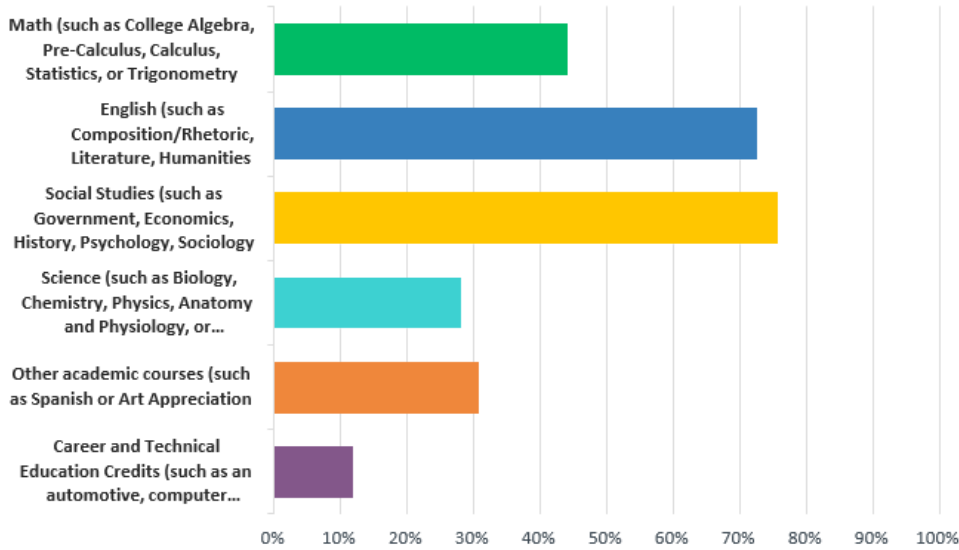
ANSWER CHOICES	RESPONSES	
Middle school counselor	9.01%	237
High school counselor	75.28%	1,979
College counselor, adviser, or recruiter	11.34%	298
Middle school teacher	6.05%	159
High school teacher	42.91%	1,128
A peer (such as a classmate, sibling, or friend)	36.02%	947
Parent or guardian	17.12%	450

Question 7: How much did your dual credit course and textbooks cost you?



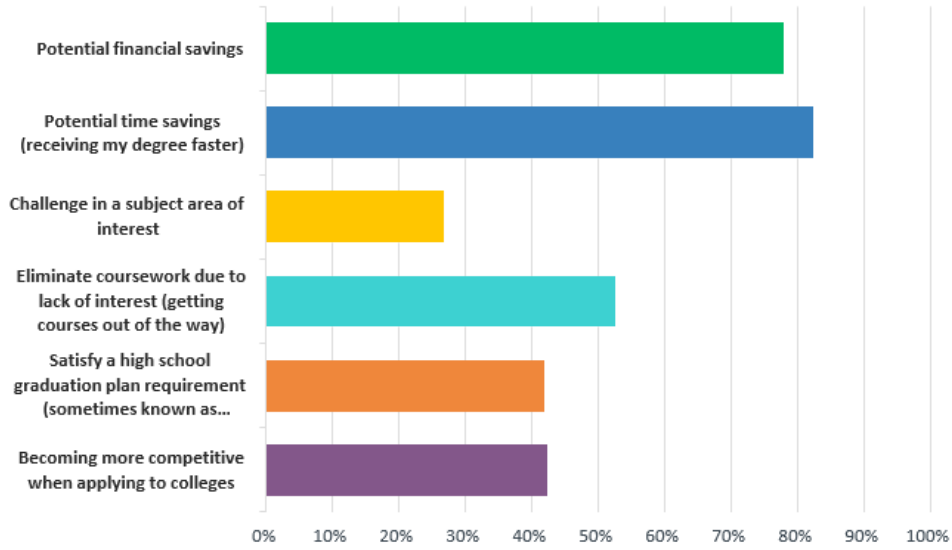
ANSWER CHOICES	RESPONSES	COUNT
\$0 for the course and textbooks	51.17%	1,359
\$0 for the course, but I paid for the textbooks	10.81%	287
Less than \$200 per course including textbooks	17.24%	458
\$200-\$400 per course including textbooks	11.86%	315
More than \$400 per course including textbooks	2.18%	58
I am not sure of the cost	6.74%	179

Question 8: For which courses or subject areas did you obtain credit through dual credit enrollment at any location? (Choose all that apply.)



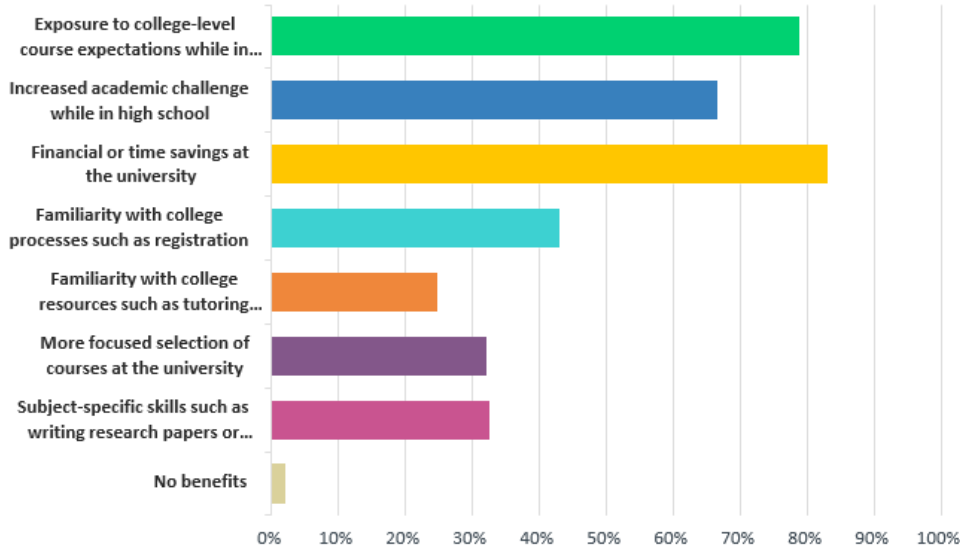
ANSWER CHOICES	RESPONSES	
Math (such as College Algebra, Pre-Calculus, Calculus, Statistics, or Trigonometry)	44.13%	1,172
English (such as Composition/Rhetoric, Literature, Humanities)	72.40%	1,923
Social Studies (such as Government, Economics, History, Psychology, Sociology)	75.64%	2,009
Science (such as Biology, Chemistry, Physics, Anatomy and Physiology, or Microbiology)	28.05%	745
Other academic courses (such as Spanish or Art Appreciation)	30.80%	818
Career and Technical Education Credits (such as an automotive, computer science, or health occupations course)	11.75%	312

Question 9: What motivated you to take dual credit courses? (Choose all that apply.)



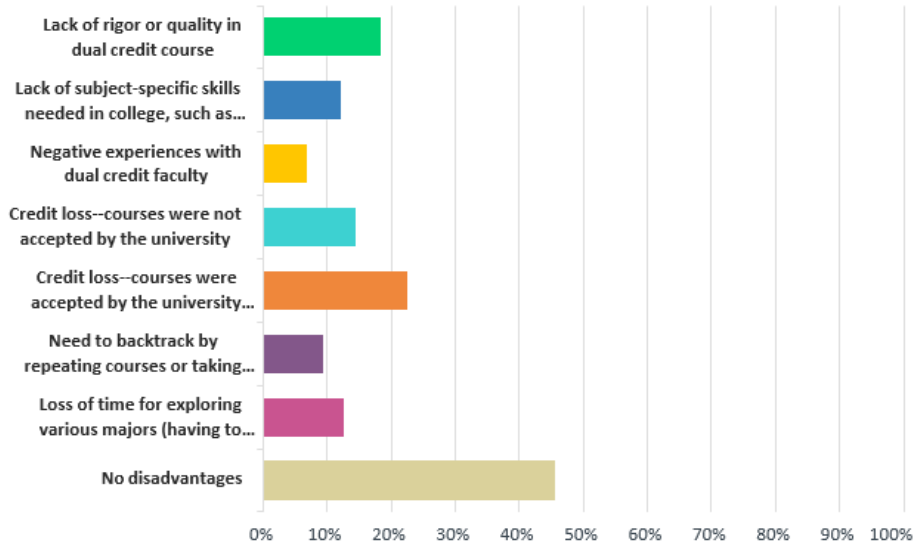
ANSWER CHOICES	RESPONSES	
Potential financial savings	77.64%	2,062
Potential time savings (receiving my degree faster)	82.19%	2,183
Challenge in a subject area of interest	26.66%	708
Eliminate coursework due to lack of interest (getting courses out of the way)	52.41%	1,392
Satisfy a high school graduation plan requirement (sometimes known as "advanced measures")	41.72%	1,108
Becoming more competitive when applying to colleges	42.24%	1,122

Question 10: Which of the following benefits did you experience as a result of taking dual credit courses? (Choose all that apply.)



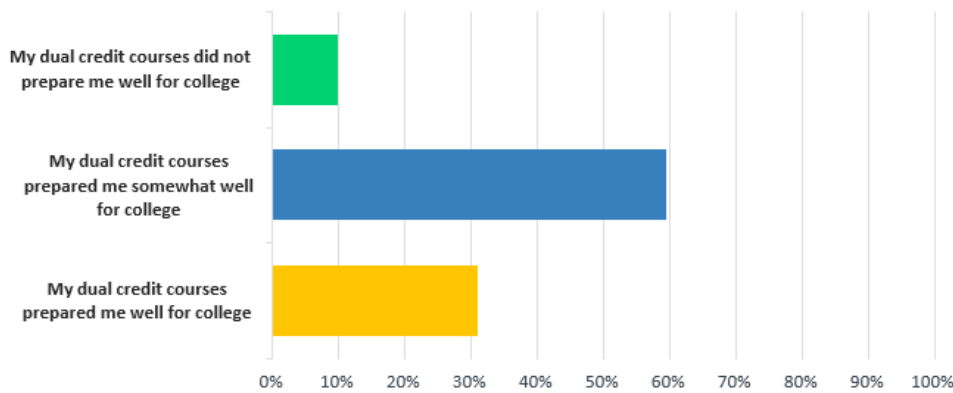
ANSWER CHOICES	RESPONSES	
Exposure to college-level course expectations while in high school	78.58%	2,087
Increased academic challenge while in high school	66.38%	1,763
Financial or time savings at the university	82.83%	2,200
Familiarity with college processes such as registration	43.00%	1,142
Familiarity with college resources such as tutoring labs or library databases	24.59%	653
More focused selection of courses at the university	32.12%	853
Subject-specific skills such as writing research papers or lab procedures	32.53%	864
No benefits	2.00%	53

Question 11: Which of the following disadvantages have you experienced as a result of taking dual credit courses? (Choose all that apply.)



ANSWER CHOICES	RESPONSES	
Lack of rigor or quality in dual credit course	18.26%	485
Lack of subject-specific skills needed in college, such as writing research papers or lab procedures.	12.20%	324
Negative experiences with dual credit faculty	6.81%	181
Credit loss--courses were not accepted by the university	14.34%	381
Credit loss--courses were accepted by the university but not applied to your degree plan	22.44%	596
Need to backtrack by repeating courses or taking more lower-level courses at the university	9.38%	249
Loss of time for exploring various majors (having to take upper-level courses, choose a major, or apply to programs too quickly)	12.65%	336
No disadvantages	45.67%	1,213

Question 12: In your experience, how well did dual credit courses prepare you for traditional college courses at your current institution?

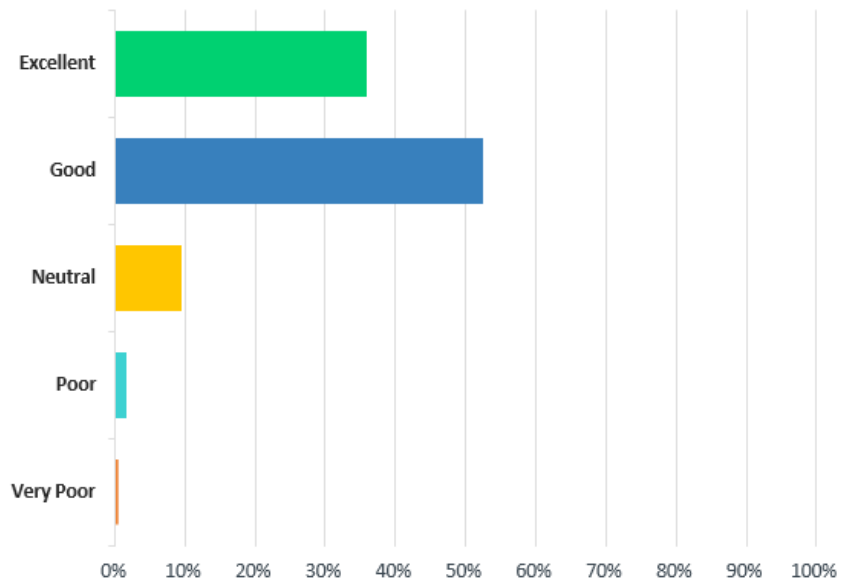


ANSWER CHOICES	RESPONSES	
My dual credit courses did not prepare me well for college	9.71%	258
My dual credit courses prepared me somewhat well for college	59.41%	1,578
My dual credit courses prepared me well for college	30.87%	820

Question 13: Based on your dual credit experiences, please rate the following responses:

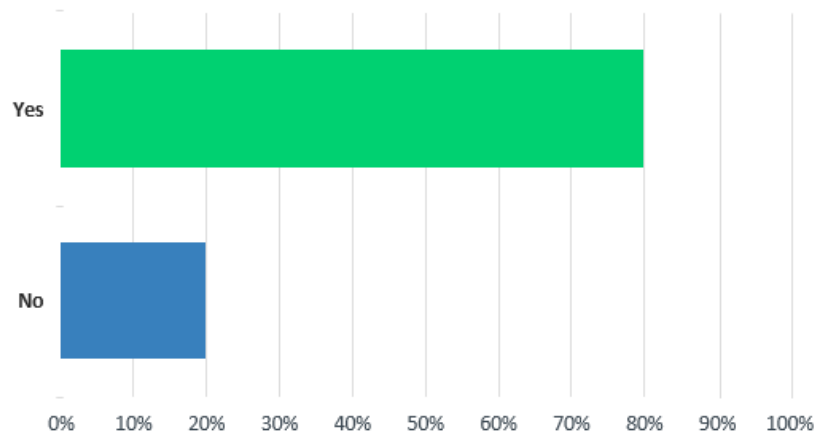
	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	TOTAL	WEIGHTED AVERAGE
I developed more realistic expectations about college.	19.47%	46.23%	22.94%	9.01%	2.35%		
	488	1,159	575	226	59	2,507	2.29
I was more confident about my ability to succeed in college.	25.76%	44.89%	22.44%	5.31%	1.60%		
	645	1,124	562	133	40	2,504	2.12
I improved my time management skills.	19.05%	33.31%	30.19%	14.18%	3.27%		
	477	834	756	355	82	2,504	2.49
I was prepared for the take on more challenging college courses.	22.65%	42.22%	24.09%	8.16%	2.88%		
	566	1,055	602	204	72	2,499	2.26

Question 14: How would you rate your overall dual credit experience?



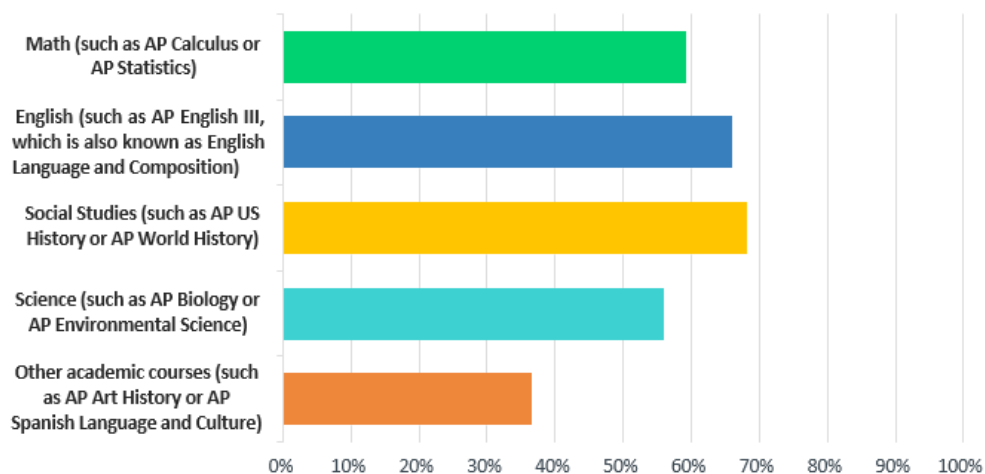
ANSWER CHOICES	RESPONSES	
Excellent	35.90%	900
Good	52.53%	1,317
Neutral	9.41%	236
Poor	1.68%	42
Very Poor	0.48%	12

Question 15: Did you also take AP/IB courses?



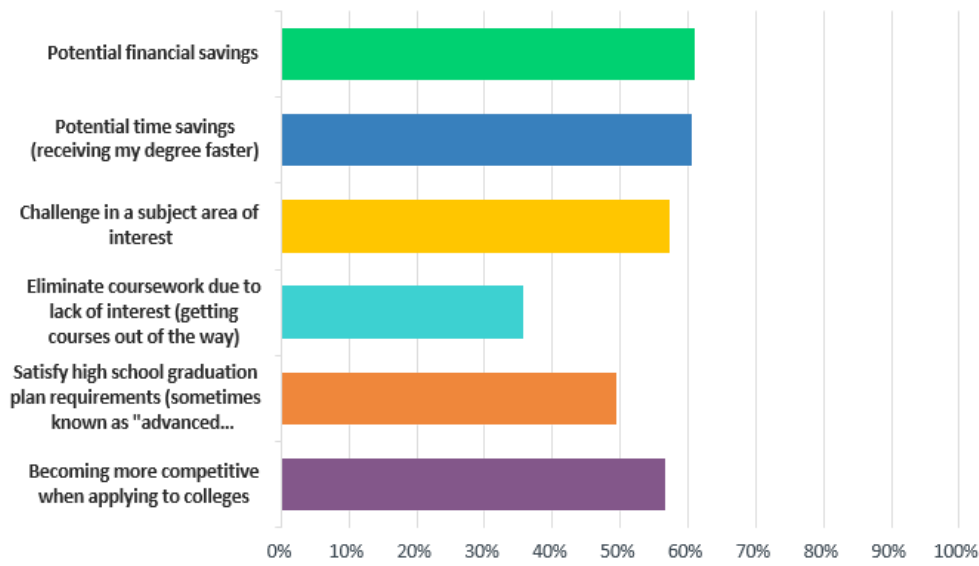
ANSWER CHOICES	RESPONSES	
Yes	79.63%	2,115
No	20.37%	541

Question 16: Which subject areas or courses did you complete through AP or IB courses? (Choose all the apply.)



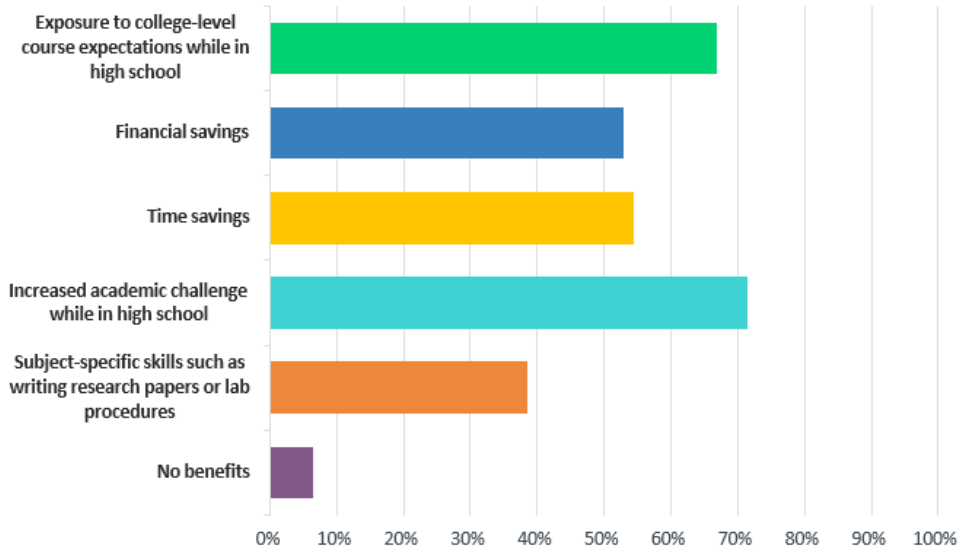
ANSWER CHOICES	RESPONSES	
Math (such as AP Calculus or AP Statistics)	59.15%	1,875
English (such as AP English III, which is also known as English Language and Composition)	66.09%	2,095
Social Studies (such as AP US History or AP World History)	68.30%	2,165
Science (such as AP Biology or AP Environmental Science)	55.90%	1,772
Other academic courses (such as AP Art History or AP Spanish Language and Culture)	36.47%	1,156

Question 17: What motivated you to take AP or IB courses? (Choose all that apply.)



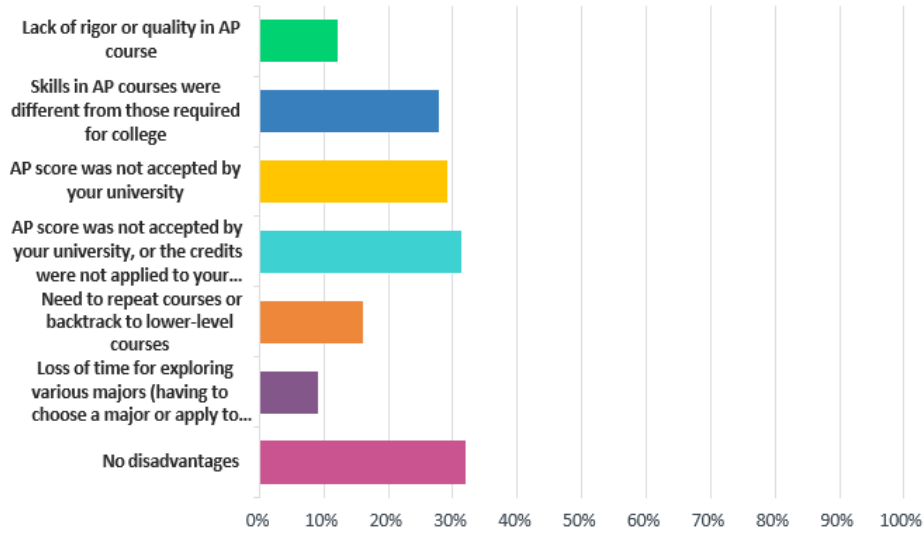
ANSWER CHOICES	RESPONSES	
Potential financial savings	60.96%	1,910
Potential time savings (receiving my degree faster)	60.45%	1,894
Challenge in a subject area of interest	57.23%	1,793
Eliminate coursework due to lack of interest (getting courses out of the way)	35.68%	1,118
Satisfy high school graduation plan requirements (sometimes known as "advanced measures")	49.44%	1,549
Becoming more competitive when applying to colleges	56.69%	1,776

Question 18: Which of the following benefits did you experience as a result of taking AP or IB courses? (Choose all that apply.)



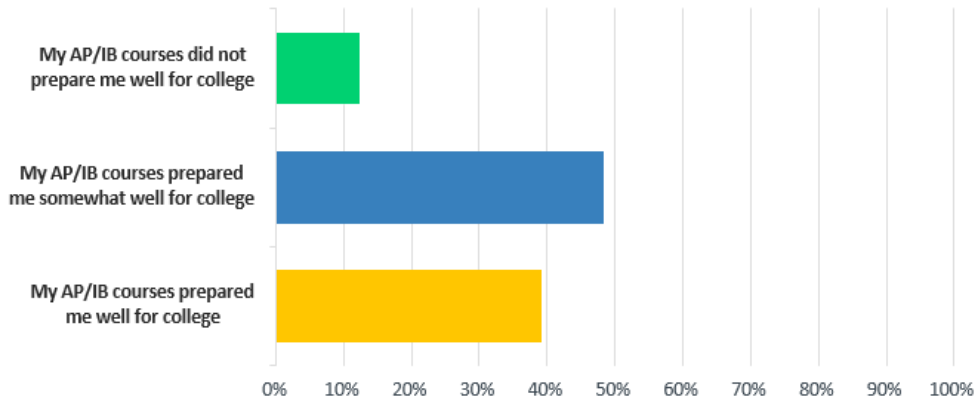
ANSWER CHOICES	RESPONSES	
Exposure to college-level course expectations while in high school	66.94%	2,122
Financial savings	52.84%	1,675
Time savings	54.42%	1,725
Increased academic challenge while in high school	71.42%	2,264
Subject-specific skills such as writing research papers or lab procedures	38.58%	1,223
No benefits	6.56%	208

Question 19: Which of the following disadvantages did you experience as a result of taking AP or IB courses? (Choose all the apply.)



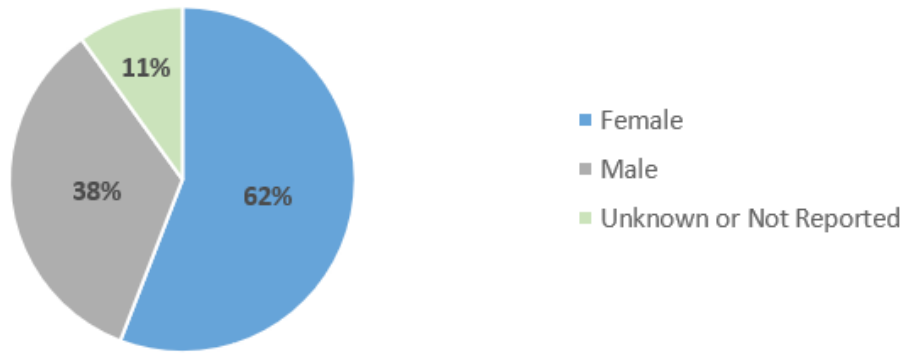
ANSWER CHOICES	RESPONSES
Lack of rigor or quality in AP course	12.15% 385
Skills in AP courses were different from those required for college	27.92% 885
AP score was not accepted by your university	29.15% 924
AP score was not accepted by your university, or the credits were not applied to your degree plan	31.23% 990
Need to repeat courses or backtrack to lower-level courses	16.15% 512
Loss of time for exploring various majors (having to choose a major or apply to programs too quickly	9.18% 291
No disadvantages	31.92% 1,012

Question 20: How well did your AP/IB courses prepare you for traditional college courses at your current institution?

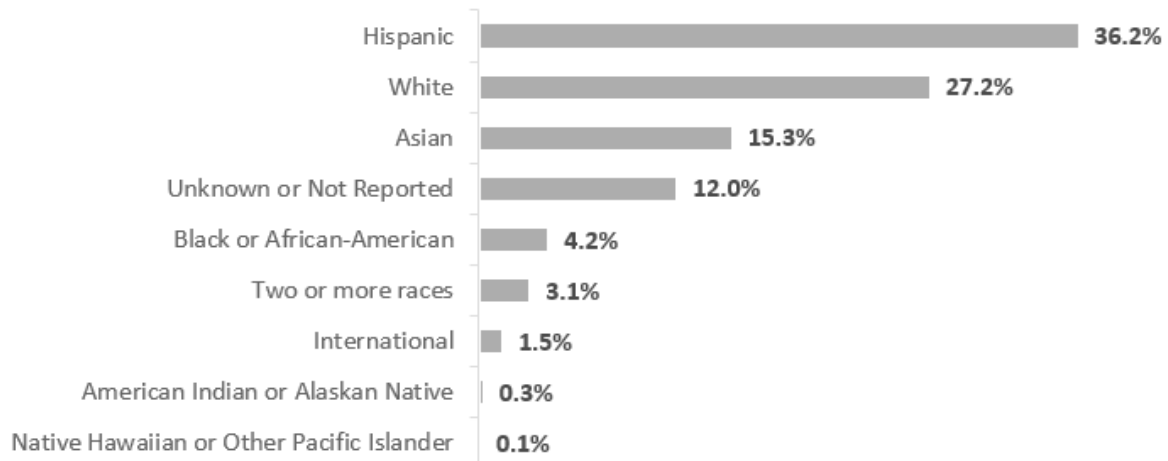


ANSWER CHOICES	RESPONSES
My AP/IB courses did not prepare me well for college	12.30% 390
My AP/IB courses prepared me somewhat well for college	48.42% 1,535
My AP/IB courses prepared me well for college	39.27% 1,245

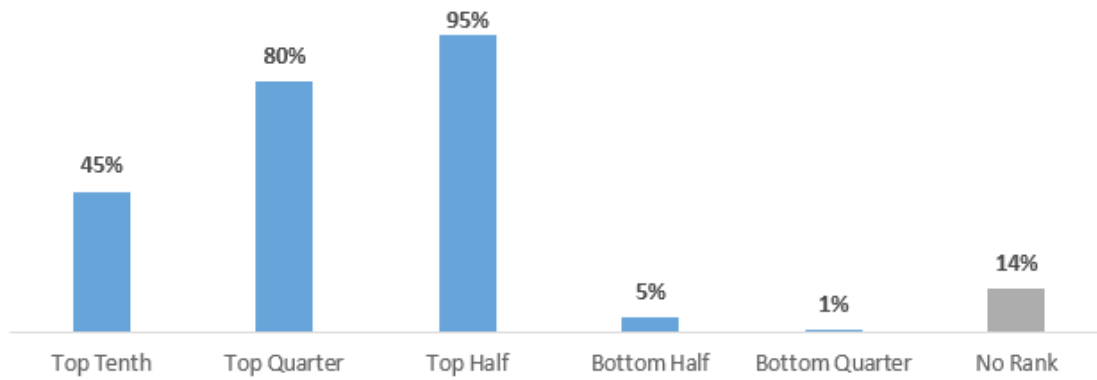
Online Survey Response Rates by Gender



Online Survey Response Rates by Race/Ethnicity

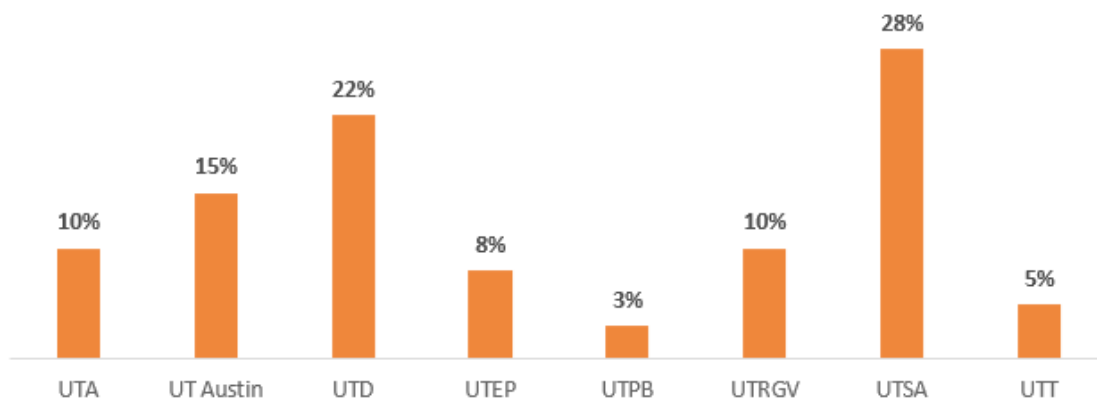


Online Survey Response Rates by High School Class Rank

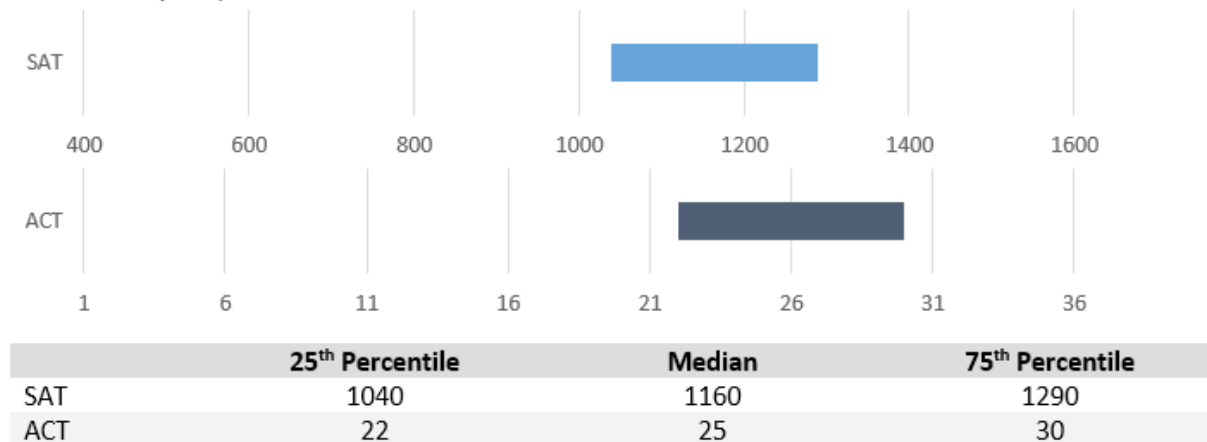


Note: Students without a class rank (14%) are excluded from the other categories above.

Online Survey Response Rate by UT Institution



Online Survey Respondent SAT/ACT Scores - 25th -75th Percentile



Average Credit Earned by Respondents



Note: Averages include only students who earned at least 1 credit hour of either AP or Dual Credit

Survey Response Rates by Age



The background is a complex, abstract composition of various shades of blue. It features numerous overlapping, semi-transparent geometric shapes, primarily rectangles and squares, some of which are rotated at different angles. These shapes are interconnected by a network of thin, white, dashed lines that create a sense of depth and movement. The overall effect is a dynamic, layered pattern that resembles a digital or architectural design.

APPENDIX F: STUDENT BROCHURE

IMPORTANT POLICIES AND PRACTICES

Dual credit is a form of college transfer credit.

Academic and technical credits are different. Technical credit focuses on career knowledge and skills. It may lead to a certificate; however, it typically does not transfer into a degree program. Academic credit is intended for transfer to a college or university degree program.

Federal Financial Aid Policy/180 Rule:

After attempting 180 hours, a student becomes ineligible for federal financial aid for a bachelor's degree. Dual credit hours DO count toward the semester hour limits on semester credit hours.

Texas Policy/150 Rule:

Students who attempt more than 150 hours for a bachelor's degree may be charged out-of-state tuition; however, this DOES NOT include dual credit hours. Dual credit hours DO NOT count toward Texas' 150 limit.

Check with your institution:

Ask your high school counselor how dual credit courses are weighted for your high school GPA. This varies from school district to school district.

Policies vary, so check with advisors at your prospective colleges to see if your dual credit GPA transfers.

WHAT IS DUAL CREDIT? A GUIDE FOR STUDENTS



This brochure was created using information from the University of Texas System Dual Credit Study. The information provided here is based on the outcomes of dual credit students who matriculated to UT System academic institutions.



THE UNIVERSITY of TEXAS SYSTEM

WHAT IS DUAL CREDIT?

Dual credit programs are collaborations between high schools and colleges that allow high school students to enroll in college courses and receive both college and high school credit simultaneously.

Dual credit differs from other credit pathways, such as Advanced Placement (AP). Credit is earned through successful completion of courses, but the credits are not elective – a student must accept the credit once earned.

Dual credit can be obtained through single courses or as part of a program, including those at Early College High Schools, which offer many courses, as well as associate's degrees.

Dual credit courses can be taught at high schools, college campuses, or online. Regardless of location, all dual credit instructors have the credentials required to teach college.

Dual credit courses can provide technical credit for career or certification, or academic credit, which can transfer to a four-year university.

The cost of dual credit courses varies. Some programs include free tuition and textbooks, while others require full or partial tuition.

WHAT ARE THE ADVANTAGES OF DUAL CREDIT?

There are numerous potential benefits to taking dual credit courses, and many exist even for students who take just a few courses.

Students who successfully complete even one dual credit course tend to be successful in college. These courses help students stay in college and graduate.

Students who take dual credit courses are also successful in their follow-up courses (for example: Calculus I to Calculus II).

Dual credit exposes students to college expectations and helps build the time management skills, confidence, and the self-reliance they need in college.

Dual credit coursework shortens the time it takes to get a degree and slightly reduces college loan debt.

ARE THERE ANY DISADVANTAGES TO DUAL CREDIT?

Not all students save as much time or money as expected.

Though all academic dual credits transfer, not all of the credits will necessarily be applied to specific degree plans.

Entering a four-year college with a large amount of credits can give students less time to explore other areas of study, and may make it difficult to choose a major.

Some former dual credit students find they have more flexibility when registering for courses (i.e., the ability to take fewer hours per semester). However, others find it harder (i.e., more difficult to build a full-time schedule). These experiences might differ based on your major and number of dual credit hours.

HOW MANY HOURS SHOULD YOU TAKE?

No one has the magic number! However, there are a few things to consider:

What is best for YOU? Most dual credit students enter UT institutions with 15-18 hours of dual credit, but this is only an average. Some students have fewer hours, and some have more.

What is your intended major and institution? Will all your courses apply to your degree plan there? Check with an advisor.

What are your financial resources? There are benefits to spending more time at a university (time to choose a major, more time to learn, internships), but you may need to balance this with the time and money you have to spend.

HOW DO YOU SELECT DUAL CREDIT COURSES?

Again, this varies based on the person and major. Consider taking:

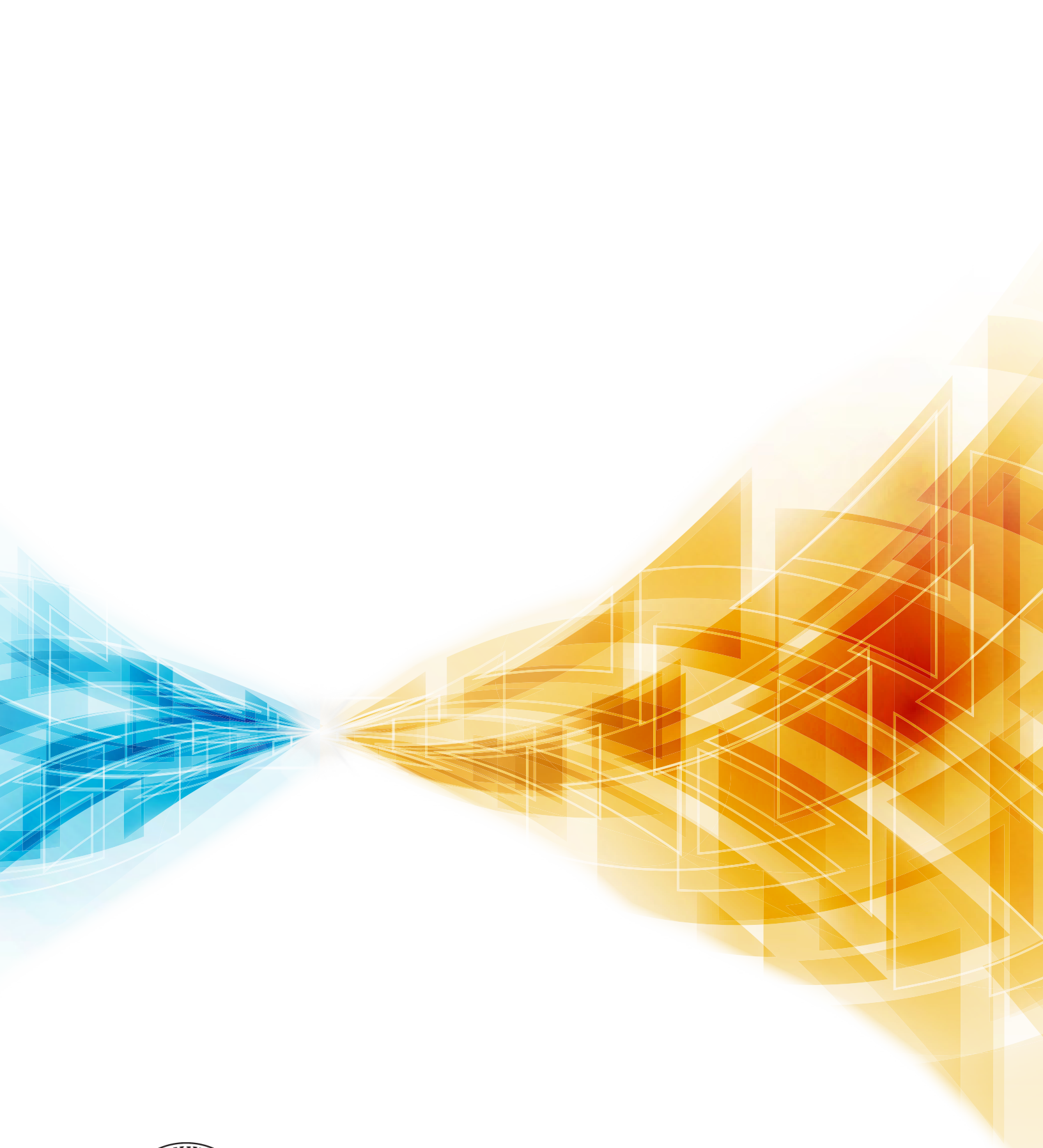
Courses in the Texas Core Curriculum.

The most frequently earned credits are in English, history, math, and government.

Courses that will apply to your intended degree plan.

Courses that apply to your goals. Do you want a certificate, an associate's degree, a bachelor's degree? Courses for these goals may vary.

Courses that work for your major. Would it help you to "sample" a major through dual credit? Or would it be better to take courses related to your major later?



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