Research Study of Texas Dual Credit Programs and Courses: The State Context

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CREDITS

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Introduction

This report examines the state context of dual credit programs and courses delivered in Texas during the 2009–10 academic year. Analyses include the numbers of high school students who enrolled in courses for dual credit, the types of courses for dual credit offered, the delivery modes for these courses, and dual credit course and program policies. An expanded version of this report will be submitted to the Texas Education Agency (TEA) on March 16, 2011. The expanded report will include additional findings on the cost of dual credit programs and courses and provide policy recommendations based on study findings.

Findings for the current report are based on the following data sources: (1) extant data from TEA on student enrollment in courses for dual credit throughout the state and the characteristics of these students and their high schools, and (2) telephone surveys administered to program administrators from a sample of institutions of higher education (IHEs), local education agencies (LEAs), and high schools throughout the state that offer dual credit programs and courses.1 Supplementary financial data on dual credit program costs and revenues also were collected; findings based on analyses of these data will be included in the expanded report.

An overview of the research literature on dual credit programs and policies is first presented, followed by a review of the history and legislation background of dual credit programs and courses in Texas. The purpose and objectives of the current study are then described.

Overview of the Research Literature on Dual Credit Programs and Policies

Courses for dual credit and dual enrollment opportunities are innovative learning options that have become increasingly popular during the past decade. A growing body of research on the current state of participation and policy trends, potential impacts, and costs of these higher learning options has contributed to an understanding of the key roles they can play in improving student learning and encouraging postsecondary success.

The Push for Dual Credit

Each year, thousands of high school students take advantage of dual credit or dual enrollment opportunities. Surveys by the National Center for Education Statistics (NCES) indicate that, nationally, during the 2002–03 12-month academic year (the last year for which data are available), 57% of all colleges surveyed stated that high school students were taking their courses, either within or outside of dual credit programs. Participation was significantly higher at public two-year colleges, of which 98% of those surveyed reported participation. During the course of the 2002–03 academic year, approximately 5% of all U.S. high school students were enrolled in college-level courses through postsecondary

1 Throughout this report all references to LEAs include public school districts and/or open-enrollment charter schools.
institutions. Of these high school students taking courses for college credit, 84% did so through a dual enrollment program (Kleiner & Lewis, 2005).

Although the NCES surveys did not measure growth or changes in dual enrollment participation nationally, several states, including Texas, Florida, Ohio, and Georgia, have reported substantial increases in the numbers of students who enrolled in courses for dual credit during the last decade (see, e.g., Cubberley, 2009; Hoffman, Vargas, & Santos, 2009; Lynch & Hill, 2008; Washington State Board for Community and Technical Colleges, 2009). In Texas, dual credit enrollment increased from 11,921 in fall 1999 to 90,346 in fall 2010 (Texas Higher Education Coordinating Board [THECB], 2011).

Growth in student participation in dual enrollment programs largely can be linked to the expansion of state policies that encourage participation in dual enrollment opportunities (Karp, 2007). Since 1976, 40 states have adopted policies establishing and regulating dual enrollment and dual credit programs. The greatest increase in state programs occurred between 1990 and 2004 when 23 states adopted dual enrollment programs—a 35% increase from the previous 14-year period (Mokher & McLendon, 2009). States continue to make dual enrollment programs a key component of their high school reform efforts, and the federal government also supports expanded access to dual enrollment, further increasing opportunities across the country.

The Impact of Dual Credit

Educators and policymakers suggest that engaging high school students in college-level work is a promising method for better preparing them for college success (see, e.g., Hoffman et al., 2009). This approach may prove beneficial for diverse groups of students, including those who may not envision themselves as college bound. Despite increased opportunities for high school students to enroll in courses for dual credit, there is a significant lack of research pointing to its effectiveness (Karp & Jeong, 2008). The most notable research comes from a study by Karp, Calcagno, Hughes, Jeong, and Bailey (2007) on dual enrollment in Florida and New York City, which found a multitude of impacts on participating students. Controlling for observable student and school characteristics, the researchers identified positive relationships between dual enrollment participation and students’ likelihood of the following: ²

- Earning a high school diploma (Florida only).
- Enrolling full-time at a postsecondary institution.
- Initially enrolling in a four-year institution.
- Remaining enrolled at a postsecondary institution two years after high school graduation.
- Earning higher postsecondary grade point averages than their nonparticipating peers.
- Earning more postsecondary credits 3½ years after high school graduation than their nonparticipating peers—an indication of greater progress toward degree completion.

² The study conducted by Karp et al. (2007) examined the relationship between dual enrollment participation and various outcomes. The authors did not restrict their analysis to students who had completed courses for dual credit.
Additional research on the impact of dual enrollment is limited, although some studies in other states with established dual enrollment programs also have noted positive implications of the programs. In Georgia, for example, according to a 2008 report from Lynch and Hill, more low-income students were “taking college-level courses than would have been expected based on historical data” (p. 29). The researchers also note that high school students who were enrolled in courses for dual credit were more likely to transition into a two- or four-year Georgia public college. A recent research study conducted in Ohio found that dual enrollment students “appear to be more likely to go to college and even more likely to go to college in Ohio, are more likely to attend a university campus than a two-year college, seem to have higher retention rates and persistence, and seem to require less remediation” than their non-dual-enrollment peers (Cubberley, 2009, p. 82).

Support for dual enrollment and dual credit programs also comes from reports that dual enrollment can potentially lower high school dropout rates, increase participating student aspirations, and reduce the need for remedial coursework for participating students at the time of college entry (American Association of State Colleges and Universities, 2002; Boswell, 2001; Martinez & Bray, 2002). Dual enrollment also has the potential to provide practical information to high school students about the knowledge and skills they need to succeed in the postsecondary environment and to increase the number of historically underserved students who attend college (Hoffman et al., 2009; Karp, 2007). Finally, dual enrollment can benefit institutions, establishing channels of communication between K–12 and postsecondary systems regarding standards, assessments, curriculum, and the transition from high school to college (Hoffman et al., 2009).

The Cost of Dual Credit

Significant challenges of dual credit programs are the high costs associated with these programs and the distribution of these costs among stakeholders (Boswell, 2001). Typically, dual credit programs are funded through federal, state, and local sources (Griffith, 2009). Texas state law currently allows both LEAs and IHEs to collect per-pupil state funds for students pursuing dual credit (Texas Administrative Code §4.85(i)(1)). These funds may not cover the full cost of dual credit programs, however. The cost of tuition, fees, and textbooks, for example, may be paid by several parties, including parents paying out-of-pocket, LEAs providing funds from their high school allotment, and IHEs providing assistance through grants or tuition waivers.

In the national NCES survey of postsecondary institutions (Kleiner & Lewis, 2005), institutions were asked to identify the various sources of tuition for courses offered for dual credit. Parents and students were identified as a source of tuition at 64% of the institutions; the college or university was a source of tuition at 38% of institutions (either through actual contributions or through tuition waivers); the high school or LEA contributed to tuition costs at 37% of institutions; and the state contributed to tuition costs at 26% of institutions. Compared to traditional four-year or private two-year institutions, community colleges were less likely to report that parents or students paid for tuition. In Texas, the responsibility for paying these costs varies from LEA to LEA, as decisions are made at the local level through contractual agreements primarily with community colleges.
Requiring students and families to pay part of the cost of courses can create problems for participation in dual credit programs. For example, students from low-income families, perhaps the very at-risk students the LEA is targeting, may be precluded from participating if the cost is too high (Golann & Hughes, 2008). A study in four northeast Texas schools found that “financial reasons” was the top hindrance to eligible students enrolling in an English course for dual credit, as many eligible students reported that they could not afford the cost of the course (O’Connor & Justice, 2008).

Despite these funding issues, dual credit has been shown to benefit students, families, and states financially. Students participating in the program are able to earn credits toward a degree, potentially shortening their enrollment in a postsecondary institution, thereby lowering the cost of college and reducing the tax burden for taxpayers (Zeidenberg & Bailey, 2010). For example, the Washington State Board for Community and Technical Colleges (2010) estimated that the Running Start program saved approximately $40 million for students and parents and $50 million for the state. These savings are similar to those reported for the 1999–2000 academic year (Andrews, 2004) and the 2003–04 academic year (Washington State Board for Community and Technical Colleges, 2004).

Using Research to Support Dual Credit

Based on understandings of state contexts and funding structures, state education agencies can employ various policy strategies to serve their educational needs regarding dual credit enrollment in the best manner. These strategies can be used to address three goals: provide opportunities for dual credit, promote access to quality dual credit programs, and ensure efficient use of state resources for dual credit. Although the specific policy responses should be necessarily tailored to the state-specific context, research has identified a number of potential approaches regarding each of these three areas. For example, to provide opportunities for dual credit, policy approaches may include fostering strong collaborative relationships between secondary and higher education partners through governing councils or advisory boards (Golann & Hughes, 2008; Hoffman et al., 2009).

States also may consider expanding eligibility and access to these programs to students who are not typically targeted for dual enrollment, such as low-income students, academically lower performing students, and/or students from populations typically underrepresented in higher education. Some researchers and advocates argue that including these students in the programs can improve their performance by challenging them academically (Lords, 2000) and better prepare them for higher education by providing a preview of college work and minimizing the need for remediation once enrolled in an IHE (American Association of State Colleges and Universities, 2002; Golann & Hughes, 2008; Hoffman et al., 2009; Martinez & Bray, 2002). To further encourage participation, policies to

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3 According to the 2010 report prepared by the Washington State Board for Community and Technical Colleges, there were 11,845 full-time equivalent (FTE) enrollments in the Running Start program in 2008–09. The authors of the report note that the program’s savings to the state and to parents and students “represent the tuition and state support costs of 11,845 FTE students attending a higher education institution for one year” (p. 4). They observe that “By allowing students to obtain high school and college credit simultaneously, Running Start reduces the amount of time students spend gaining college credentials, and reduces college costs for students and their families. In some cases, the dual-credit nature of the program allows students to complete their first two years of college at the same time they complete their junior and senior years of high school” (p.3).
reduce or completely eliminate the out-of-pocket costs for students and families are already in place in several states (Griffith, 2009).

Finally, the efficient use of state resources requires a full understanding of the outcomes of dual credit programs, for which, as previously mentioned, there is a dearth of information in the current body of research. Identifying more and less successful programs and initiatives may provide states with the information they need to continue to support or selectively fund programs. However, in order to do so, researchers need comprehensive, longitudinal, student-level data to measure program outcomes. Several researchers strongly advocate for states to put these systems into place, which can benefit both states and the national research community (Hoffman et al., 2009; Golann & Hughes, 2008; Karp & Jeong, 2008).

These policy responses represent examples of some states’ current approaches to courses for dual credit. As previously noted, understanding the current context, participation, and costs of dual credit in a state can point the way to appropriate policies to address current needs efficiently. The outcomes of the current study will provide TEA, THECB, and the state legislature with actionable policy responses to support dual credit opportunities efficiently while meeting state education standards and expectations.

**History and Legislative Background in Texas**

In Texas, courses for dual credit are college courses offered by a higher education institution for which high school students receive simultaneous academic credit from both the college and the high school upon course completion. Although college courses offered for dual credit are often taught on the secondary school campus, a high school student also can take a course on a college campus or via distance education. Courses for dual credit include academic and advanced technical courses that may serve as a pathway to academic degree programs or college-level workforce education credentials. Texas students have been taking college courses for high school and college credit for more than two decades. THECB and TEA began tracking student dual credit enrollments in fall 1999. In 2003, Texas Education Code (TEC) §130.008 was amended to allow public high schools and IHEs to be eligible to receive funding for dual credit, eliminating the need for funding agreements between the Commissioner of Education and Commissioner of Higher Education. TEC §54.216 also was amended at this time to allow all public IHEs, not just community colleges, to waive tuition for courses for dual credit.

As part of Texas’ efforts to promote high school success and college readiness, legislation was passed in 2006 (HB1, §5.01, 79th Texas is Legislature, 3rd Called Session) that requires each LEA to implement a program under which students may earn the equivalent of at least 12 semester credit hours of college credit in high school. The result of that legislation, TEC §28.009, was amended in 2007 to stipulate that the college credit may be earned through Advanced Placement (AP) courses, International Baccalaureate (IB) courses, local and statewide articulated courses, and courses for dual credit.
Contractual Agreements

Texas LEAs and IHEs create contractual agreements—often referred to as institutional agreements, partnership agreements, or articulation agreements—to offer courses for dual credit. These contracts vary in their details and degree of specificity. Moreover, an IHE may have separate agreements with multiple LEAs, each with different terms. Similarly, an LEA may have agreements with more than one IHE. (See Texas State Auditor’s Office, 2010, for information on compliance with state rules and regulations.) Currently, more than 90% of courses for dual credit are offered by Texas community colleges. Texas has 50 community college districts (CCDs), and a CCD may include multiple campuses. If the local community college in the area is not meeting the dual credit needs of the LEA, the LEA may seek a community college in another CCD (see Senate Bill 2480, 81st Texas Legislature, TEC §130.008(d)).

Funding

As previously noted, THECB Rules (Texas Administrative Code [TAC] §4.85) allow both LEAs and IHEs to collect state funds for students pursuing dual credit. For LEAs, funding is based on students’ daily attendance, with LEAs able to count time spent on courses for dual credit toward a student’s attendance. IHEs receive state formula funding based on semester credit hours of instruction. Students who are still enrolled in high school are not eligible for state or federal financial aid. Decisions about who pays tuition, fees, and other costs for dual credit, such as textbooks and transportation, are made at the local level through the contractual agreements. Cost agreements vary from LEA to LEA. Some IHEs support dual credit programs by reducing or waiving tuition and fees for dual credit students under TEC §54.216; some LEAs pay for the students, either out of local funds or from their high school allotment; and some communities have established privately funded scholarship programs for dual credit activities. When these funding sources are not available, students and parents pay out-of-pocket for the courses (THECB, 2010).

Student Eligibility

State rules regarding student eligibility to take courses for dual credit are aligned with the state’s Texas Success Initiatives (TSI) statute (TEC §51.3062). These rules include standards for minimum test scores or performance in the areas of mathematics, writing, and reading that indicate students’ readiness to enroll in freshman-level college academic coursework. The dual credit admission standards and TSI requirements for dual credit students allow the state to balance access to dual credit programs with student ability to benefit from these college courses.

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4 This law does not apply to four-year colleges or universities. These institutions may offer courses for dual credit to anyone.
High school students who wish to take academic courses for dual credit must:

- Demonstrate exemption from the state’s TSI requirements by achieving a 2200 on the Exit-Level Mathematics Texas Assessment of Knowledge and Skills (TAKS) and/or a 2200 with a writing subscore of 3 on the Exit-Level English Language Arts TAKS, or through performance on specified ACT or SAT examinations;
- Satisfy the state’s TSI requirements through a test for TSI purposes; or
- Meet dual credit permission standards by achieving a 2200 on the Mathematics Grade 10 TAKS and/or a 2200 with a writing subscore of 3 on the Grade 10 English Language Arts TAKS, or through achieving performance on specified PSAT or PLAN assessments.

Dual credit permission standards, aligned with TSI standards, are designed to allow high school sophomores the opportunity to show readiness to enroll in college-level coursework.

High school students who wish to take technical and workforce courses for dual credit must:

- Achieve the state’s high school graduation passing standard (2100) on specified Exit-Level TAKS tests; or
- Achieve the passing standard (2100) on specified Grade 10 TAKS tests.

Students must be in the junior or senior year of high school to qualify to take courses for dual credit and may take up to two courses for dual credit a semester; exceptions are made for students with demonstrated outstanding academic performance and capability and Early College High School students. More information about TSI and dual credit permission standards and assessment is available in THECB Rules (TAC §4.54, §4.55, §4.56, §4.57, and §4.85). Dual credit requirements are defined in Title 19 TAC §4.85.

**Study Purpose and Research Objectives**

TEA in collaboration with THECB contracted with American Institutes for Research (AIR) and Gibson Consulting to conduct a research study of dual credit programs and courses in Texas that addresses three primary research objectives. These objectives and related subquestions include the following:

1. Investigate the state context for dual credit programs and courses delivered during the 2009–10 academic year.
   a. Who enrolls in courses for dual credit?
   b. What school characteristics predict enrollment in courses for dual credit?
   c. What types of courses for dual credit are available?
   d. What types of courses for dual credit do students take?
   e. How does enrollment in courses for dual credit vary by student characteristics?
   f. How do students who take courses for dual credit perform in these courses and on the TAKS?
   g. Who makes decisions about the types of courses offered for dual credit?
h. How is the quality of courses offered for dual credit ensured, and what is the perceived quality of courses offered for dual credit?

i. What is the delivery mode of courses offered for dual credit?

j. What types of institutional policies and requirements exist with regard to dual credit student eligibility and supports (e.g., student advising/counseling, financial support) and dual credit faculty benefits?

2. Conduct an analysis of the cost of dual credit programs and courses.
   a. What is the estimated cost of the dual credit program at the state, higher education, LEA, and student levels?
   b. Who pays for what costs?
   c. What is the estimated total cost per student contact hour for hours attempted on a high school campus and on a community college campus?
   d. What are the estimated revenues received for courses for dual credit at the higher education and LEA levels?

3. Make action-oriented, pragmatic policy recommendations to the 82nd Texas Legislature regarding dual credit programs and courses.

This report presents findings related to the first research objective. An expanded report presenting findings that address the first two research objectives as well as policy recommendations based on those findings will be submitted to TEA on March 16, 2011.
Data and Methods

To address the study’s three primary research objectives, the research team selected a sample of IHEs, LEAs, and high schools from which to collect data through telephone surveys as well as through a supplemental course and financial data collection. In addition, the study team used data provided by TEA through its Public Education Information Management System (PEIMS) and Academic Excellence Indicator System (AEIS). Sampling procedures and data sources used for the study are described below.

Sampling Methodology

The sampling methodology for the phone survey and supplemental financial data collection was carried out through a two-stage process. The overall design of the sample involved sampling from 12 dual enrollment “clusters” made up of high schools, LEAs, and IHEs supplying and making use of dual enrollment courses through contractual relationships with each other. The first stage of the sampling selected 12 CCDs. The second stage of the sampling selected four high schools and their corresponding LEAs within each sampled CCD. This sampling plan resulted in a sample of 12 CCDs, 48 high schools, and 48 LEAs. In addition, three universities with large numbers of students enrolled in online and traditional courses for dual credit were selected to provide additional context on dual credit programs in Texas. Supplemental cost data and telephone survey data were collected from these three universities. Because their draw of students was potentially statewide, no corresponding high schools or LEAs were selected.

The 12 CCDs were sampled based on a purposive sampling frame. The 12 CCDs were not selected randomly, but were selected to ensure variation on important characteristics of the CCDs. In particular, CCDs were sampled to include CCDs serving large and small geographical areas, serving areas near the Texas-Mexico border, and serving comparatively large and small Hispanic populations (by percentage of school enrollment). CCDs also were selected on the basis of the number of LEA partners they had (dual enrollment agreements).

- Seven CCDs served a large geographical area (many counties), and five CCDs served a small geographic area.
- Three CCDs were adjacent to the Texas-Mexico border.
- CCDs were selected that had low, moderate, and high populations of Hispanic students (ranging from 18% to 97%) and economically disadvantaged students (ranging from 22% to 85%) as determined by the percentage of students enrolled in schools served by the CCD.
- Four CCDs had a large number of LEA partners (28–55 partners); six CCDs had a moderate number of LEA partners (12–21 partners); and two CCDs had a low number of LEA partners (6–7 partners).

As mentioned earlier, in addition to the 12 community colleges selected through the process above, three universities that are major providers of courses for dual credit within the state were selected based on the recommendation of THECB.

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5 These characteristics were determined based on input from TEA and THECB during the design phase of the study.
After the 12 CCDs were selected, 48 high schools (four per CCD) and their corresponding LEAs were sampled from among the schools and LEAs with CCD dual credit agreements within each selected CCD. Schools were selected based on a stratified random sample using the matrix shown in Table 1. The distribution of schools in each cluster was divided into thirds based on the number of dual credit enrollments within a school and the AEIS accountability rating of the school. One high school was selected from each cell in the matrix (within each CCD), with the stipulation that no two schools could come from the same LEA.

Table 1. Selection Criteria for Sampled High Schools and Their Corresponding LEAs

<table>
<thead>
<tr>
<th>Lowest 1/3 of 2009–2010 dual credit enrollments in the CCD</th>
<th>Highest 1/3 of 2009–2010 AEIS ratings in the CCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest 1/3 of 2009–2010 AEIS ratings in the CCD</td>
<td>One school/LEA per CCD, 12 schools/LEAs total</td>
</tr>
<tr>
<td>Highest 1/3 of 2009–2010 dual credit enrollments in the CCD</td>
<td>One school/LEA per CCD, 12 schools/LEAs total</td>
</tr>
</tbody>
</table>

Source: Sampling Plan for the Research Study of Texas Dual Credit Programs and Courses (Texas Education Agency, 2011)

Telephone Surveys

Three surveys were created for the purpose of investigating the state context of dual credit programs.6 One survey was designed for dual credit program administrators at community colleges and universities. A second survey was designed for LEA administrators of dual credit programs. The third survey was designed for high school staff (e.g., administrators, counselors) with the most knowledge of or responsibility for the high school’s dual credit program.7

First, administrators from LEAs and high schools received a letter from TEA describing the study and requesting their participation. A TEA staff member then followed up with LEA and high school administrators by phone to request their voluntary participation personally. Similarly, a staff member from THECB contacted higher education administrators by phone to request their voluntary participation. After respondents agreed to participate in the study, the research team sent them an e-mail that included additional information about the study. In addition, participants were sent an informed consent form for the telephone survey and a copy of the survey they were being asked to complete, to provide them a chance to review the questions in advance. Instructions for completing the supplemental course and financial data requests and the Excel workbooks to be used for entering the requested data also were sent as attachments.

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6 These surveys were developed through modifying surveys originally created by the State of Texas Education Research Center at Texas A&M University. Some of the original survey items were retained, others were revised, and new items were added.

7 In cases in which an LEA had only one high school and a high school staff member was responsible for administering the LEA’s dual credit program, both the LEA and high school surveys were administered to that staff person.
Of the 15 higher education institutions that were asked to participate in the study—12 community colleges and three universities—all completed surveys, for a 100% response rate. Of the 48 LEAs included in the study sample, 90% (n = 43) agreed to participate in the study; of those who agreed to participate, 84% (n = 36) completed a survey. Of the 48 high schools that were included in the study sample, 98% (n = 47) agreed to participate in the study; of those who agreed to participate, 72% (n = 34) completed a survey.

Surveys were administered by telephone, and responses were recorded in an online database with permission. The configuration of the survey database allowed for open-ended notes to be recorded by the staff administering the surveys. Surveys administered to IHE and LEA administrators took approximately 20–30 minutes to complete. Surveys administered to high school staff took approximately 45 minutes to complete.

The three surveys were designed to capture parallel information about the context of Texas’ dual credit programs during the 2009–10 school year, with varying emphasis based on role. The primary issues addressed by the surveys included the following:

- Subject areas in which courses for dual credit were offered
- How IHEs/LEAs/high schools identified which courses to offer
- Where students took courses for dual credit (e.g., their own or another high school, a community college, a four-year college or university, via distance learning)
- Faculty or staff members responsible for designing and teaching courses for dual credit
- Additional benefits, if any, received by instructors of courses for dual credit
- The perceived quality of courses for dual credit and measures taken to ensure course quality
- Student eligibility requirements for courses for dual credit
- Supports offered to students enrolled in courses for dual credit (e.g., advising, financial supports)
- Who was responsible for paying various costs associated with courses for dual credit such as tuition, textbooks, and fees (e.g., the LEA, the IHE, students/families)

Copies of the surveys are included in the appendices. See Appendix A for a copy of the higher education survey, Appendix B for a copy of the LEA survey, and Appendix C for a copy of the high school survey.

**Supplementary Financial Data**

As a supplement to the telephone survey, data on courses for dual credit and course expenditures and revenues also were collected from the IHEs, LEAs, and high schools that were included in the study sample. The financial data request was designed to determine, at a course level, varying costs associated
with dual credit programs as well as various sources of funding and revenues used to support these programs during the 2009–10 academic year. The types of data requested included the following:

- **Course information** (e.g., specific courses for dual credit offered by course name, number of course credit hours, number of course sections offered, delivery mode for the course section, total number of students enrolled and total number of high school students enrolled, cost to the student of required textbooks and course-related fees)
- **Expenditures** (e.g., total amount paid to teaching staff for providing instruction for courses for dual credit, total tuition paid by LEAs to CCDs for courses for dual credit, total fees paid by LEAs to CCDs for courses for dual credit)
- **Revenues** (e.g., all tuition payments received directly from dual credit students for course participation, total amount of all transportation fee payments received directly from dual credit students for transportation to/from courses for dual credit, total amount of federal funds used to support the dual credit program, total amount of state categorical funds used to support the dual credit program, total amount of other state and local funds used to support the dual credit program).

Administrators at IHEs, LEAs, and high schools were given detailed instructions for providing the requested data cross-referenced to the Excel workbooks in which respondents were to enter the requested information.

Copies of the financial data requests sent to LEAs are included in the appendices. See Appendix D for a copy of the supplemental higher education course and financial data request, Appendix E for a copy of the supplemental LEA financial data request, and Appendix F for a copy of the supplemental high school course and financial data request.

### Extant Data

TEA provided the research team with PEIMS data on all students enrolled in courses for dual credit during the 2007–08, 2008–09, and 2009–10 academic years as well as data on the demographic characteristics of these students and their performance on the 2010 TAKS. AEIS data on the characteristics of the high schools attended by these students also were provided to the research team by TEA. Because these data are available for all public high schools in the state, statewide student dual credit enrollment patterns can be examined by both student and school characteristics using these data. The PEIMS data also identify the specific high school course for which a student received credit after completing a college course (the college course is not identified), which makes it possible to examine the subject areas in which students took courses for dual credit.

Extant data on dual credit enrollment for the 2007–08, 2008–09, and 2009–10 academic years also were obtained from THECB. Although THECB does not collect data on the specific courses that individual students take, it does collect data on the number of student semester credit hours attempted by a student enrolled in college courses for dual credit and thus serves as an additional source of data on

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8 Findings from analyses of supplemental course and financial data will be included in an expanded report that will be submitted to TEA on March 16, 2011.
dual credit enrollment. In addition, THECB provided the research team with copies of the articulation agreements for each of 12 CCDs included in the study sample as well a list of CCD and school district and campus partnerships.

Data on student enrollment in courses for dual credit were available from two sources (PEIMS and THECB). These data sources contained different pieces of information on different students and were used for different purposes. Looking at only the overlapping students (i.e., students with records appearing in both data sources) would have resulted in the elimination of nearly half of the data records available. There are several reasons for this difference related to how the data are collected and reported and to minor variations in the populations reported. Therefore, instead of using only the information on the students who appeared in both data sources, the PEIMS data (from academic years 2007–08, 2008–09, and 2009–10) were used to address the context of dual credit in Texas (e.g., who took courses, what types of courses were available, and who was taking what types of courses). The THECB data (from academic year 2009–10) contained information on student credit hours and student contact hours, which was more suitable for use with the analysis of program cost. The THECB data were used in that set of analyses.
Findings: The State Context of Dual Credit Programs and Courses

To examine the state context for dual credit programs and courses, both extant data from TEA and survey data collected from the study sample of IHEs, LEAs, and high schools were descriptively analyzed. Findings based on the extant data are first presented to provide a profile of student enrollment in courses for dual credit based on data from all public schools within the state. Findings from surveys conducted with administrators or staff within the study sample are then presented to provide more in-depth information about characteristics of dual credit programs, course offerings, and student supports.

Statewide Dual Credit Enrollment Findings

The findings presented in this section address the first research objective—to investigate the state context of dual credit programs and courses. The following subquestions within this objective are addressed:

1. Who enrolls in courses for dual credit?
2. What school characteristics predict enrollment in courses for dual credit?
3. What types of courses for dual credit are available?
4. What types of courses for dual credit do students take?
5. How does enrollment in courses for dual credit course vary by student characteristics?
6. How do students who take courses for dual credit perform in these courses and on the TAKS?

Findings are based on PEIMS data from all public schools within the state that had students who were enrolled in courses for dual credit. Most analyses are based on data from the 2007–08, 2008–09, and 2009–10 academic years so that changes in patterns of dual credit enrollment can be examined.\(^9\) The analysis of school characteristics that predict enrollment in courses for dual credit is based on data from the 2009–10 academic year. Findings are presented below by subquestion.

Who Enrolls in Courses for Dual Credit?

Table 2 presents the number of students who were enrolled in courses for dual credit during the 2007–08, 2008–09, and 2009–10 academic years. Most students who enrolled in courses for dual credit were in Grades 11 and 12, with Grade 12 students enrolling at the highest rates. In addition, the number of students in Grades 11 and 12 who were enrolled in courses for dual credit increased consistently over the three years examined, as did overall enrollments in these courses. Between 2007–08 and 2009–10, the number of Grade 11 students who were enrolled in courses for dual credit increased by 42%, and the number of Grade 12 students who were enrolled in courses for dual credit increased by 27%. In

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\(^9\) For the analyses presented in this section, the academic year is defined as the period from fall to spring for a given year. No data are available from TEA on summer enrollment in dual credit courses.
2009–10, these enrollments represented about 17% of Grade 12 students and 11% of Grade 11 students within the state as a whole.\(^\text{10}\)

**Table 2. Number of Students Enrolled in Courses for Dual Credit by Grade and Year**

<table>
<thead>
<tr>
<th>Grade</th>
<th>2007–08</th>
<th>2008–09</th>
<th>2009–10</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 9</td>
<td>3,373</td>
<td>4,876</td>
<td>4,578</td>
<td>4,276</td>
</tr>
<tr>
<td>Grade 10</td>
<td>5,548</td>
<td>6,523</td>
<td>6,140</td>
<td>6,070</td>
</tr>
<tr>
<td>Grade 11</td>
<td>24,611</td>
<td>29,115</td>
<td>35,044</td>
<td>29,590</td>
</tr>
<tr>
<td>Grade 12</td>
<td>38,269</td>
<td>43,699</td>
<td>48,470</td>
<td>28,913</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>71,803</td>
<td>84,216</td>
<td>94,232</td>
<td>83,417</td>
</tr>
</tbody>
</table>

*Source: Public Education Information Management System (Texas Education Agency, 2011).*

*Note. Across the three years, a total of 5 students in Grades 7 and 8 were enrolled in courses for dual credit.*

In addition to examining overall enrollment in courses for dual credit, enrollment was broken down by the following student characteristics: gender, race/ethnicity, economic status, limited English proficient (LEP) status, special education status, gifted and talented status, and vocational education status. Findings for each of these subgroups are presented below.

**Gender.** Table 3 presents a breakdown of student enrollment in courses for dual credit by gender and year. A greater percentage of female students than male students enrolled in courses for dual credit. Percentages remained stable across the three years examined. On average, 56% of dual credit students were female, and 44% were male. The percentage of females enrolled in courses for dual credit was higher than the percentage of all female high school students within the state, 49%, in 2009–10.

**Table 3. Percentage of Students Enrolled in Courses for Dual Credit by Gender and Year**

<table>
<thead>
<tr>
<th>Gender</th>
<th>2007–08</th>
<th>2008–09</th>
<th>2009–10</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>56.7%</td>
<td>56.3%</td>
<td>56.3%</td>
<td>56.4%</td>
</tr>
<tr>
<td>Male</td>
<td>43.3%</td>
<td>43.7%</td>
<td>43.7%</td>
<td>43.6%</td>
</tr>
<tr>
<td>Total students</td>
<td>71,803</td>
<td>84,216</td>
<td>94,232</td>
<td>83,417</td>
</tr>
</tbody>
</table>

*Source: Public Education Information Management System (Texas Education Agency, 2011)*

**Race/Ethnicity.** Table 4 presents a breakdown of student enrollment in courses for dual credit by race/ethnicity and year. The majority of students enrolled in courses for dual credit were either white or Hispanic. On average, 46% of students enrolled in courses for dual credit were white, 40% were Hispanic, and 10% were African American. Less than 5% were Asian/Pacific Islander. The percentages for students from each of these groups remained fairly stable across the three years examined. In 2009–10, 35% of all high school students in Texas were white, 46% were Hispanic, 14% were African American, and 5% were Asian/Pacific Islander. Less than 1% of students were categorized as “other.”

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\(^{10}\) Data on the number of high school students in the state as a whole and by selected demographic characteristics are from the 2009–10 PEIMS.
students thus were overrepresented in courses for dual credit in 2009–10, and other racial/ethnic groups generally were underrepresented; this was particularly the case for African-American students.

Table 4. Percentage of Students Enrolled in Courses for Dual Credit by Race/Ethnicity and Year

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian/Pacific Islander</td>
<td>4.6%</td>
<td>4.2%</td>
<td>3.5%</td>
<td>4.1%</td>
</tr>
<tr>
<td>African American</td>
<td>9.8%</td>
<td>10.5%</td>
<td>8.4%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>37.4%</td>
<td>39.7%</td>
<td>41.6%</td>
<td>39.6%</td>
</tr>
<tr>
<td>White</td>
<td>47.8%</td>
<td>45.3%</td>
<td>44.8%</td>
<td>46.0%</td>
</tr>
<tr>
<td>Other</td>
<td>0.3%</td>
<td>0.3%</td>
<td>1.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Total students</td>
<td>71,803</td>
<td>84,216</td>
<td>94,232</td>
<td>83,417</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)
Note. Percentages may not sum to 100 due to rounding.

Economic Status. Table 5 presents a breakdown of student enrollment in courses for dual credit by student economic status and year. On average, 37% of students who were enrolled in courses for dual credit were economically disadvantaged (eligible for free or reduced-price lunch or other economically disadvantaged). There was a slight increase in the number of economically disadvantaged students across the three years examined. In 2009–10, approximately 50% of all high school students were economically disadvantaged; economically disadvantaged students thus were underrepresented in enrollment in courses for dual credit.

Table 5. Percentage of Students Enrolled in Courses for Dual Credit by Economic Status and Year

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Economically disadvantaged</td>
<td>34.0%</td>
<td>38.0%</td>
<td>37.9%</td>
<td>36.6%</td>
</tr>
<tr>
<td>Not economically disadvantaged</td>
<td>66.0%</td>
<td>62.0%</td>
<td>62.1%</td>
<td>63.4%</td>
</tr>
<tr>
<td>Total students</td>
<td>71,803</td>
<td>84,216</td>
<td>94,232</td>
<td>83,417</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)

LEP Status. Table 6 presents a breakdown of student enrollment in courses for dual credit by student LEP status and year. On average, less than 2% of students who were enrolled in courses for dual credit were categorized as LEP. When students who exited LEP status are considered, this percentage increases slightly. In 2009–10, 9% of all high school students in Texas were LEP students or students who had exited LEP status but were monitored. Relative to their representation within the high school population as a whole, LEP students were underrepresented in enrollment in courses for dual credit.11

11 Students must meet certain requirements to be eligible to take courses for dual credit, including achieving the minimum passing standards under the provisions of the state dual credit and TSI rules, a state-legislated program designed to improve student success in college. One component of the program is an assessment to diagnose students’ basic skills in reading, mathematics, and writing. LEP students are unlikely to pass the tests to qualify for academic courses for dual credit because of their English language skills.
Table 6. Percentage of Students Enrolled in Courses for Dual Credit by Limited English Proficiency Status and Year

<table>
<thead>
<tr>
<th>LEP Status</th>
<th>2007–08</th>
<th>2008–09</th>
<th>2009–10</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEP</td>
<td>1.6%</td>
<td>1.6%</td>
<td>1.1%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Exited LEP but monitored</td>
<td>—</td>
<td>1.3%</td>
<td>1.3%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Not LEP</td>
<td>98.4%</td>
<td>97.1%</td>
<td>97.6%</td>
<td>97.7%</td>
</tr>
<tr>
<td>Total students</td>
<td>71,803</td>
<td>84,216</td>
<td>94,232</td>
<td>83,417</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011).

Notes. Data for students who exited LEP status but were monitored were not reported in 2007–08. Percentages may not sum to 100 due to rounding.

Special Education Status. Table 7 presents a breakdown of student enrollment in courses for dual credit by special education status and year. On average, 2% of students who were enrolled in courses for dual credit were classified as receiving special education services across all three years examined. In 2009–10, approximately 11% of all high school students in Texas were special education students. These students thus were underrepresented in enrollment in courses for dual credit.

Table 7. Percentage of Students Enrolled in Courses for Dual Credit by Special Education Status and Year

<table>
<thead>
<tr>
<th>Special Education Status</th>
<th>2007–08</th>
<th>2008–09</th>
<th>2009–10</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special education</td>
<td>2.3%</td>
<td>2.2%</td>
<td>2.0%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Non-special education</td>
<td>97.7%</td>
<td>97.8%</td>
<td>98.0%</td>
<td>97.8%</td>
</tr>
<tr>
<td>Total students</td>
<td>71,803</td>
<td>84,216</td>
<td>94,232</td>
<td>83,417</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011).

Note. Percentages may not sum to 100 due to rounding.

Gifted and Talented Status. Table 8 presents a breakdown of student enrollment in courses for dual credit by gifted and talented status and year. Across the three years examined, approximately 22% of students who were enrolled in courses for dual credit participated in a gifted and talented program. In 2009–10, approximately 10% of all high school students within the state participated in a gifted and talented program. Gifted and talented students were thus overrepresented in enrollment in courses for dual credit.

Table 8. Percentage of Students Enrolled in Courses for Dual Credit by Gifted and Talented Status and Year

<table>
<thead>
<tr>
<th>Gifted and Talented</th>
<th>2007–08</th>
<th>2008–09</th>
<th>2009–10</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gifted and talented</td>
<td>22.8%</td>
<td>21.7%</td>
<td>21.8%</td>
<td>22.1%</td>
</tr>
<tr>
<td>Not gifted and talented</td>
<td>77.2%</td>
<td>78.3%</td>
<td>78.2%</td>
<td>77.9%</td>
</tr>
<tr>
<td>Total students</td>
<td>71,803</td>
<td>84,216</td>
<td>94,232</td>
<td>83,417</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011).

Note. Percentages may not sum to 100 due to rounding.
**Vocational Education Status.** Table 9 presents a breakdown of student enrollment in courses for dual credit by vocational education status and year. On average, 75% of students who were enrolled in courses for dual credit participated in some type of vocational course or program. In 2009–10, 77% of all high school students in Texas enrolled in at least one vocational education course. Relative to their representation within the high school population as a whole, students who participated in vocational education programs or courses were slightly underrepresented in enrollment in courses for dual credit.

<table>
<thead>
<tr>
<th>Vocational Education Status</th>
<th>2007–08</th>
<th>2008–09</th>
<th>2009–10</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career/Tech Coherent Sequence Grades 9–12</td>
<td>23.6%</td>
<td>23.4%</td>
<td>24.2%</td>
<td>23.7%</td>
</tr>
<tr>
<td>Career/Tech Elective Grades 6–12</td>
<td>26.8%</td>
<td>27.5%</td>
<td>25.3%</td>
<td>26.5%</td>
</tr>
<tr>
<td>Tech Prep Program</td>
<td>23.9%</td>
<td>24.1%</td>
<td>25.5%</td>
<td>24.5%</td>
</tr>
<tr>
<td>No Participation</td>
<td>25.7%</td>
<td>25.1%</td>
<td>25.0%</td>
<td>25.3%</td>
</tr>
<tr>
<td>Total Students</td>
<td>71,803</td>
<td>84,216</td>
<td>94,232</td>
<td>83,417</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)

Notes. Percentages may not sum to 100 due to rounding. “Career/Tech Coherent Sequence Grades 9–12” refers to recommended sequences of career or technical courses that are offered to high school students, and “Career/Tech Elective Grades 6–12” refers to elective courses available to students in these grades that are not part of a defined course sequence. “Tech Prep Program” refers to a college-preparatory program that provides students with academic as well as applied technical skills. The high school program prepares students to continue in a college program that leads to a minimum of a two-year postsecondary degree (or apprenticeship license).

**What School Characteristics Predict Enrollment in Courses for Dual Credit?**

Part of the analysis of the context of courses for dual credit examined what types of school characteristics were predictive of higher student enrollment in courses for dual credit. To identify these predictors, it was necessary to examine the relationship between individual school variables while simultaneously controlling for other school variables that also may have predictive relationships with dual credit enrollment. A Poisson regression model employing variable exposure (see Appendix G for a discussion of the model’s technical details) was used to examine whether student enrollment rate in dual credit courses was predicted by the following school characteristics: (1) percentage of students proficient on TAKS-Reading, (2) percentage of students proficient on TAKS-Math, (3) percentage of African-American students, (4) percentage of Hispanic students, (5) percentage of LEP students, (6) percentage of economically disadvantaged students, (7) percentage of gifted and talented students, (8) percentage of students taking AP/IB exams, (9) student-to-teacher ratios, and (10) rural location of the school.

Results of the analysis indicated that many of these school characteristics are statistically significant predictors ($p < 0.05$) of higher enrollment in courses for dual credit, even after controlling for the size of the school. Results of the analysis show that schools with greater percentages of students who are proficient on TAKS-Reading, who are economically disadvantaged, and who are gifted and talented are more likely to have a higher enrollment rate in courses for dual credit. Schools with higher percentages of students who are African American, who are LEP, and who are taking AP/IB exams are more likely to
have a lower enrollment rate in courses for dual credit. Schools located in rural areas also are more likely to have a lower enrollment rate in courses for dual credit. These characteristics are significant predictors of enrollment in courses for dual credit, after controlling for the other characteristics included in the analysis.

Summary

Overall, the findings indicate that enrollment in courses for dual credit rose from 71,803 in 2007–08 to 94,232 in 2009–10, an increase of 31%. The majority of students who enrolled in courses for dual credit during this three-year period were in Grades 11 and 12, with the highest rates of participation by students in Grade 12. In 2009–10, approximately 17% of high school seniors and 11% of high school juniors in the state enrolled in a course for dual credit. Students in Grades 9 and 10 also enrolled in courses for dual credit but at much lower rates. Although students are usually required to be in Grades 11 or 12 to be eligible to enroll in courses for dual credit this requirement may be waived for students with outstanding academic performance and capability as evidenced by grade point average, PSAT/NMSQT scores, PLAN, or other assessment indicators, as specified in TAC §4.85(b).

An examination of student enrollment in courses for dual credit by student characteristics such as gender, race/ethnicity, and economic status revealed several differences in participation rates in these courses. (Percentages presented reflect average participation in courses for dual enrollment over the three-year period examined.)

- A greater percentage of female students (56%) than male students (44%) enrolled in courses for dual credit.
- The vast majority of students who were enrolled in courses for dual credit from 2007–08 through 2009–10 were either white (46%) or Hispanic (40%). In 2009–10, white students were overrepresented relative to their representation within the high school population as a whole (35%), and other groups tended to be underrepresented, particularly African-American students.
- Although 50% of all Texas high school students were economically disadvantaged in 2009–10, only 37% of students who were enrolled in courses for dual credit were economically disadvantaged.
- Only 2% of students who were enrolled in courses for dual credit were special education students, although these students represented 11% of Texas high schools students in 2009–10.
- Gifted and talented students were overrepresented in enrollments in courses for dual credit. Approximately 10% of all high school students were identified as gifted and talented in 2009–10, but 22% of students who were enrolled in courses for dual credit were gifted and talented.
- Approximately 75% of students who were enrolled in courses for dual credit took vocational education courses, which is roughly equivalent to the percentage of all high schools students who took at least one career or technical course in 2009–10 (77%).

In addition to examining characteristics of students who were enrolled courses for dual credit, school characteristics that were predictive of higher dual credit enrollments also were examined. To identify these predictors, it was necessary to examine the relationship between individual school variables while
simultaneously controlling for other school variables that also may have predictive relationships with dual credit enrollment. Regression analysis was therefore used to examine whether student enrollment rates in dual credit courses were significantly predicted by various school characteristics, including percentage of students proficient on TAKS-Reading, percentage of students proficient on TAKS-Math, teacher-student ratios, rural location of the school, and percentage of students in the following categories: African-American students, Hispanic students, LEP students, economically disadvantaged students, gifted and talented students, and students taking AP/IB exams. Findings are summarized below.

- Schools with greater percentages of students who are proficient on TAKS-Reading, who are economically disadvantaged, and who are gifted and talented are more likely to have a higher enrollment rate in courses for dual credit, even after controlling for school size.
- Schools with higher percentages of students who are African American, LEP, and who are taking AP/IB exams are more likely to have a lower enrollment rate in courses for dual credit. Schools located in rural areas also are also more likely to have a lower enrollment rate in courses for dual credit.

What Types of Courses for Dual Credit Are Available?

As previously noted, the PEIMS data identify the specific high school course for which a student received credit after completing a college course. Although the college course is not identified, these data make it possible to determine what types of courses for dual credit are available to students for dual credit. An analysis of these data from 2007–08, 2008–09, and 2009–10 reveals that a variety of courses for dual credit are available to students in both academic and career or technical areas. In the core academic areas, students most frequently were offered English language arts courses in general English as well as reading and journalism; math courses in general math as well as algebra and precalculus or calculus; science courses in areas such as physics, chemistry, animal/aquatic/equine, and the environment; and social studies courses in areas such as history/government and economics. In elective areas, students most frequently were offered computer science courses, many of which overlapped with technical courses in areas such as technical or information systems; fine arts in music, art, and animation; and foreign language courses in French, Spanish, German, Japanese, and American Sign Language. Finally, students were offered courses for many career or technical paths such as business/entrepreneurial/management, culinary arts/food production, automotive technology and repair, computer-assisted drafting/engineering systems, hospitality, and advertising.

What Types of Dual Enrollment Courses Do Students Take?

Students enrolled in different types of courses at different rates (either because of personal preference or course availability at their school). Table 10 shows the total number of courses for dual credit that students enrolled in during the 2007–08, 2008–09, and 2009–10 academic years as well as the percentage of courses taken in specific subject areas. Approximately 30% of the courses for dual credit taken by high school students were in social studies/history, and approximately 25% were in English language arts. In addition, 11% of the courses taken were in career or technical education and approximately 10% were in computer science. Finally, approximately 6% of the courses fell into the
category of “other”. A significant proportion of these “other” course enrollments (27%) were for physical education.

Table 10. Courses for Dual Credit Taken by Student by Course Type and Year

<table>
<thead>
<tr>
<th>Course Type</th>
<th>2007–08</th>
<th>2008–09</th>
<th>2009–10</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>30.1%</td>
<td>30.5%</td>
<td>31.5%</td>
<td>30.7%</td>
</tr>
<tr>
<td>English language arts</td>
<td>25.2%</td>
<td>25.2%</td>
<td>28.7%</td>
<td>26.4%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>10.5%</td>
<td>11.0%</td>
<td>10.7%</td>
<td>10.7%</td>
</tr>
<tr>
<td>Computer science</td>
<td>10.3%</td>
<td>10.6%</td>
<td>7.4%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>8.6%</td>
<td>8.4%</td>
<td>8.4%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Science</td>
<td>4.0%</td>
<td>3.4%</td>
<td>4.2%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>3.9%</td>
<td>3.8%</td>
<td>3.3%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>0.9%</td>
<td>1.3%</td>
<td>1.5%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Other</td>
<td>6.6%</td>
<td>5.8%</td>
<td>4.4%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>238,290</td>
<td>275,196</td>
<td>249,316</td>
<td>254,267</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)

How Does Enrollment in Courses for Dual Credit Vary by Student Characteristics?

Student dual credit enrollment data also were examined by several student characteristics, including gender, race/ethnicity, economic status, LEP status, gifted and talented status, and career or technical education status. Findings for each of these subgroups are presented below.

Gender. Table 11 presents a breakdown of dual credit course enrollment by course type, gender, and year. With regard to the distribution of courses by gender, male students took a greater concentration of coursework in career or technical education than female students. In 2009–10, for example, 13% of all courses taken by male students were in career or technical education compared with 9% of courses taken by female students. Male students also had a slightly greater concentration of coursework in mathematics than female students. In 2009–10, for example, 9% percent of courses taken by male students were in mathematics compared with 8% of those taken by female students. In contrast, female students had a slightly greater concentration of coursework in English language arts than male students. In 2009–10, 30% of all courses taken by female students were in English language arts compared with 27% of courses taken by male students. These patterns are consistent across the three years examined.
Table 11. Percentage of Courses Taken by Course Type, Gender, and Year

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>30.5%</td>
<td>29.7%</td>
<td>31.2%</td>
<td>29.6%</td>
<td>31.8%</td>
<td>31.2%</td>
</tr>
<tr>
<td>English language arts</td>
<td>26.8%</td>
<td>23.1%</td>
<td>26.8%</td>
<td>23.1%</td>
<td>30.4%</td>
<td>26.5%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>8.4%</td>
<td>13.3%</td>
<td>9.0%</td>
<td>13.7%</td>
<td>8.6%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Computer science</td>
<td>9.8%</td>
<td>10.9%</td>
<td>10.1%</td>
<td>11.3%</td>
<td>7.2%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>8.0%</td>
<td>9.3%</td>
<td>7.9%</td>
<td>9.0%</td>
<td>7.8%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Science</td>
<td>4.2%</td>
<td>3.7%</td>
<td>3.4%</td>
<td>3.4%</td>
<td>4.3%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>4.0%</td>
<td>3.7%</td>
<td>4.0%</td>
<td>3.7%</td>
<td>3.5%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>0.8%</td>
<td>1.0%</td>
<td>1.2%</td>
<td>1.4%</td>
<td>1.5%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Other</td>
<td>7.5%</td>
<td>5.3%</td>
<td>6.5%</td>
<td>4.9%</td>
<td>4.9%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>137,141</td>
<td>100,703</td>
<td>156,066</td>
<td>118,538</td>
<td>141,431</td>
<td>107,432</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)

Race/Ethnicity. Table 12 presents a breakdown of enrollment in courses for dual credit by course type and race/ethnicity for the 2009–10 academic year. (Similar tables summarizing findings from 2007–08 and 2008–09 are presented in Appendix H.) Compared with other groups, African-American and Hispanic students took a lower concentration of coursework in core academic subject areas such as social studies/history and English language arts. For example, 26% of the courses taken by African-American students and 25% of those taken by Hispanic students were in social studies/history compared with 38% of courses taken by white students and 33% of those taken by Asian students. In contrast, African-American and Hispanic students took a greater concentration of coursework in career or technical education and computer science. For example, 21% of the courses taken by African-American students and 15% of those taken by Hispanic students were in career or technical education compared with 6% of the courses taken by white students and 7% of those taken by Asian students. Similarly, 14% of courses taken by African Americans and 12% of courses taken by Hispanics were in computer science compared with 3% of courses taken by white students and 5% of courses taken by Asian students.

Table 12. Percentage of Courses Taken by Course Type and Race/Ethnicity, 2009–10

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Asian/Pacific Islander</th>
<th>African American</th>
<th>Hispanic</th>
<th>White</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>33.2%</td>
<td>25.8%</td>
<td>24.9%</td>
<td>38.1%</td>
<td>35.7%</td>
</tr>
<tr>
<td>English language arts</td>
<td>28.6%</td>
<td>23.4%</td>
<td>24.0%</td>
<td>33.8%</td>
<td>30.0%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>7.4%</td>
<td>20.5%</td>
<td>14.9%</td>
<td>5.6%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Computer science</td>
<td>5.1%</td>
<td>13.6%</td>
<td>11.7%</td>
<td>2.9%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>9.8%</td>
<td>4.2%</td>
<td>7.7%</td>
<td>9.5%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Science</td>
<td>5.4%</td>
<td>3.0%</td>
<td>3.8%</td>
<td>4.7%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>3.0%</td>
<td>1.5%</td>
<td>4.8%</td>
<td>2.3%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>1.9%</td>
<td>2.0%</td>
<td>2.1%</td>
<td>0.8%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Other</td>
<td>5.5%</td>
<td>6.1%</td>
<td>6.2%</td>
<td>2.4%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>9,670</td>
<td>19,547</td>
<td>100,992</td>
<td>114,230</td>
<td>4,424</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)
Economic Status. Table 13 presents a breakdown of student enrollment in courses for dual credit by course type, student economic status, and year. Compared with economically disadvantaged students, students who were not economically disadvantaged took a greater concentration of coursework in core academic subjects such as social studies/history and English language arts. For example, in 2009–10, 36% of the courses taken by students who were not economically disadvantaged were in social studies/history compared with 25% of the courses taken by economically disadvantaged students. In contrast, economically disadvantaged students took a greater concentration of coursework in career or technical education and computer science than students who were not economically disadvantaged. In 2009–10, for example, 17% of courses taken by economically disadvantaged students were in career or technical education compared with 7% of courses taken by students who were not economically disadvantaged. Similarly, 13% of courses taken by economically disadvantaged students in 2009–10 were in computer science compared with 4% of the courses taken by students who were not economically disadvantaged. Although these patterns are consistent across the three years examined, there was a slight increase in the percentage of academic courses taken by economically disadvantaged students across the three years. For example, the percentage of social studies/history courses taken by economically disadvantaged students increased from 20% in 2007–08 to 25% in 2009–10, and the percentage of English language arts courses taken by economically disadvantaged students increased from 17% in 2007–08 to 22% in 2009–10.

Table 13. Percentage of Courses for Dual Credit Taken by Course Type, Economic Status, and Year

<table>
<thead>
<tr>
<th>Course Type</th>
<th>2007–08 Econ Disadv</th>
<th>2007–08 Not Econ Disadv</th>
<th>2008–09 Econ Disadv</th>
<th>2008–09 Not Econ Disadv</th>
<th>2009–10 Econ Disadv</th>
<th>2009–10 Not Econ Disadv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>19.9%</td>
<td>35.4%</td>
<td>20.9%</td>
<td>35.9%</td>
<td>24.6%</td>
<td>35.5%</td>
</tr>
<tr>
<td>English language arts</td>
<td>16.5%</td>
<td>29.7%</td>
<td>17.8%</td>
<td>29.4%</td>
<td>22.3%</td>
<td>32.4%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>16.6%</td>
<td>7.3%</td>
<td>16.8%</td>
<td>7.8%</td>
<td>16.5%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Computer science</td>
<td>19.1%</td>
<td>5.7%</td>
<td>19.3%</td>
<td>5.7%</td>
<td>13.3%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>6.0%</td>
<td>9.9%</td>
<td>6.5%</td>
<td>9.4%</td>
<td>6.6%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Science</td>
<td>3.5%</td>
<td>4.2%</td>
<td>3.0%</td>
<td>3.6%</td>
<td>3.7%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>4.2%</td>
<td>3.7%</td>
<td>4.0%</td>
<td>3.7%</td>
<td>4.1%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>1.5%</td>
<td>0.6%</td>
<td>2.1%</td>
<td>0.8%</td>
<td>2.3%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Other</td>
<td>12.7%</td>
<td>3.5%</td>
<td>9.6%</td>
<td>3.6%</td>
<td>6.6%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>80,420</td>
<td>157,424</td>
<td>99,223</td>
<td>175,381</td>
<td>90,620</td>
<td>158,243</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)

Note. “Econ Disadv” refers to students who are categorized as economically disadvantaged; “Not Econ Disadv” refers to students who are categorized as not economically disadvantaged.

LEP Status. Table 14 presents a breakdown of student enrollment in courses for dual credit by course type and LEP status for the 2009–10 academic year. (Similar tables summarizing findings from the 2007–08 and 2008–09 academic years are presented in Appendix I.) Compared with LEP students and students who had exited LEP status, non-LEP students took a greater concentration of coursework in core academic subject areas such as social studies/history and English language arts than LEP students. For example, 32% of the courses taken by non-LEP students were in social studies/history compared with
11% of the courses taken by LEP students and 15% of the courses taken by students who had exited LEP status. Similarly, 29% of the courses taken by non-LEP students were in English language arts compared with 6% of courses taken by LEP students and 13% of courses taken by students who had exited LEP. In contrast, LEP students and students who had exited LEP status took a greater concentration of coursework in career or technical education and computer science than non-LEP students. For example, 32% of courses taken by LEP students and 23% of those taken by students who had exited LEP status were in career or technical education compared with 10% of courses taken by non-LEP students. Similarly, 25% of the courses taken by LEP students and 24% of those taken by students who had exited LEP status were in computer science compared with 7% of courses taken by non-LEP students.

Table 14. Percentage of Courses for Dual Credit Taken by Course Type and Limited English Proficiency Status, 2009–10

<table>
<thead>
<tr>
<th>Course Type</th>
<th>LEP</th>
<th>Exited LEP But Monitored</th>
<th>Not LEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>10.8%</td>
<td>15.4%</td>
<td>31.9%</td>
</tr>
<tr>
<td>English language arts</td>
<td>6.1%</td>
<td>12.9%</td>
<td>29.1%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>32.0%</td>
<td>23.1%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Computer science</td>
<td>24.8%</td>
<td>23.8%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>4.0%</td>
<td>6.3%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Science</td>
<td>0.8%</td>
<td>2.1%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>7.5%</td>
<td>4.2%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>5.5%</td>
<td>3.1%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Other</td>
<td>8.5%</td>
<td>9.2%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>2,014</td>
<td>2,648</td>
<td>244,201</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)

Special Education Status. Table 15 presents student enrollment in courses for dual credit by course type, special education status, and year. Compared with special education students, students who did not receive special education services took a greater concentration of courses in core academic subject areas such as social studies/history and English language arts. For example, in 2009–10, 32% of the courses taken by non-special education students were in social studies/history compared with 16% of the courses taken by special education students. Similarly, in 2009–10, 29% of the courses taken by non-special education students were in English language arts compared with 10% of the courses taken by special education students. In contrast, special education students took much greater concentration of coursework in career or technical education and computer science than non-special education students. For example, in 2009–10, 41% of the courses taken by special education students were in career or technical education compared with 10% of the courses taken by non-special education students. Similarly, 21% of the courses taken by special education students in 2009–10 were in computer science compared with 7% of the courses taken by non-special education students.

There was some variation in course-taking patterns across the three years examined. For example, the percentage of courses taken by special education students in social studies/history decreased slightly from 10% in 2007–08 to 8% in 2008-09 but then increased to 16% in 2009–10. The percentage of
courses in career or technical education taken by special education students increased from 35% in 2007–08 to 41% in 2009–10; however the percentage of computer science courses taken by special education students decreased from 28% in 2007–08 to 21% in 2009–10.

Table 15. Percentage of Courses for Dual Credit Taken by Course Type, Special Education Status, and Year

<table>
<thead>
<tr>
<th>Course Type</th>
<th>2007–08 Special Education</th>
<th>2007–08 Not Special Education</th>
<th>2008–09 Special Education</th>
<th>2008–09 Not Special Education</th>
<th>2009–10 Special Education</th>
<th>2009–10 Not Special Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>10.1%</td>
<td>30.5%</td>
<td>7.8%</td>
<td>30.9%</td>
<td>15.5%</td>
<td>31.8%</td>
</tr>
<tr>
<td>English language arts</td>
<td>8.0%</td>
<td>25.5%</td>
<td>6.8%</td>
<td>25.5%</td>
<td>9.6%</td>
<td>29.0%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>35.2%</td>
<td>10.0%</td>
<td>35.5%</td>
<td>10.6%</td>
<td>40.8%</td>
<td>10.2%</td>
</tr>
<tr>
<td>Computer science</td>
<td>27.8%</td>
<td>10.0%</td>
<td>33.8%</td>
<td>10.2%</td>
<td>20.7%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>2.2%</td>
<td>8.7%</td>
<td>1.9%</td>
<td>8.5%</td>
<td>2.0%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Science</td>
<td>2.4%</td>
<td>4.0%</td>
<td>2.0%</td>
<td>3.4%</td>
<td>1.4%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>1.2%</td>
<td>3.9%</td>
<td>1.2%</td>
<td>3.9%</td>
<td>2.0%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>1.7%</td>
<td>0.9%</td>
<td>3.2%</td>
<td>1.2%</td>
<td>2.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Other</td>
<td>11.5%</td>
<td>6.5%</td>
<td>7.7%</td>
<td>5.7%</td>
<td>5.4%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>3,779</td>
<td>234,065</td>
<td>4,333</td>
<td>270,271</td>
<td>3,938</td>
<td>244,925</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)

Gifted and Talented Status. Table 16 presents a breakdown of student enrollment in courses for dual credit by course type, gifted and talented status, and year. Gifted and talented students took a slightly greater concentration of coursework in core academic subjects such as social studies/history and English language arts than students who did not participate in a gifted and talented program. For example, in 2009–10, 34% of the courses taken by gifted and talented students were in social studies/history compared with 31% of courses taken by students who did not participate in a gifted and talented program. Similarly 30% of the courses taken by gifted and talented students in 2009–10 were in English language arts compared with 28% of courses taken by student who were not in a gifted and talented program. In contrast, students who were not in a gifted and talented program took a greater concentration of coursework in career or technical education and computer science than gifted and talented students. In 2009–10, for example, 12% of the courses taken by students who did not participate in a gifted and talented program were in career or technical education compared with 7% of courses taken by gifted and talented students. Similarly, 8% of courses taken by nonparticipants in the gifted and talented program were in computer science compared with 6% of courses taken by gifted and talented students. Although there were some minor variations across years in the percentage of courses in each subject area taken by students in each groups, the general patterns described above remained consistent across the three years examined.
Table 16. Percentage of Courses Taken by Course Type, Gifted and Talented Status, and Year

<table>
<thead>
<tr>
<th>Course Type</th>
<th>2007–08</th>
<th>2008–09</th>
<th>2009–10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gifted</td>
<td>Talented</td>
<td>Gifted</td>
</tr>
<tr>
<td>Social studies/history</td>
<td>35.2%</td>
<td>28.4%</td>
<td>34.0%</td>
</tr>
<tr>
<td>English language arts</td>
<td>26.3%</td>
<td>24.9%</td>
<td>26.5%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>6.6%</td>
<td>11.8%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Computer science</td>
<td>5.7%</td>
<td>11.8%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>12.5%</td>
<td>7.2%</td>
<td>12.0%</td>
</tr>
<tr>
<td>Science</td>
<td>4.3%</td>
<td>3.8%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>4.6%</td>
<td>3.6%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>0.8%</td>
<td>0.9%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Other</td>
<td>4.1%</td>
<td>7.4%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>61,007</td>
<td>176,837</td>
<td>67,596</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)

Vocational Education Status. Table 17 presents a breakdown of student enrollment in courses for dual credit by course type and vocational education status for the 2009–10 academic year. (Similar tables summarizing findings from the 2007–08 and 2008–09 academic years are presented in Appendix J.) Compared with students who were not involved in some type of vocational education course or sequence, vocational education students took a slightly lower concentration of courses in core academic subjects such as social studies/history and English language arts. For example, 37% of the courses taken by non-vocational education students were in social studies/history compared with percentages ranging from 27% to 32% across the vocational classifications. Similarly, 32% of the courses taken by non-vocational education students were in English language arts compared with percentages ranging from 25% to 29% across the vocational classifications. In contrast, vocational education students took a greater concentration of coursework in career or technical education and computer science. For example, percentages ranging from 10% to 17% of the courses taken for dual credit by vocational education students across the vocational classifications were in career or technical education and computer science compared with 4% of courses taken by non-vocational education students. Similarly, percentages ranging from 9% to 10% of the courses taken by vocational education were in computer science compared with 2% of courses taken by non-vocational education students.
Table 17. Percentage of Courses for Dual Credit Taken by Course Type and Vocational Education Status, 2009–10

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Career/Tech Coherent Sequences Grades 9–12</th>
<th>Career/Tech Elective Grades 6–12</th>
<th>Tech Prep Program</th>
<th>Does Not Participate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>31.0%</td>
<td>31.6%</td>
<td>26.6%</td>
<td>36.9%</td>
</tr>
<tr>
<td>English language arts</td>
<td>29.1%</td>
<td>29.1%</td>
<td>24.6%</td>
<td>32.0%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>11.8%</td>
<td>10.1%</td>
<td>17.1%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Computer science</td>
<td>10.3%</td>
<td>8.9%</td>
<td>8.9%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>7.9%</td>
<td>7.6%</td>
<td>8.3%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Science</td>
<td>3.5%</td>
<td>4.9%</td>
<td>4.1%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>2.4%</td>
<td>2.1%</td>
<td>3.3%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>0.8%</td>
<td>1.5%</td>
<td>1.1%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Other</td>
<td>3.1%</td>
<td>4.0%</td>
<td>6.0%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>58,101</td>
<td>62,048</td>
<td>63,546</td>
<td>65,168</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011).

Notes. Percentages may not sum to 100 due to rounding. “Career/Tech Coherent Sequence Grades 9–12” refers to recommended sequences of career or technical courses that are offered to high school students, and “Career/Tech Elective Grades 6–12” refers to elective courses available to students in these grades that are not part of a defined course sequence. “Tech Prep Program” refers to a college-preparatory program that provides students with academic as well as applied technical skills. The high school program prepares students to continue in a college program that leads to a minimum of a two-year postsecondary degree (or apprenticeship license).

Summary

A wide variety of courses for dual credit are available to students in both academic and career or technical areas ranging from general English and mathematics courses to computer-assisted drafting/engineering, culinary arts and hospitality, and automotive repair. An analysis of courses by subject area revealed that, on average, 31% of the courses taken for dual credit by high school students were in social studies/history, and 26% were in English language arts across the three years examined. In addition, 11% of the courses taken were in career or technical education, and 9% were in computer science. A smaller percentage of courses were taken in subject areas such as mathematics (8%), science (4%), foreign languages (4%), and fine arts (1%). Approximately 6% of the courses fell into the category of “other.” A significant proportion of these course enrollments (27%) were for physical education.

The types of courses students enrolled in also varied by demographic characteristics such as gender and race/ethnicity as well as the types of high school courses or programs in which students participated such as vocational education and gifted and talented programs. A summary of key findings is presented below.

- Male students took a greater concentration of coursework in career or technical education and mathematics than female students, and female students took a greater concentration of coursework in English language arts than male students.
In 2009–10, for example, 13% of courses taken for dual credit by male students were in career or technical education compared with 9% of courses taken by female students. Male students also took a slightly greater percentage of mathematics courses (9%) in 2009–10, compared with female students (8%).

In contrast, female students took a slightly greater percentage of English language arts courses (30%) than male students (27%).

- African-American and Hispanic students took a greater concentration of coursework in career or technical education and computer science than students in other racial/ethnic groups, and white and Asian students took a greater concentration of coursework in core academic subjects such as social studies/history.

In 2009–10, 21% of courses taken by African-American students and 15% of courses taken by Hispanic students were in career or vocational education compared with 6% of courses taken by white students and 7% of those taken by Asian students.

In contrast, 38% of courses taken by white students and 33% of courses taken by Asian students in 2009–10 were in social studies/history compared with 26% of courses taken by African-American students and 25% of courses taken by Hispanic students.

- Economically disadvantaged students took a greater concentration of coursework in career or technical education and computer science than students who were not economically disadvantaged, and students who were not economically disadvantaged took a greater concentration of coursework in core academic subjects such as social studies/history.

In 2009–10, for example, 17% of courses taken by economically disadvantaged students were in career or technical education compared with 7% of courses taken by students who were not economically disadvantaged.

In contrast, 36% of the courses taken by students who were not economically disadvantaged in 2009–10 were in social studies/history compared with 25% of the courses taken by economically disadvantaged students.

- LEP students took a greater concentration of coursework in career or technical education and computer science than non-LEP students, and non-LEP students took a greater concentration of coursework in core academic subjects such as social studies/history. (Less than 2% of students who were enrolled in courses for dual credit were LEP students.)

In 2009–10, for example, 32% of courses taken by LEP students and 23% of those taken by students who had exited LEP status were in career or technical education compared with 10% of courses taken by non-LEP students.

In contrast, 32% of the courses taken by non-LEP students in 2009–10 were in social studies/history compared with 11% of the courses taken by LEP students and 15% of the courses taken by students who had exited LEP status.

- Special education students took a much greater concentration of coursework in career or technical education and computer science than non-special education students, and non-special education students took a greater concentration of coursework in core academic subjects such as social studies/history. (Only 2% of students who were enrolled in courses for dual credit were special education students.)
In 2009–10, for example, 41% of the courses taken by special education students were in career or technical education compared with 10% of the courses taken by non-special education students.

In contrast, 32% of the courses taken by non-special education students were in social studies/history compared with 16% of courses taken by special education students.

Gifted and talented students took a slightly greater concentration of coursework in core academic subjects such as social studies/history and English language arts than students who did not participate in a gifted and talented program, and students who did not participate in a gifted and talented program took a greater concentration of coursework in career or technical education and computer science.

In 2009–10, 34% of the courses taken by gifted and talented students were in social studies/history compared with 31% of courses taken by students who did not participate in a gifted and talented program.

In contrast, 12% of the courses taken by students who did not participate in a gifted and talented program in 2009–10 were in career or technical education compared with 7% of courses taken by gifted and talented students.

Vocational education students took a greater concentration of coursework in career or technical education and computer science, and non-vocational education students took a greater concentration of coursework in core academic subjects such as social studies/history.

In 2009–10, for example, percentages ranging from 10% to 17% of the courses taken for dual credit by vocational education students across the vocational classifications were in career or technical education compared with 4% of courses taken by non-vocational education students.

In contrast, 37% of the courses taken by non-vocational education students in 2009–10 were in social studies/history compared with percentages ranging from 27% to 32% across the vocational classifications.

**How Do Students Who Take Courses for Dual Credit Perform in These Courses and on the TAKS?**

Although data on the outcomes of students who enroll in courses for dual credit are limited, TEA does collect data on the percentage of students who complete these courses and their pass and failure rates. Table 18 presents the percentage of students who passed, failed, or did not complete courses for dual credit in 2009–10 by course type. Almost all students who were enrolled in courses for dual credit in 2009–10 completed the courses. In addition, 94% or more received passing grades in these courses.
Table 18. Completion and Passing Rates for Courses Taken for Dual Credit by Course Type, 2009–10

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Fail</th>
<th>Incomplete</th>
<th>Pass</th>
<th>Total Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>English language arts</td>
<td>2.7%</td>
<td>0.0%</td>
<td>97.3%</td>
<td>71,508</td>
</tr>
<tr>
<td>Math</td>
<td>5.8%</td>
<td>0.0%</td>
<td>94.2%</td>
<td>20,822</td>
</tr>
<tr>
<td>Science</td>
<td>5.1%</td>
<td>0.0%</td>
<td>94.9%</td>
<td>10,453</td>
</tr>
<tr>
<td>Social science/history</td>
<td>3.8%</td>
<td>0.0%</td>
<td>96.2%</td>
<td>78,598</td>
</tr>
<tr>
<td>Computer science</td>
<td>5.1%</td>
<td>0.0%</td>
<td>94.9%</td>
<td>18,517</td>
</tr>
<tr>
<td>Fine arts</td>
<td>5.0%</td>
<td>0.0%</td>
<td>95.0%</td>
<td>3,668</td>
</tr>
<tr>
<td>Foreign language</td>
<td>4.0%</td>
<td>0.0%</td>
<td>96.0%</td>
<td>8,114</td>
</tr>
<tr>
<td>Career or technical</td>
<td>5.1%</td>
<td>0.1%</td>
<td>94.9%</td>
<td>26,621</td>
</tr>
<tr>
<td>Other</td>
<td>4.8%</td>
<td>0.0%</td>
<td>95.2%</td>
<td>10,808</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)

Student performance on the TAKS assessment provides another indicator of the academic performance of students who were enrolled in courses for dual credit. Table 19 presents the percentage of students enrolled in courses for dual credit in 2009–10 who met basic proficiency standards on the 2010 TAKS assessment by course type and TAKS subject area. Most students who were enrolled in courses for dual credit in 2009–10 met TAKS proficiency standards in all subject areas. For students who were enrolled in computer science and career or technical education courses, the percentage who met basic proficiency standards in mathematics (86%) and science (88% for students who were enrolled in career or technical education and 90% for students who were enrolled in computer science) was slightly lower than was the case for students who were enrolled in other courses.

Table 19. Percentage of Dual Credit Students Who Met Basic Proficiency Standards on the 2010 TAKS Assessment by Course Types and TAKS Subject Area

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Reading</th>
<th>Mathematics</th>
<th>Science</th>
<th>Social Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>English language arts</td>
<td>99.0%</td>
<td>98.6%</td>
<td>99.1%</td>
<td>99.5%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>99.2%</td>
<td>99.2%</td>
<td>99.1%</td>
<td>99.2%</td>
</tr>
<tr>
<td>Science</td>
<td>98.5%</td>
<td>98.1%</td>
<td>98.9%</td>
<td>99.5%</td>
</tr>
<tr>
<td>Social studies/history</td>
<td>98.9%</td>
<td>98.5%</td>
<td>98.9%</td>
<td>99.3%</td>
</tr>
<tr>
<td>Computer science</td>
<td>94.1%</td>
<td>86.0%</td>
<td>90.1%</td>
<td>96.9%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>96.6%</td>
<td>93.1%</td>
<td>95.2%</td>
<td>99.5%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>98.0%</td>
<td>95.1%</td>
<td>96.3%</td>
<td>98.8%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>93.0%</td>
<td>86.3%</td>
<td>87.9%</td>
<td>95.8%</td>
</tr>
<tr>
<td>Other</td>
<td>97.3%</td>
<td>93.5%</td>
<td>94.3%</td>
<td>98.2%</td>
</tr>
<tr>
<td>Average</td>
<td>97.6%</td>
<td>95.2%</td>
<td>96.6%</td>
<td>98.7%</td>
</tr>
</tbody>
</table>

Sources: Public Education Information Management System and 2010 TAKS data (Texas Education Agency, 2011)

Table 20 presents the percentage of students enrolled in courses for dual credit in 2009–10 who were commended on the 2010 TAKS assessment by course type and TAKS subject area. The percentage commended varies by both course type and TAKS subject area. The percentages of students who were
commended on the social studies TAKS were relatively high for all courses in which students were enrolled, ranging from 54% for students enrolled in career or technical education courses to 85% for students who were enrolled in mathematics courses. For the other TAKS subject areas, there was considerably more variation by course type. Overall, a smaller percentage of students who were enrolled in computer science courses and career or technical education courses received a commended rating on TAKS subject area assessments compared with students who were enrolled in other courses. For example, among students who were enrolled in career or technical education courses, 29% were commended in reading, 27% were commended in math, 18% were commended in science, and 54% were commended in social studies. In contrast, among students who were enrolled in mathematics courses, 67% were commended in reading, 70% were commended in math, 48% were commended in science, and 85% were commended in social studies. To qualify to enroll in career or technical education courses or computer courses, students only have to meet the passing standard on TAKS; to qualify to enroll in academic courses, students must meet the standard for the higher education readiness component.

Table 20. Percentage of Dual Credit Students Who Were Commended on the 2010 TAKS Assessment by Course Types and TAKS Subject Area

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Reading</th>
<th>Mathematics</th>
<th>Science</th>
<th>Social Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>English language arts</td>
<td>58.6%</td>
<td>47.8%</td>
<td>30.9%</td>
<td>75.0%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>66.9%</td>
<td>70.2%</td>
<td>48.3%</td>
<td>84.8%</td>
</tr>
<tr>
<td>Science</td>
<td>58.9%</td>
<td>53.4%</td>
<td>42.9%</td>
<td>79.0%</td>
</tr>
<tr>
<td>Social studies/history</td>
<td>59.7%</td>
<td>51.0%</td>
<td>35.1%</td>
<td>76.3%</td>
</tr>
<tr>
<td>Computer science</td>
<td>33.5%</td>
<td>32.1%</td>
<td>21.1%</td>
<td>57.4%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>38.1%</td>
<td>36.8%</td>
<td>28.1%</td>
<td>67.3%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>44.3%</td>
<td>44.3%</td>
<td>33.0%</td>
<td>69.4%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>29.0%</td>
<td>26.8%</td>
<td>18.4%</td>
<td>53.7%</td>
</tr>
<tr>
<td>Other</td>
<td>41.0%</td>
<td>39.7%</td>
<td>26.3%</td>
<td>62.0%</td>
</tr>
<tr>
<td>Total</td>
<td>51.4%</td>
<td>45.9%</td>
<td>32.2%</td>
<td>71.8%</td>
</tr>
</tbody>
</table>

Sources: Public Education Information Management System and 2010 TAKS data (Texas Education Agency, 2011)

Survey Findings From Sampled IHEs, LEAs, and High Schools

To address research objective 1 and its subquestions, this section investigates the context for programs and courses for dual credit based on surveys delivered to administrators of dual credit programs at three educational levels: higher education administration, LEA administration, and high school administration. The following five subquestions within this objective are addressed:

1. What types of courses for dual credit are available?
2. Who makes decisions about the types of courses offered for dual credit?
3. How is the quality of courses offered for dual credit ensured, and what is the perceived quality of courses offered for dual credit?
4. What is the delivery mode of courses offered for dual credit?
5. What types of institutional policies and requirements exist with regard to dual credit student eligibility and supports (e.g., student advising/counseling, financial support) and dual credit faculty benefits?

What Types of Courses for Dual Credit Are Available?

All respondents were asked to report on courses offered to students for dual credit during the 2009–10 academic year, including on campus, off campus, and distance learning courses. As shown in Table 21, respondents on each of the surveys reported most frequently offering courses for dual credit in English (100% IHE, 92% LEA, 93% high school [HS]) and the social sciences/history (100% IHE, 94% LEA, 94% HS). A greater percentage of respondents to the IHE survey reported offering classes in mathematics, fine arts, science, career or technology, computer science, and foreign languages than respondents to the school district and high school surveys.

Table 21. Courses Offered for Dual Credit in the 2009–10 Academic Year

<table>
<thead>
<tr>
<th>In which of the following subject areas were courses for dual credit offered to high school students for the 2009–10 academic year? (Select all that apply.)</th>
<th>IHE (N = 15)</th>
<th>LEA (N = 36)</th>
<th>High School (N = 34)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>100.0%</td>
<td>94.4%</td>
<td>94.1%</td>
</tr>
<tr>
<td>English language arts</td>
<td>100.0%</td>
<td>91.7%</td>
<td>93.0%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>100.0%</td>
<td>69.4%</td>
<td>73.5%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>93.3%</td>
<td>33.3%</td>
<td>32.4%</td>
</tr>
<tr>
<td>Science</td>
<td>80.0%</td>
<td>52.8%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>73.3%</td>
<td>55.6%</td>
<td>61.8%</td>
</tr>
<tr>
<td>Computer science</td>
<td>73.3%</td>
<td>33.3%</td>
<td>35.3%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>66.7%</td>
<td>22.2%</td>
<td>26.5%</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>-</td>
<td>32.4%</td>
</tr>
</tbody>
</table>

Sources: Higher Education Administrator Telephone Survey, District (LEA) Administrator Telephone Survey, and High School Administrator Telephone Survey; Research Study of Texas Dual Credit Programs and Courses (Texas Education Agency, 2011)

More than 50% of all respondents reported offering courses to students for dual credit in both academic and career or technical areas. No respondents on any of the surveys reported that only career or technical education courses were offered.

Who Makes Decisions About the Types of Courses Offered for Dual Credit?

According to respondents to the IHE survey, decisions about the types of courses offered for dual credit are made mainly by full- and/or part-time faculty (80%). A small percentage of IHEs (7%) cited high school district personnel as playing a key role in deciding dual credit offerings. Some IHEs also cited other decision makers in deciding which courses to offer, including dual credit administrators, outreach coordinators, department chairs, program directors, and disciplinary committees. High school
respondents reported that the higher education partner (71%), the school or LEA (71%), and high school faculty (41%) were involved in making decisions about the types of courses offered for dual credit.

How Is the Quality of Courses Offered for Dual Credit Ensured, and What Is the Perceived Quality of Courses Offered for Dual Credit?

IHEs reported working with multiple partners to ensure that courses for dual credit are aligned with the Texas Essential Knowledge and Skills (TEKS) standards. As shown in Table 22, the vast majority of IHEs (73%) worked with LEAs to align courses with the TEKS standards. IHEs also mentioned that they ensure that courses are aligned with the TEKS by working with syllabi from other college courses. Similarly, 88% of high school administrators reported that in order to ensure that courses available for dual credit provide advanced academic instruction beyond, or in greater depth than, the TEKS, they monitor the college course syllabi and rely on or work with their higher education partner.

<table>
<thead>
<tr>
<th>Table 22. IHE Dual Credit Course TEKS Alignment Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which of the following does your school do to ensure that the dual credit courses it offers meet or exceed the Texas Essential Knowledge and Skills (TEKS)? (N = 15)</td>
</tr>
<tr>
<td>Works with school district (LEA) to align courses with TEKS</td>
</tr>
<tr>
<td>IHE aligns curriculum with TEKS</td>
</tr>
<tr>
<td>Works with TEA to align courses with TEKS</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

Source: Higher Education Administrator Telephone Survey, Research Study of Texas Dual Credit Programs and Courses (Texas Education Agency, 2011)

Note. Respondents were instructed to select all that apply; therefore, percentages exceed 100%.

Each survey asked respondents how they ensure the quality and rigor of courses offered to students for dual credit. The data suggest that the efforts made by IHEs to ensure quality and rigor are consistent and universally applied across all courses. High school respondents most frequently (27%) stated that the quality and rigor of courses for dual credit are ensured by monitoring teacher quality, the curriculum, and pedagogy in the classroom. LEA respondents most frequently (39%) reported that the quality and rigor of courses for dual credit are ensured by reviewing the IHE’s curriculum and syllabi and monitoring the courses for alignment with the TEKS.

Overall, most IHEs (73%) reported that courses for dual credit delivered by their college/university are consistently rigorous across courses, and 87% of IHE respondents reported that courses for dual credit taught at the college campus are equally as rigorous as courses for dual credit taught at the high school campus. Similarly, most high school administrators reported that courses for dual credit are consistently rigorous across courses (44%), or that there is only a small degree of difference in the level of rigor among courses (50%). According to all IHEs, high school students must meet the same attendance requirements as college students to receive credit.

High school administrators also reported on three common programs or practices used to prepare students for college: courses for dual credit, AP courses, and IB programs. As shown in Table 23, the vast
majority of respondents stated that each of these programs or practices is effective or very effective in preparing students for college.

Table 23. Effectiveness of Advanced Course Offerings in Aiding College Enrollment

<table>
<thead>
<tr>
<th>How effective are these programs/practices in helping students enroll in college?</th>
<th>N</th>
<th>Very Ineffective</th>
<th>Ineffective</th>
<th>Effective</th>
<th>Very Effective</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses for dual credit</td>
<td>34</td>
<td>11.8%</td>
<td>0.0%</td>
<td>20.6%</td>
<td>67.6%</td>
<td>-</td>
</tr>
<tr>
<td>AP classes</td>
<td>27</td>
<td>7.4%</td>
<td>11.1%</td>
<td>33.3%</td>
<td>44.4%</td>
<td>3.7%</td>
</tr>
<tr>
<td>IB programs</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>25.0%</td>
<td>50.0%</td>
<td>25.0%</td>
</tr>
</tbody>
</table>

Source: High School Administrator Telephone Survey, Research Study of Texas Dual Credit Programs and Courses (Texas Education Agency, 2011)

Note. This question was asked only of those respondents who reported that their high school offered these courses. In addition, among those respondents who reported that their high school offered AP or IB courses, some did not answer this question (those coded as “Missing”).

In response to a question about the extent to which AP courses, IB courses, and courses for dual credit were offered, the greatest percentage of respondents (74%) from the high school survey said their school widely offered courses for dual credit (or had contractual arrangements with an IHE to offer such courses), followed by about half of respondents (53%) reporting widely offering AP courses. Only 12% of high school administrators reported offering any IB courses at their school.

When asked to compare courses for dual credit to other types of advanced courses (See Tables 24 and 25), 45% of respondents to the high school survey who provided ratings said AP courses were more rigorous than dual credit courses (9% of respondents did not answer this question or said “I don’t know”), 38% of respondents who provided ratings said IB courses were more rigorous (53% of respondents did not answer this question or said “I don’t know”). Another 42% of respondents stated that AP courses were equally as rigorous as courses for dual credit, and 50% of respondents stated that IB courses were. Most if not all respondents reported giving additional weight in the calculation of high school grade point averages for academic courses for dual credit (79%), AP courses (96%) when offered, and IB courses (100%) when offered.

Table 24. Comparative Rigor of AP and Courses for Dual Credit

<table>
<thead>
<tr>
<th>In your opinion, AP courses typically are: (N = 31)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>More rigorous than courses for dual credit</td>
<td>45.2%</td>
</tr>
<tr>
<td>Equally as rigorous as courses for dual credit</td>
<td>41.9%</td>
</tr>
<tr>
<td>Less rigorous than courses for dual credit</td>
<td>12.9%</td>
</tr>
</tbody>
</table>

Source: High School Administrator Telephone Survey, Research Study of Texas Dual Credit Programs and Courses (Texas Education Agency, 2011)

Note. 9% of the sample responded ‘I don’t know’ or did not respond. Only respondents who reported on the comparative rigor of AP courses are included in the table.
Table 25. Comparative Rigor of IB and Courses for Dual Credit

<table>
<thead>
<tr>
<th>In your opinion, IB courses typically are: (N = 16)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>More rigorous than courses for dual credit</td>
<td>37.5%</td>
</tr>
<tr>
<td>Equally as rigorous as courses for dual credit</td>
<td>50.0%</td>
</tr>
<tr>
<td>Less rigorous than courses for dual credit</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

Source: High School Administrator Telephone Survey, Research Study of Texas Dual Credit Programs and Courses (Texas Education Agency, 2011)

Note. 53% of the sample responded “I don’t know” or did not respond. Only respondents who reported on the comparative rigor of IB courses are represented in the table.

What Is the Delivery Mode of Courses Offered for Dual Credit?

The location for delivery of courses for dual credit varied widely. As shown in Table 26, the majority of high school administrators reported that students at their school took courses for dual credit at a community college (88%) and/or on the high school campus (77%). Many respondents (47%) also stated that students took dual credit courses via distance learning. Of these respondents, 44% reported that students were enrolled in “synchronous” courses, where students participated in real-time discussion with the instructor and other students during class sessions, and 81% reported that students were enrolled in “asynchronous” courses, where students received instruction on their own schedule and communicated with instructors and classmates through e-mail or discussion boards. For all classes, about half of respondents said all students took courses for dual credit only with other high school students, and the other half of respondents said students took courses with both college and high school students together.

Table 26. Location of Courses for Dual Credit During the 2009–10 Academic Year

<table>
<thead>
<tr>
<th>During the 2009-10 academic year, did students from your campus enroll in courses for dual credit at any of the following: (N = 34)</th>
<th>Yes</th>
<th>No</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>At a community college</td>
<td>88.2%</td>
<td>11.8%</td>
<td>-</td>
</tr>
<tr>
<td>At your high school</td>
<td>76.5%</td>
<td>23.5%</td>
<td>-</td>
</tr>
<tr>
<td>Via distance learning</td>
<td>47.1%</td>
<td>52.9%</td>
<td>-</td>
</tr>
<tr>
<td>At another high school</td>
<td>17.6%</td>
<td>82.4%</td>
<td>-</td>
</tr>
<tr>
<td>At a four-year college or university</td>
<td>14.7%</td>
<td>76.5%</td>
<td>8.8%</td>
</tr>
</tbody>
</table>

Source: High School Administrator Telephone Survey, Research Study of Texas Dual Credit Programs and Courses (Texas Education Agency, 2011)

Note. Respondents were instructed to select all that apply; percentages therefore exceed 100%.

With regard to the types of instructors teaching courses for dual credit, the majority of LEA respondents (67%) reported that high school faculty taught courses for dual credit in their LEA. These reports were more frequent from high school respondents, with 88% stating that only high school faculty or both high school and college faculty taught courses for dual credit that are offered to students in their high school.
Nine percent of high school respondents also indicated that only college faculty taught courses for dual credit to their students.

**What Types of Institutional Policies and Requirements Exist With Regard to Dual Credit Student Eligibility and Supports and Dual Credit Faculty Benefits?**

On surveys, both high school and IHE administrators were asked about eligibility requirements that students must meet prior to enrollment in courses for dual credit. As shown in Table 27, IHE administrators most commonly reported that students need high school approval (93%) and must meet standard admission requirements for their college or university (93%) prior to enrolling in courses for dual credit. Most high school respondents mentioned these requirements (82% and 82% respectively), and almost all high school respondents stated that students must be in a certain grade level (97%) and have a minimum score on a standardized test such as the TAKS (97%). Fewer than 25% of high school and IHE administrators reported age (20% IHE; 3% HS), disciplinary status (20% IHE; 15% HS), or a teacher recommendation (13% IHE; 6% HS) as requirements.

**Table 27. High Schools’ Dual Credit Program Requirements**

<table>
<thead>
<tr>
<th>Which requirements, if any, are your students required to meet prior to enrolling in courses for dual credit?</th>
<th>IHE Respondents (N = 15)</th>
<th>HS Respondents (N = 34)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school approval</td>
<td>93.3%</td>
<td>82.4%</td>
</tr>
<tr>
<td>Higher education partner approval/meet standard admission requirements</td>
<td>93.3%</td>
<td>82.4%</td>
</tr>
<tr>
<td>Minimum standardized test scores</td>
<td>80.0%</td>
<td>97.1%</td>
</tr>
<tr>
<td>Prerequisite courses</td>
<td>80.0%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Grade level</td>
<td>73.3%</td>
<td>97.1%</td>
</tr>
<tr>
<td>Maximum course load</td>
<td>60.0%</td>
<td>NA</td>
</tr>
<tr>
<td>Minimum of HS hours/GPA</td>
<td>40.0%</td>
<td>52.9%</td>
</tr>
<tr>
<td>Minimum GPA</td>
<td>40.0%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Disciplinary status</td>
<td>20.0%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Age</td>
<td>20.0%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Teacher recommendation</td>
<td>13.3%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Interview</td>
<td>NA</td>
<td>8.8%</td>
</tr>
<tr>
<td>Other</td>
<td>20.0%</td>
<td>23.5%</td>
</tr>
<tr>
<td>No admission requirement</td>
<td>6.7%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

*Sources: Higher Education Administrator Telephone Survey, High School Administrator Telephone Survey; Research Study of Texas Dual Credit Programs and Courses (Texas Education Agency, 2011).*  
*Note. Respondents were instructed to select all that apply; therefore, percentages exceed 100%.*

As reported in response to an open-ended question, a majority of the high school (53%) and IHE (53%) administrators reported that students were allowed to take a maximum of two courses per semester, as allowed by THECB, with some reporting exceptions for an additional course each semester with approval from school administration.
Approximately half of LEA respondents (54%) reported that they provide additional benefits to high school faculty for teaching courses for dual credit. Most commonly, LEAs provided high school faculty with a stipend (77%) for teaching courses for dual credit.

Approximately 41% of high school respondents stated that tuition is not paid by students who enroll in courses for dual credit. As shown in Table 28, for the students who do pay tuition, it is primarily paid for either by the LEA (44%) or the student’s family (41%). Similarly, the LEA or student’s family is primarily responsible for transportation costs (43% LEA; 29% student’s family) and textbooks (44% LEA; 56% student’s family).

<table>
<thead>
<tr>
<th>Who is primarily responsible for paying tuition for students who are enrolled in dual credit courses? (N=34)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school district (LEA) is primarily responsible.</td>
<td>44.1%</td>
</tr>
<tr>
<td>The student’s family is primarily responsible.</td>
<td>41.2%</td>
</tr>
<tr>
<td>A higher education partner is primarily responsible.</td>
<td>8.8%</td>
</tr>
<tr>
<td>Another third party is responsible.</td>
<td>2.9%</td>
</tr>
<tr>
<td>Missing</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

*Source:* High School Administrator Telephone Survey, Research Study of Texas Dual Credit Programs and Courses (Texas Education Agency, 2011)

All LEAs surveyed reported publicizing the availability of their dual credit programs to all students. Respondents at both the IHEs and high schools reported offering support services to students enrolled in courses for dual credit. All but one of the IHEs (93%) reported providing informational or orientation sessions for high school students interested in taking courses for dual credit. In addition, nearly all high school administrators (94%) reported that students are able to receive counseling specific to dual credit choices and programs, most often provided by a school counselor (92%).

A few IHEs (27%) had a staff member responsible for advising students enrolled in or interested in courses for dual credit at the high school campus. In most cases, regular college academic advisors assumed this responsibility, and reports of specialized training varied. The majority of LEAs (55%) reported that they did not provide dual credit advisors with specialized training on dual credit choices and programs. In contrast, 83% of high school administrators reported that staff members at their school who provided counseling had received specialized training in dual credit choices. Of all IHE respondents, 73% indicated that they provided school staff with specialized training related to the dual credit program, but many of them indicated that the training was no different than the regular training given to academic advisors.
Summary of Key Findings

This report presents findings that relate to the study’s first research objective: to investigate the state context for dual credit programs and courses delivered during the 2009–10 year. The study has two additional objectives: (1) to conduct an analysis of the costs of dual credit programs and courses; and (2) to make action-oriented, pragmatic policy recommendations to the 82nd Texas Legislature regarding dual credit programs and courses. These research objectives will be addressed in an expanded report that will be submitted to TEA on March 16, 2011.

Subquestions related to the investigation of the state context of dual credit programs and courses included the following:

a. Who enrolls in courses for dual credit?
b. What school characteristics predict enrollment in courses for dual credit?
c. What types of courses for dual credit are available?
d. What types of courses for dual credit do students take?
e. How does enrollment in courses for dual credit vary by student characteristics?
f. How do students who take courses for dual credit perform in these courses and on the TAKS?
g. Who makes decisions about the types of courses offered for dual credit?
h. How is the quality of courses offered for dual credit ensured, and what is the perceived quality of courses offered for dual credit?
i. What is the delivery mode of courses offered for dual credit?
j. What types of institutional policies and requirements exist with regard to dual credit student eligibility and supports (e.g., student advising/counseling, financial support) and dual credit faculty benefits?

To address these questions, the research team analyzed two types of data: (1) extant data from all public high schools in the state on student enrollment in courses for dual credit, and (2) data obtained from surveys administered to a sample of administrators or staff from IHEs, LEAs, and high schools. The overall design of the sample involved sampling from 12 dual enrollment “clusters” made up of high schools, LEAs, and IHEs throughout the state that supply and make use of courses for dual credit through contractual relationships with each other.

A total of 15 IHEs were sampled—12 community colleges and three universities that are major providers of courses for dual credit within the state; 48 high schools and their corresponding LEAs also were sampled. Administrators from all 15 sampled IHEs completed surveys. A total of 36 administrators from sampled LEAs and 34 administrators or staff from high schools completed surveys.

A summary of key findings from analyses of extant data and surveys completed by administrators or staff within sampled IHEs, LEAs, and high schools is presented below by data source and subquestion.
Key Findings for the State as a Whole

Who Enrolls in Dual Credit Courses?

Analyses of data on statewide enrollment in courses for dual credit were based on PEIMS data from the 2007–08, 2008–09, and 2009–10 academic years. Overall, findings from these analyses indicate that enrollment in courses for dual credit rose from 71,803 in 2007–08 to 94,232 in 2009–10, an increase of 31%. The majority of students who enrolled in courses for dual credit during this three-year period were in Grades 11 and 12, with the highest rates of participation by students in Grade 12. In 2009–10, approximately 17% of high school seniors and 11% of high school juniors in the state enrolled in a course for dual credit. Students in Grades 9 and 10 also enrolled in courses for dual credit but at much lower rates. Although students are usually required to be in Grades 11 or 12 to be eligible to enroll in courses for dual credit, this requirement may be waived for students with outstanding academic performance and capability as evidenced by grade point average, PSAT/NMSQT scores, PLAN, or other assessment indicators, as specified in TAC §4.85(b).

An examination of student enrollment in courses for dual credit by student characteristics such as gender, race/ethnicity, and economic status, revealed several differences in participation rates in these courses. (Percentages presented reflect average participation in courses for dual enrollment over the three-year period examined.)

- A greater percentage of female students (56%) than male students (44%) enrolled in courses for dual credit.
- The vast majority of students who were enrolled in courses for dual credit from 2007–08 through 2009–10 were either white (46%) or Hispanic (40%). In 2009–10, whites students were overrepresented relative to their representation within the high school population as a whole (35%), and other groups tended to be underrepresented, particularly African-American students.
- Although 50% of all Texas high school students were economically disadvantaged in 2009–10, only 37% of students who were enrolled in courses for dual credit were economically disadvantaged.
- Only 2% of students who were enrolled in courses for dual credit were special education students, although these students represented 11% of Texas high schools students in 2009–10.
- Gifted and talented students were overrepresented in enrollments in courses for dual credit. Approximately 10% of all high school students were identified as gifted and talented in 2009–10, but 22% of students who were enrolled in courses for dual credit were gifted and talented.
- Approximately 75% of students who were enrolled in courses for dual credit took vocational education courses, which is roughly equivalent to the percentage of all high schools students who took at least one career or technical course in 2009–10 (77%).
What School Characteristics Predict Enrollment in Courses for Dual Credit?

In addition to examining the characteristics of students who enroll in course for dual credit, school characteristics that are predictive of higher dual credit enrollments also were examined. To identify these predictors, it was necessary to examine the relationship between individual school variables while simultaneously controlling for other school variables that also may have predictive relationships with dual credit enrollment. Regression analysis was therefore used to examine whether student enrollment rates in dual credit courses were significantly predicted by various school characteristics, including percentage of students proficient on TAKS-Reading, percentage of students proficient on TAKS-Math, teacher-student ratios, rural location of the school, and percentage of students in the following categories: African-American students, Hispanic students, LEP students, economically disadvantaged students, gifted and talented students, and students taking AP/IB exams.

Key findings from this analysis include the following:

- Schools with greater percentages of students who are proficient on TAKS-Reading, who are economically disadvantaged, and who are gifted and talented are more likely to have a higher enrollment rate in courses for dual credit, even after controlling for school size.
- Schools with higher percentages of students who are African American, LEP, and who are taking AP/IB exams are more likely to have a lower enrollment rate in courses for dual credit. Schools located in rural areas also are more likely to have a lower enrollment rate in courses for dual credit.

What Types of Courses for Dual Credit Are Available, and What Types of Courses Do Students Take?

A wide variety of courses for dual credit are available to students in both academic and career or technical areas ranging from general English and mathematics courses to computer-assisted drafting/engineering, culinary arts and hospitality, and automotive repair. An analysis of courses by subject area revealed that, on average, 31% of the courses taken for dual credit by high school students were in social studies/history, and 26% were in English language arts across the three years examined (2007–08, 2008–09, and 2009–10). In addition, 11% of the courses taken were in career or technical education, and 9% were in computer science. A smaller percentage of courses were taken in subject areas such mathematics (8%), science (4%), foreign languages (4%), and fine arts (1%). Approximately 6% of the courses fell into the category of “other.” A significant portion of these “other” course enrollments (27%) were for physical education.

How Does Enrollment in Courses for Dual Credit Vary by Student Characteristics?

The types of courses in which students enrolled varied by demographic characteristics such as race/ethnicity, economically disadvantaged status, and the types of high school courses or programs in which students participated (e.g., vocational education and gifted and talented programs). A summary of key findings is presented below.
• African-American students and Hispanic students took a greater concentration of coursework for dual credit in career or technical education and computer science than white or Asian students. For example, in 2009–10, the percentage of courses in career or technical education taken by African-American students (21%) and Hispanic students (15%) was more than double the percentage taken by white students (6%) and Asian students (7%). In contrast, the percentage of courses in social studies/history taken by white (38%) and Asian (33%) students was higher than the percentage taken by African-American (25%) and Hispanic (26%) students.

• Economically disadvantaged students also took a greater concentration of coursework for dual credit in career or technical education and computer science than students who were not economically disadvantaged. For example, in 2009–10, 17% of courses taken by economically disadvantaged students were in career or technical education compared with 7% of courses taken by students who were not economically disadvantaged. In contrast, 36% of the courses taken by students who were not economically disadvantaged were in social studies/history compared with 25% of the courses taken by economically disadvantaged students.

• A similar pattern was evident for special education students compared with non-special education students. In 2009–10, for example, 41% of the courses taken by special education students were in career or technical education compared with 10% of the courses taken by non-special education students. In contrast, 32% of the courses taken by non-special education students were in social studies/history compared with 16% of courses taken by special education students. (Only 2% of students who were enrolled in courses for dual credit were special education students.)

• Vocational education students also took a greater concentration of coursework in career or technical education and computer science than non-vocational education students. In 2009–10, for example, percentages ranging from 10% to 17% of the courses taken for dual credit by vocational education students across the vocational classifications were in career or technical education compared with 4% of courses taken by non-vocational education students. In contrast, 37% of the courses taken by non-vocational education students were in social studies/history compared with percentages ranging from 27% to 32% across the vocational classifications.

• Gifted and talented students took a slightly greater concentration of coursework in core academic subjects such as social studies/history and English language arts than students who did not participate in a gifted and talented program. For example, in 2009–10, 34% of the courses taken by gifted and talented students were in social studies/history compared with 31% of courses taken by students who did not participate in a gifted and talented program. In contrast, 12% of the courses taken by students who were not in a gifted and talented program were in career or technical education compared with 7% of courses taken by gifted and talented students.

• A few gender differences were evident. Male students took a greater concentration of coursework in career or technical education than female students, and female students took a greater concentration of coursework in English language arts than male students. For example, in 2009–10, 13% of courses taken for dual credit by male students were in career or technical education compared with 9% of courses taken by female students. Female students took a slightly greater concentration of coursework in English language arts (30%) than male students (27%).
How Do Students Who Take Courses for Dual Credit Perform in These Courses and on the TAKS?

TEA collects data on the percentage of students who complete courses for dual credit and their pass and failure rates.

- Almost all students who were enrolled in courses for dual credit in 2009–10 completed the courses; 0.1% received an incomplete in a career or technical education course.
- Across subject areas, 94% or more of students who were enrolled in courses for dual credit in 2009–10 received passing grades in these courses. The lowest passing rates were in mathematics (94%), science (95%), computer science (95%), career or technical education (95%), and fine arts (95%) courses.

Student performance on the TAKS assessment provides another indicator of the academic performance of students who were enrolled in courses for dual credit. Below is a summary of the percentage of students who were enrolled in courses for dual credit in 2009–10 who met basic proficiency standards on the 2010 TAKS assessment in different subject areas.

- On average, 95% or more of students who were enrolled in courses for dual credit in 2009–10 met TAKS proficiency standards in all subject areas.
- For students who were enrolled in computer science and career or technical education courses, the percentage who met basic proficiency standards in TAKS subject areas was slightly lower than was the case for students who were enrolled in other courses. For example, students enrolled in career or technical courses had TAKS passing rates of 86% in mathematics, and the average passing rate in mathematics was 95%; in science, these students had a passing rate of 88% compared with an average passing rate of 97%.

The percentage of students who were enrolled in courses for dual credit in 2009–10 and were commended on the 2010 TAKS in different subject areas also was examined. The percentage commended varies by both course type and TAKS subject area.

- Overall, a smaller percentage of students who were enrolled in computer science courses and career or technical courses for dual credit received a commended rating on TAKS subject area assessments compared with students who were enrolled in other courses.
- Among students who were enrolled in career or technical education courses for dual credit, for example, 29% were commended in reading, 27% were commended in mathematics, 18% were commended in science, and 54% were commended in social studies/history. In contrast, among students who were enrolled in mathematics courses for dual credit, 67% were commended in reading, 70% were commended in mathematics, 48% were commended in science, and 85% were commended in social studies/history.

These findings reflect a difference in the student eligibility requirements for career or technical education courses and computer science courses compared with core academic courses. To qualify to enroll in career or technical education courses or computer science courses, students only have to meet the passing standard on TAKS; to qualify to enroll in academic courses, students must satisfy the standard for the higher education readiness component or meet TSI requirements.
Key Findings from Surveys of Sampled IHEs, LEAs, and High Schools

The summary of findings presented below is based on the results of surveys completed by administrators or staff at sampled IHEs, LEAs, and high schools.

What Types of Courses for Dual Credit Are Available?

In the 2009–10 academic year, students within sampled CCDs were offered courses for dual credit in core academic, elective, and career or technical education areas. In academic areas, the majority (if not all) respondents reported offering courses in English, social studies/history, and mathematics for dual credit.

- All IHEs (100%), 94% of LEAs, and 94% of high schools offered courses for dual credit in social studies/history.
- All IHEs (100%), 92% of LEAs, and 93% of high schools offered courses in English for dual credit.
- Although 100% of IHEs reported offering mathematics courses for dual credit, only 69% of LEAs and 74% of high schools reported doing so.
- Across the three surveys, fewer respondents reported offering science as a course for dual credit. Only 80% of IHEs, 53% of LEAs, and 50% of high schools reported offering science as a course for dual credit.

The majority of IHEs reported offering elective courses for dual credit, but LEAs and high schools reported doing so less frequently.

- Almost all (93%) of IHEs reported offering fine arts courses for dual credit, but only 33% of LEAs and 32% of high schools reported doing so.
- Approximately 73% of IHEs offered computer science courses for dual credit, but only 33% of LEAs and 35% of high schools reported that computer science courses were offered for dual credit.
- Approximately 67% of IHEs offered foreign language courses for dual credit, but only 22% of LEAs and 27% of high schools reported doing so.

In the career or technical education area, the majority of all respondents reported the availability of these courses to students.

- Approximately 73% of IHEs, 56% of LEAs, and 62% of high schools offered courses in career or technical education for dual credit.
- Across all three surveys, more than 50% of respondents reported that courses were offered both in academic and career or technical areas for dual credit.

Who Makes Decisions About the Types of Courses Offered for Dual Credit?

IHE respondents reported that decisions about what types of courses to offer for dual credit are made primarily by full- and/or part-time faculty (80%). High school respondents reported that the higher
education partner (71%), the school or LEA (71%), and high school faculty (41%) were involved in making decisions about the types of courses offered for dual credit.

How Is the Quality of Courses Offered for Dual Credit Ensured, and What Is the Perceived Quality of Courses Offered for Dual Credit?

IHEs reported working with multiple partners to ensure that courses for dual credit are aligned with the Texas Essential Knowledge and Skills (TEKS) standards. The vast majority of IHEs (73%) worked with school districts to align courses with the TEKS standards. To ensure the quality and rigor of these courses, 27% of high schools respondents said they monitored teacher quality, the curriculum, and pedagogy in the classroom, and 39% of LEA respondents reviewed the IHE’s curriculum and syllabi and monitored the courses for alignment with the TEKS.

Respondents also reported that courses for dual credit are consistently rigorous across courses, and that courses for dual credit offered on high school campuses are equally as rigorous as those offered on the college campus. As with other accelerated learning programs such as AP and IB classes, courses for dual credit were reported as effective in helping students enroll in college. Among high school respondents who provided comparative ratings of courses for dual credit, AP courses, and IB courses, 42% reported that AP courses and courses for dual credit were equally rigorous, and 50% reported that IB courses and courses for dual credit were equally rigorous.

What Is the Delivery Mode of Courses Offered for Dual Credit?

According to high school respondents, courses for dual credit were most commonly provided to students at a community college (88%) and/or at the high school (77%). Just under half of high school respondents (47%) reported that courses for dual credit were offered to students via distance learning. If distance learning was the mode of delivery, most respondents (81%) indicated that the courses were asynchronous (i.e., students received instruction on their own schedule and communicated with instructors and classmates through e-mail or discussion boards).

The majority of both LEA and high school respondents indicated that instruction for courses for dual credit was provided most frequently by high school faculty. Approximately half of high school respondents reported that students took courses for dual credit only with other high school students, and the other half of respondents indicated that high school students took courses for dual credit with both high school and college students.

What Types of Institutional Policies and Requirements Exist With Regard to Dual Credit Student Eligibility and Supports and Dual Credit Faculty Benefits?

Respondents reported on the following institutional policies and requirements with regard to student eligibility for enrollment in courses offered for dual credit, supports provided to students who enroll in courses for dual credit (e.g., student advising/counseling, financial support), and benefits provided to faculty who teach courses offered for dual credit:
• **Eligibility requirements.** IHEs and high schools most commonly required students to receive high school approval (93% IHE; 82% HS), meet the higher education partner’s standard admission requirements (93% IHE; 82% HS), receive a minimum score on a standardized test (80% IHE; 97% HS), and be at a specific grade level (73% IHE; 97% HS) in order to enroll in courses for dual credit.

• **Course load.** According to high school (53%) and IHE (53%) respondents, students could enroll in two courses per semester. With approval from school administration, some students also were allowed to take a third course in a given semester.

• **Tuition.** Approximately 41% of high schools reported that students who enroll in courses for dual credit do not pay tuition. To cover the cost of tuition, 44% of respondents reported that the LEA is primarily responsible for paying tuition, and 41% reported that the student’s family is primarily responsible for paying tuition.

• **Other costs.** Similar to the findings for tuition, high schools reported that the LEA and the student’s family are primarily responsible for transportation costs (43% LEA; 29% student’s family) and textbooks (44% LEA; 56% student’s family).

• **Student advising/counseling.** All districts reported publicizing the availability of their dual credit programs to all students. To publicize courses, IHEs (93%) offered informational or orientation sessions for high school students. High school counselors (92%) provided counseling to students specific to courses for dual credit. A few IHEs (27%) provided a school-level staff member to advise students enrolled in or interested in courses for dual credit.

• **Training for staff.** Most IHEs (73%) reported providing school staff with specialized training related to the dual credit program, and most high school respondents (83%) reported that high school staff had received such training.
References


Appendix A

Research Study of Texas Dual Credit Programs and Courses
Higher Education Administrator Telephone Survey

Introduction

Hello, I’m ___________________ from American Institutes for Research. We are an organization that conducts educational research and evaluation. We have been selected by the Texas Education Agency to conduct a research study of dual credit programs and courses in Texas. The Texas Education Agency is working in collaboration with the Texas Higher Education Coordinating Board on this project.

The purpose of this telephone survey is to obtain information on the availability and types of dual credit courses that are being offered by your higher education institution; the delivery mechanisms for these courses; and information and supports, such as advising and financial assistance, that are provided to high school students who are enrolled in these courses or who may want to consider enrolling.

Findings and recommendations from this study will be provided in a report to the Texas Education Agency and the Texas Legislature. Your responses to the survey are very important in helping State legislators determine how to promote high school students’ access to quality dual credit courses and to ensure that all students have the opportunity to earn 12 college credits before graduating from high school.

Your responses to the survey are confidential to the extent permitted by law. In our reporting of findings, you will not be identified by name, position, or institution. Survey data will be reported in the aggregate only; the study focus is on identifying patterns in dual credit offerings and supports throughout Texas.

Thank you for agreeing to participate in this telephone survey. The survey should take approximately 30 minutes. Your participation in this telephone survey is voluntary and you can choose not to participate or can decline to answer specific questions without consequences for your relationship with the Texas Education Agency, the Texas Higher Education Coordinating Board, or the Texas Legislature.

Before we begin, do you have any questions about the study or our procedures for ensuring the confidentiality of survey responses? [RESEARCHER: Allow time for the respondent to ask questions and to provide responses.]
I will be recording your responses as we talk and would also like to tape-record our conversation to ensure accuracy. May I have your permission to tape this conversation?

Respondent permission given for taping: □ Yes  □ No

RESEARCHER: [IF YES], TURN ON VOICE RECORDER AND PROCEED.] I am here with [respondent name], a [position type] at [organization], and today is [date]. “Do I have your permission to record this telephone survey?”

[IF NO], note the respondent’s name, position, organization, and date of the survey and record the respondents’ survey responses.

1. Is your institution of higher education a community/technical college or university?

□ Community college or Technical college  □ University

2. In the fall of 2009, did your college/university offer dual credit courses?

□ Yes  □ No

3. Who is responsible for designing dual credit courses at your college/university? (Select all that apply.)

□ Regular full-time faculty members  □ Part-time/adjunct faculty members  □ High school teachers instructing dual credit courses  □ Other school district personnel  □ Other (please explain): ______________________

4. Which of the following does your school do to ensure that the dual credit courses it offers provide advanced academic instruction beyond, or in greater depth than, the Texas Essential Knowledge and Skills (TEKS)? (Select all that apply.)

□ Align the curriculum with the TEKS  □ Work with the school district(s) to align the courses with the TEKS  □ Work with the TEA to align the courses with the TEKS  □ Other (please explain): ______________________
5. Does the college/university representative responsible for advising students about dual credit courses receive any specialized training about the dual credit courses?

☐ Yes
☐ No

Please explain:

5a. In the fall of 2009, who was primarily responsible for advising the high school students who take dual credit courses at your college/university? (Select one.)

☐ College/university staff
☐ College/university faculty
☐ Dual credit program director/coordinator
☐ Dean’s office
☐ Other (please explain): __________________________
☐ No one at your college/university had this responsibility

6. Does your college/university provide an orientation/informational session for high school students who are interested in taking dual credit courses?

☐ Yes (please explain): __________________________
☐ No

7. Do high school students have to meet any of the requirements listed below before enrolling in dual credit courses?

☐ Grade level
☐ Age
☐ Minimum GPA
☐ Minimum number of high school hours/credits completed
☐ Minimum score on standardized tests
☐ Maximum course load
☐ Prerequisite courses
☐ Disciplinary status
☐ High school approval
☐ Teacher recommendation
☐ Meet standard admissions requirements
☐ Other (please explain): __________________________
☐ There are no admission requirements for dual credit courses
8. Do the high school students who take dual credit courses have the same attendance requirements as college/university students?

☐ Yes
☐ No

Please explain:


9. Does your college/university offer a sequence of dual credit courses, where one dual credit course is a prerequisite for another?

☐ Yes
☐ No

10. What limitations, if any, do you place on the number of dual credit courses high school students are allowed to attempt?

Comments:


11. In which of the following subject areas were dual credit courses offered to high school students these subject areas in the fall of 2009?

☐ English
☐ Mathematics
☐ Computer science
☐ Science
☐ Social studies/history
☐ Fine arts
☐ Foreign languages
☐ Career technology
☐ Other (please explain): _____________________
12. In the fall of 2009, were any dual credit courses offered only to high school students by your college/university? [If yes, what types of dual credit courses are offered only to high school students?]

☐ Yes
☐ No

Comments:

13. Which of the following factors affect high school students' tuition rate or awarding of scholarships? (Select all that apply.)

☐ Financial need
☐ Merit
☐ In-district vs. out-of-district
☐ High school attended
☐ Enrolled in more than one dual credit course during the semester
☐ All students are charged the same tuition rate
☐ Other (please explain): ____________________________

14. Do your faculty members receive any benefits for teaching dual credit courses?

☐ Yes
☐ No

Please explain:

15. In your opinion, when comparing dual credit courses delivered by your college/university to one other:

☐ Dual credit courses are consistently rigorous across courses
☐ There is a small degree of difference in the level of rigor among dual credit courses
☐ There is a large degree of difference in the level of rigor among dual credit courses
16. In your opinion, dual credit courses taught on your college/university campus are

☐ Less rigorous than dual credit courses taught on a high school campus
☐ More rigorous than dual credit courses taught on a high school campus
☐ Equally as rigorous as dual credit courses taught on a high school campus

17. Has your institution adopted policies designed to address dual credit course quality (in addition to those required by the Texas Higher Education Coordinating Board)?

☐ Yes
☐ No

Please explain:

18. Does your college/university give any preference to freshmen students who have previously completed dual credit, Advanced Placement (AP), or International Baccalaureate (IB) courses?

☐ Dual credit courses
☐ Advancement Placement (AP) courses
☐ International Baccalaureate (IB) courses
☐ Your college/university has no preference among these three types of college credit courses

19. In your opinion, what were some of the factors that supported the effective implementation and delivery of dual credit courses offered by your college/university?

Comments:
19a. How are the quality and rigor of dual credit courses in your college ensured?

Comments:

19b. In your opinion, what were some of the challenges that limited the number of dual credit courses your college/university offered in the fall of 2009?

Comments:

That is the end of the survey. Thank you for your time.
Appendix B

Research Study of Texas Dual Credit Programs and Courses
District Administrator Telephone Survey

Introduction

Hello, I’m _________________ from American Institutes for Research. We are an organization that conducts educational research and evaluation. We have been selected by the Texas Education Agency to conduct a research study of dual credit programs and courses in Texas.

The purpose of this telephone survey is to obtain information on the availability and types of dual credit courses that are being offered by your school district; the delivery mechanisms for these courses; and information and supports, such as advising and financial assistance, that are provided to high school students who are enrolled in these courses or who may want to consider enrolling.

Findings and recommendations from this study will be provided in a report to the Texas Education Agency and the Texas State Legislature. Your responses to the survey are very important in helping State legislators determine how to promote high school students’ access to quality dual credit courses and to ensure that all students have the opportunity to earn 12 college credits before graduating from high school.

Your responses to the survey are confidential to the extent permitted by law. In our reporting of findings, you will not be identified by name, position, or institution. Survey data will be reported in the aggregate only; the study focus is on identifying patterns in dual credit offerings and supports throughout Texas.

Thank you for agreeing to participate in this telephone survey. The survey should take approximately 30 to 45 minutes. Your participation in this telephone survey is voluntary and you can choose not to participate or can decline to answer specific questions without consequences for your relationship with the Texas Education Agency or the Texas State Legislature.

Before we begin, do you have any questions about the study or our procedures for ensuring the confidentiality of survey responses? [RESEARCHER: Allow time for the respondent to ask questions and to provide responses.]

I will be recording your responses as we talk and would also like to tape-record our conversation to ensure accuracy. May I have your permission to tape this conversation?
SECTION A. General Information

1. During the 2009-2010 academic year what was the total number of articulation agreements your school district made with colleges/universities to offer dual credit courses?

   **Comments:**

2. During the 2009-2010 academic year, in which areas did you offer dual credit courses to students in your school district? *(Include the courses offered, even if no students enrolled in specific courses.)*

   - [ ] English
   - [ ] Mathematics
   - [ ] Computer science
   - [ ] Science
   - [ ] Social sciences/history
   - [ ] Fine arts
   - [ ] Foreign languages
   - [ ] Career/technical
2a. Were courses in any other subject areas offered? *If yes, please explain.*

☐ Yes
☐ No

Please explain:


3. How are the quality and rigor of dual credit courses in your district ensured?

Comments:


SECTION B. Dual Credit Faculty Information

4. Do faculty members in your school district teach dual credit courses?

☐ Yes
☐ No

5. Do faculty members in your school district receive additional benefits for teaching dual credit courses?

☐ Yes
☐ No
6. What additional benefit(s) do faculty members in your school district receive for teaching dual credit courses? *(Select all that apply.)*

- Augmented base salary
- Teaching stipend
- Bonus
- Release time
- Reimbursement for expenses
- Other benefits (please explain): ____________________________

7. Who is primarily responsible for paying the additional benefits received by faculty members in your school district who instruct dual credit courses?

- Your school district
- Your higher education partner
- Another third party (please explain): ____________________________

8. If more dual credit courses were offered to the students in your school district, would your school district be able to reduce the number of teachers it currently employs?

- Yes
- No

9. Does the school district publicize the availability of dual credit courses to all students?

- Yes
- No

10. During the 2009-2010 academic year, did your school district provide any specialized training related to dual credit choices and programs for school district personnel?

- Yes
- No
11. During the 2009-2010 academic year, did your school district pay for district personnel to attend any specialized training about dual credit choices and programs outside of the school district?

☐ Yes
☐ No

SECTION C. Cost Information

12. Are there costs beyond tuition, textbooks, transportation, instructional costs, and faculty benefits associated with offering dual credit courses to students in your school district?

☐ Yes
☐ No

Please explain:

13. Does your accounting system chart of accounts have an expenditure code (i.e., sub-object code) that tracks dual credit program expenditures?

☐ Yes
☐ No

That is the end of the survey. Thank you for your time.
Appendix C

Research Study of Texas Dual Credit Programs and Courses
High School Administrator Telephone Survey

Introduction

Hello, I’m _________________ from American Institutes for Research. We are an organization that conducts educational research and evaluation. We have been selected by the Texas Education Agency to conduct a research study of dual credit programs and courses in Texas.

The purpose of this telephone survey is to obtain information on the availability and types of dual credit courses that are being offered by your high school; the delivery mechanisms for these courses; and information and supports, such as advising and financial assistance, that are provided to high school students who are enrolled in these courses or who may want to consider enrolling.

Findings and recommendations from this study will be provided in a report to the Texas Education Agency and the Texas Legislature. Your responses to the survey are very important in helping State legislators determine how to promote high school students’ access to quality dual credit courses and to ensure that all students have the opportunity to earn 12 college credits before graduating from high school.

Your responses to the survey are confidential to the extent permitted by law. In our reporting of findings, you will not be identified by name, position, or institution. Survey data will be reported in the aggregate only; the study focus is on identifying patterns in dual credit offerings and supports throughout Texas.

Thank you for agreeing to participate in this telephone survey. The survey should take approximately 30 to 45 minutes. Your participation in this telephone survey is voluntary and you can choose not to participate or can decline to answer specific questions without consequences for your relationship with the Texas Education Agency or the Texas Legislature.

Before we begin, do you have any questions about the study or our procedures for ensuring the confidentiality of survey responses? [RESEARCHER: Allow time for the respondent to ask questions and to provide responses.]

I will be recording your responses as we talk and would also like to tape-record our conversation to ensure accuracy. May I have your permission to tape this conversation?
Respondent permission given for taping: □ Yes □ No

RESEARCHER: [IF YES], TURN ON VOICE RECORDER AND PROCEED.] I am here with [respondent name], a [position type] at [organization], and today is [date]. “Do I have your permission to record this telephone survey?”

[IF NO], note the respondent’s name, position, organization, and date of the survey and record the respondents’ survey responses.

SECTION A. General Information

1. Does your school offer dual credit courses?
   □ Yes
   □ No

2. How does your school/district identify which dual credit courses to offer?
   (Select all that apply.)
   □ My higher education partner makes suggestions for potential dual credit courses
   □ My school/district administrators make suggestions for potential dual credit courses
   □ My high school faculty makes suggestions for potential dual credit courses
   □ Students/families make suggestions for potential dual credit courses
   □ The specialization of our higher education partner determines dual credit offerings
   □ The interests of the students determine dual credit offerings
   □ The transferability of the courses determines dual credit offerings
   □ Other (please explain): ______________________

3. Did dual credit students take classes with college students and high school students together, or just other high school students?
   □ College students and high school students together
   □ Just other high school students

4. Were dual credit courses taught by high school faculty or college faculty?
   □ High school faculty
   □ College faculty
5. During the 2009-10 academic year, did students from your campus enroll in dual credit courses at any of the following:

- At a community college
- At a four-year college or university
- At your high school
- At another high school
- Via distance learning. If yes, what type?
  - Asynchronous (e.g. recorded video, on demand streaming)
  - Synchronous (e.g. videoconferencing, web conferencing, live streaming)

6. In your opinion, which type of dual credit courses offer a higher quality experience?

- Courses delivered through face-to-face instruction
- Courses delivered through distance instruction
- The quality of the two is comparable
- I don’t know

7. Which of the following classifications of dual credit courses are offered to your students?

- English language arts
- Mathematics
- Computer science
- Science
- Social studies/history
- Fine arts
- Foreign languages
- Career/technical

8. Are other classifications of dual credit courses, beyond those listed in the previous question, offered to your students?

- Yes
- No

Please explain:

9. Are dual credit courses offered individually or as part of a sequence?

- Individually
- As part of a sequence
9a. [If offered as part of a sequence] Please provide an example of when a dual credit course is offered as part of a sequence.

Comments:

10. Please select which requirements, if any, your students must meet prior to enrolling in dual credit courses in the following categories.

- Grade level (e.g., 11th or 12th grade status)
- Minimum age
- Minimum GPA
- Minimum number of high school credits completed
- Minimum score on standardized test(s)
- Prerequisite courses
- Disciplinary status
- High school approval
- Higher education partner approval
- Teacher recommendation
- Interview(s)
- Other
- There are no particular requirements.

11. How many total dual credit courses are students allowed to enroll in each semester/year?

- Total number of courses per semester
- Total number of courses per year

SECTION B. Dual Credit Counseling

12. Which students have the option to receive counseling regarding dual credit choices and programs? (Select all that apply.)

- All students (if yes, no need to ask other options)
- Specific groups (please explain): _________________
- Other (please explain): ________________________
- No counseling is offered
13. At your school, who has primary responsibility for providing counseling regarding dual credit choices and programs to your students?

☐ Counselor(s)
☐ Teacher(s)
☐ Assistant principal(s)
☐ Other (please explain): ______________________

14. Have the staff members responsible for providing counseling about dual credit choices and programs received any specialized training about the dual credit choices and programs?

☐ Yes
☐ No

15. Was the specialized training required?

☐ Yes
☐ No

16. During the 2009-2010 academic year, which of the following groups received specialized training about dual credit choices and programs. (Select all that apply.)

☐ Administrators
☐ Counselors
☐ Teachers
☐ Students
☐ Parents / Families
☐ Other (please explain): ______________________

SECTION C. Dual Credit Course Quality

17. What measures does your school/district take to ensure that dual credit courses provide advanced academic instruction beyond, or in greater depth than, the Texas Essential Knowledge and Skills (TEKS)?

☐ Relies on the higher education partner
☐ Works with the higher education partner
☐ Works independently
☐ Other (please explain): ______________________
☐ My school/district makes no special effort
18. How/in what other ways, are the quality and rigor of dual credit courses in your school ensured?

Comments:

19. In order to assess the effectiveness of dual credit courses, we need information about other programs your school offers its students. The following section asks questions about programs and practices commonly found in Texas high schools that are designed to assist students in completing high school and enrolling in college.

To what extent are these programs/practices used in your school?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Occasionally</th>
<th>Widely</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Dual credit courses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. AP classes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. IB programs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19a. How effective are these programs/practices in helping students enroll in college?

<table>
<thead>
<tr>
<th></th>
<th>Very ineffective</th>
<th>Ineffective</th>
<th>Effective</th>
<th>Very effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Dual credit courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. AP classes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. IB programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

20. In your opinion, Advanced Placement courses typically are: (Ask even if AP Courses aren’t offered)

☐ Less rigorous than dual credit courses
☐ More rigorous than dual credit courses
☐ Equally as rigorous as dual credit courses
☐ I don’t know

21. In your opinion, International Baccalaureate courses typically are: (Ask even if IB Courses aren’t offered)

☐ Less rigorous than dual credit courses
☐ More rigorous than dual credit courses
☐ Equally as rigorous as dual credit courses
☐ I don’t know
22. In your opinion, when dual credit courses are compared to each other.

☐ Dual credit courses are consistently rigorous across courses
☐ There is a small degree of difference in the level of rigor among dual credit courses
☐ There is a large degree of difference in the level of rigor among dual credit courses
☐ I don’t know

23. Does your district give additional weight for the following types of college credit courses in the calculation of grade point averages (GPAs)?

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Yes</th>
<th>No</th>
<th>Courses not offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Dual credit (career and technical education)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Dual credit (all other)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Advanced Placement (AP)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. International Baccalaureate (IB)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION D. Dual Credit Course Costs

24. Is tuition waived for all students who are enrolled in dual credit courses?

☐ Yes
☐ No

24a. Who is primarily responsible for paying tuition for students who are enrolled in dual credit courses?

☐ Students/families
☐ Your school district
☐ Your higher education partner
☐ Another third party (please explain): ______________________

24b. What entity subsidizes tuition for students who are enrolled in dual credit courses? (*Select all that apply.*)

☐ No entity subsidizes tuition
☐ Your school district
☐ Your higher education partner
☐ Another third party (please explain): ______________________
24c. Which of the following factors affect high school students' tuition rate or awarding of scholarships? *(Select all that apply.)*

- Financial need
- Merit
- In-district vs. out-of-district
- High school attended
- Enrolled in more than one dual credit course during the semester
- All students are charged the same tuition rate
- Other (please explain):  

25. Who is primarily responsible for purchasing textbooks for students who are enrolled in dual credit courses?

- Students/families
- Your school district
- Your higher education partner
- Another third party (please explain):  

26. Is transportation provided for students who are enrolled in dual credit courses that meet at a location other than your high school campus?

- Yes
- No

26a. What limitations are put on the provision of transportation for students who are enrolled in dual credit courses that meet at a location other than your high school campus? *(Select all that apply.)*

- No limitations are put on transportation
- The location other than your high school campus must be within a reasonable commuting distance
- The location other than your high school campus must be sufficiently far away to warrant the provision of transportation
- A minimum number of students must enroll in dual credit courses that meet at the location other than your high school campus
- The courses must take place on certain days
- The courses must be scheduled at certain times of the day
- Other (please explain):  

26b. Who is primarily responsible for paying the transportation costs for students who are enrolled in dual credit courses that meet at a location other than your high school campus? *(Select all that apply.)*

- Students/families
- Your school district
- Your higher education partner
- Another third party (please explain):  

Research Study of Texas Dual Credit Programs and Courses—C8
27. Who is primarily responsible for paying the instructional costs, excluding personnel costs, (e.g., equipment, materials, etc.) associated with providing dual credit courses? *(Select all that apply.)*

- [ ] Students/families
- [ ] Your school district
- [ ] Your higher education partner
- [ ] Another third party (please explain): ______________________

*That is the end of the survey. Thank you for your time.*
College Supplemental Financial Data Request Workbook Instructions

This data is being requested as part of a voluntary study of dual credit programs in Texas as requested by the Texas Legislature. The primary purpose of this data collection effort is to understand the costs associated with dual credit programs. A dual credit course is a course for which at least three high school students attempted high school course credit and college course credit.

This data request workbook has three tabs with fields for you to complete.

For technical assistance in filling out this workbook, please contact Elissa Yeates at Gibson Consulting Group, Inc. by email (eyeates@gibsonconsult.com) or by phone (512-328-0884 extension 112).

Tab 1 – Course Information

Complete columns B – M for each dual credit course offered on your college campus during the fall 2009, spring 2010, and/or summer 2010 sessions. Do not provide information for courses held on high school campuses, even if they were taught by your faculty members. For the purposes of this worksheet, a course should be listed again for each delivery method by which it is taught on your campus (Column C).

Column B: List the names of all dual credit courses, by college course ID (e.g., Econ 2301), offered on your campus during the fall 2009 – summer 2010 period in which at least three dual credit students were enrolled (do not report courses in which less than three high school students attempted dual credit).

Column C: Choose, from the drop-down menu, the delivery method for the course. There are two delivery method options: Classroom and Online. If a course had both classroom and online course sections available to dual credit students between fall 2009 and summer 2010, add another row for that course. Fill in one row with information about the online course and the other row with information about the classroom course.

Column D: Provide the number of course credit hours a student receives from your college for completing the course.

Column E: Provide the total number of students enrolled in the course for all three semesters – fall 2009, spring 2010, and summer 2010 – for which the course was offered. Include all students enrolled in the course. This includes college students enrolled in the course who were not receiving dual high school credit for the course as well as high school students enrolled in the course who were receiving dual credit.

Column F: Provide the total number of high school students enrolled in the course for dual credit for the fall 2009, spring 2010, and summer 2010 semesters combined. Dual credit students are high school...
students seeking dual credit on your college campus. This total should exclude college students enrolled in the course who did not receive high school credit for the course.

**Column G:** Provide the total number of dual credit course sections of this course taught by contracted, or adjunct, instructors on your campus during the fall 2009-summer 2010 period. Do not include sections taught by salaried employees of your college. Dual credit course sections are course sections offered to high school students seeking dual credit on your college campus.

**Column H:** Provide the total number of dual credit course sections of this course taught by salaried instructors on your campus during the fall 2009-summer 2010 period. Do not include sections taught by contracted or adjunct instructors. Dual credit course sections are course sections offered to high school students seeking dual credit on your college campus.

**Column I:** Provide the total number of salaried instructors (e.g., professor, associate professor, etc.) teaching dual credit sections of this course to dual credit students on your campus during the fall 2009 – summer 2010 period. Dual credit students are high school students seeking dual credit on your college campus. Dual credit course sections are course sections offered to high school students seeking dual credit on your college campus.

**Column J:** This column intends to capture the amount of instructor time needed to teach an online course section as a percentage of the instructor time required to teach the same course in a classroom setting. Estimate the amount of total instructor time needed to teach an online section of a course (including preparation, grading, etc.) as a percentage of the total instructor time needed to teach a classroom section of the course. For example, if professors need ten hours a week to teach a classroom section of a course, and eight hours a week to teach the online section, then the amount of time needed to teach the online section would be 80% of the total time needed to teach the classroom section. This column should only include percentages, not hours. Only fill this column out for courses taught online. For classroom sections of a course, this column is not applicable.

**Column K:** Provide the total cost to each student for required textbooks and other required books for this course. For example, if a course required each student to have a textbook which cost $80, a novel which cost $10, and a course packet which cost $30, the total cost of the required books would be $120. Assume the course books were purchased new.

**Column L:** Provide the total amount of other course-related fees charged to each student for the course, including any fees for materials, lab equipment, and software which must be paid per student enrolled.

**Column M:** Provide the average total amount of supplemental pay per dual credit course section paid to salaried instructors who teach this dual credit course, if any. For example, the average stipend a salaried instructor at your college may receive for teaching a dual credit course section may be $500 per section. Dual credit course sections are course sections offered to high school students seeking dual credit on your college campus.
Fill in all 12 columns for each course offered on your college campus to dual credit students for the fall 2009, spring 2010, and summer 2010 sessions. For courses offered both online and in the classroom, fill in two rows for that course.

Tab 2 – Expenditures

The information requested in Tab 2 pertains to expenditures related to your dual credit program for the fall 2009 – summer 2010 period. Complete all empty cells with the requested expenditure information related to your college’s dual credit program. Much of the information can be obtained from your college district business officer. If your district does not track one of the expenditures below, estimate the amount.

Expenditure (Average)

Cell B4: Provide the average annual amount paid, per course section taught, to instructors contracted by the college to teach courses for the fall 2009 – summer 2010 period. This amount should include all amounts paid to contracted professors, including but not limited to base pay. Include only professors contracted on a course-by-course basis to teach, not professors employed by the college who received a salary.

Cell B5: Provide the average amount of supplemental pay (e.g., stipend) per dual credit course section taught your college paid to salaried instructors who taught dual credit course sections at high school campuses during the fall 2009 through summer 2010 period, if any. For example, if your college pays staff instructors a stipend of $500 per course to travel to area high schools to teach dual credit courses, that amount would be entered in this cell.

Cell B6: Provide the average annual salary paid per FTE dedicated to dual credit program administration during the 2009-10 school year at your college, if applicable. For example, the annual salary of a college district dual credit administrator would be included in this average.

Expenditure (Total)

Cell B8: Provide the total amount paid, if any, to high school teaching staff members for providing dual credit course instruction at your campus during the fall 2009 through summer 2010 period.

Cell B9: Provide the total amount of tuition paid, if any, by your college to school districts for dual credit course participation. This would include any tuition reimbursements given by your college to school districts for dual credit programs.

Cell B10: Provide the total amount of fees paid, if any, by your college to school districts for dual credit course participation. This would include any fees paid to the district as a result of your articulation agreement.
Other Program Cost Information

**Cell B12**: Provide the **average number of total course sections** each faculty member taught over the fall 2009 – summer 2010 period. This includes dual credit courses and non-dual credit courses taught.

**Cell B13**: Provide the **total number of staff FTEs** employed by the college who were dedicated to dual credit program administration in the 2009-10 school year, if applicable.

**Cell B14**: Provide **average annual employee benefits** (i.e., payroll burden) as a **percentage** of salary for instructors in your college. For example, employee benefits may account for 28% of employee salaries on average. Do not include contracted instructors (e.g., adjunct, lecturer, etc.) in this average.

**Tab 3 – Revenues**

The information requested in Tab 3 pertains to college revenues generated by your dual credit program during the fall 2009 – summer 2010 period. Complete cells B4-B10 with the requested revenue information, and cell A12, if applicable. Cells B4-B10 request total amounts received in each category for the fall 2009 – summer 2010 period. Much of the information can be obtained from your college’s business officer. If your college does not track one of the revenues below, estimate the amount.

**Cell B4**: Provide the total amount of **all tuition payments** received directly from **dual credit students** for dual credit course participation during the fall 2009 -summer 2010 period.

**Cell B5**: Provide the total amount of **all fee payments** received directly from **dual credit students** for dual credit course participation during the fall 2009-summer 2010 period.

**Cell B6**: Provide the total amount of **all student tuition payments** received directly from **school districts** for dual credit course participation during the fall 2009-summer 2010 period.

**Cell B7**: Provide the total amount of **all student fee payments** received directly from **school districts** for dual credit course participation during the fall 2009-summer 2010 period.

**Cell B8**: Provide the total amount of all **federal funds** used to support your dual credit program during the fall 2009-summer 2010 period.

**Cell B9**: Provide the total amount of all **state funds** used to support your dual credit program during the fall 2009-summer 2010 period.

**Cell B10**: Provide the total amount of all **local funds** used to support your dual credit program during the fall 2009-summer 2010 period.

**Cell B11**: Provide the total amount of all **other funds** used to support your dual credit program during the fall 2009-summer 2010 period.

**Cell A12**: If the amount entered into cell B10 was more than $0, specify **the source of other funds** used to support your dual credit program during the fall 2009-summer 2010 period.
Appendix E

School District Supplemental Financial Data Request
Workbook Instructions

These data are being requested as part of a voluntary study of dual credit programs in Texas as requested by the Texas Legislature. The primary purpose of this data collection effort is to understand the costs associated with dual credit programs. A dual credit course is a course for which a high school student receives high school course credit and college course credit.

This data request workbook has two tabs with fields for you to complete.

For technical assistance in filling out this workbook, please contact Elissa Yeates at Gibson Consulting Group, Inc. by email (eyeates@gibsonconsult.com) or by phone (512-328-0884 extension 112).

When both sheets of the workbook are completed, please return the Excel file to contact Elissa Yeates at Gibson Consulting Group, Inc. by email (eyeates@gibsonconsult.com) no later than February 04, 2011.

Tab 1 – Expenditures

The information requested in Tab 1 pertains to expenditures incurred by your district for the dual credit program from fall 2009 through summer 2010. Please complete all empty cells, as described below. Much of the information can be obtained from your district business officer. If your district does not track one of the expenditures below, estimate the amount.

Program Costs

Cell B4: Provide the total number of students enrolled in dual credit courses on campuses district-wide from fall 2009 through summer 2010. Only include students served on high school campuses in your district. Exclude students who traveled to a college campus for dual credit courses.

Cell B5: Provide the average annual employee benefits (i.e., payroll burden) as a percentage of salary for teaching staff in your school district during the 2010 fiscal year. For example, employee benefits may account for 28% of employee salaries on average.

Cell B6: Provide the total number of students receiving district transportation services for dual credit courses from fall 2009 through summer 2010. This would include students bused from a district high school to a community college for a dual credit class. Do not include students other than those transported to attend dual credit courses.

Cell B7: Provide the average miles per student, per week, of transport for those students receiving district transportation for dual credit classes from fall 2009 through summer 2010. For example, dual credit students district-wide might be bused to a community college an average of 15 miles per week.
**Cell B8:** Provide the **total number of staff FTEs** employed by the district who were dedicated to dual credit program administration during the 2010 fiscal year, if applicable (for example, a district dual credit coordinator).

**Average Expenditures**

**Cell B10:** Provide the **average annual stipend per dual credit course** taught that high school teaching staff members in your district received, if any, for teaching dual credit courses during the 2010 fiscal year. If your district does not provide teaching staff members with a supplemental stipend for teaching dual credit courses, enter 0.

**Cell B11:** Provide the **average annual salary** paid per FTE dedicated to dual credit program administration during the 2010 fiscal year in your district, if applicable. For example, the annual salary of a district dual credit administrator would be included in this average.

**Total Expenditures**

**Cell B13:** Provide the **total amount paid** by the district for dual credit course textbooks during the 2010 fiscal year. Include total dual credit course textbook expenditures for courses taught at district high schools and those taught on community college campuses, if the district purchased textbooks for those courses.

**Cell B14:** Provide the **total tuition amount paid**, if any, by your school district to community college districts for dual credit program participation during the 2010 fiscal year. This total should *exclude* additional fees for the course.

**Cell B15:** Provide the **total fee amount paid**, if any, by your school district to community college districts for dual credit program participation during the 2010 fiscal year. This should *exclude* tuition amounts included in Cell B14.

**Cell B16:** Provide the **total amount paid**, if any, by your school district to contracted professors for teaching dual credit courses on district campuses during the 2010 fiscal year.

**Tab 2 – Revenues**

The information requested in Tab 2 pertains to revenues received by your district for the dual credit program during the 2010 fiscal year. Complete cells B4-B12 with the requested revenue information, and cell A14, if applicable. Cells B4-B12 request total amounts received in each category during the 2010 fiscal year. Much of the information can be obtained from your district business officer. If your district does not track one of the revenues below, estimate the amount.

**Cell B4:** Provide the total amount of **all tuition payments** received directly from dual credit students for dual credit course participation during the 2010 fiscal year.

**Cell B5:** Provide the total amount of all **textbook fee payments** received directly from dual credit students for dual credit course participation during the 2010 fiscal year.
Cell B6: Provide the **total** amount of all **transportation fee payments** received directly from **dual credit students** for dual credit course transportation received during the 2010 fiscal year.

Cell B7: Provide the **total amount of all course material and other fee payments** received directly from **dual credit students** for dual credit course participation during the 2010 fiscal year. This total should **exclude** tuition, transportation, and textbook fees (those values recorded in cells B4-B6). For example, if district students pay the district lab equipment or software fees for dual credit courses, the total amounts received from those fees would be included in this total.

Cell B8: Provide the total amount of all **tuition payments** received directly from **community college districts** for dual credit course program participation during the 2010 fiscal year, if applicable.

Cell B9: Provide the total amount of all **other fee payments** received directly from **community college districts** for dual credit course participation by students in your district during the 2010 fiscal year, if applicable.

Cell B10: Provide the total amount of all **federal funds** used to support the dual credit program during the 2010 fiscal year.

Cell B11: Provide the total amount of all **state categorical funds** used to support the dual credit program during the 2010 fiscal year.

Cell B12: Provide the total amount of all **other state and local funds** used to support the dual credit program 2010 fiscal year. This total should exclude federal and state funds reported in cells B10 and B11.

Cell A14: If the amount entered into cell B12 was more than $0, specify the **source of the other funds** used to support the dual credit program during the 2010 fiscal year.
High School Supplemental Financial Data Request
Workbook Instructions

This data is being requested as part of a voluntary study of dual credit programs in Texas as requested by the Texas Legislature. The primary purpose of this data collection effort is to understand the costs associated with dual credit programs. A dual credit course is a course for which a high school student received high school course credit and college course credit.

This data request workbook has two tabs with fields for you to complete.

For technical assistance in filling out this workbook, please contact Elissa Yeates at Gibson Consulting Group, Inc. by email (eyeates@gibsonconsult.com) or by phone (512-328-0884 extension 112).

Tab 1 – Course Information

Complete columns B – O for each course offered on your high school campus during the fall 2009, spring 2010, and/or summer 2010 sessions. Do not provide information for courses held on a community college campus, even if your students traveled to the community college to receive instruction. For the purposes of this worksheet, a course should be counted as two courses if it was offered online and in a classroom (Column D). For courses offered both online and in a classroom, add another row for that course.

Column B: List all dual credit courses, by high school course name, offered on your campus during the fall 2009 – summer 2010 period.

Column C: List the college course ID (e.g., ECON 2301) for all dual credit courses listed in Column B.

Column D: Choose, from the drop-down menu, the delivery method for the course. There are two delivery method options: High School Classroom and Online Offered through High School. If a course had both classroom and online course sections available to dual credit students between fall 2009 and summer 2010, add another row for that course. Fill in one row with information about the online course and the other row with information about the classroom course. Note that this excludes courses offered on college campuses or online courses offered through a college. Do not report these courses.

Column E: Provide the number of contact hours per week a student enrolled in this course receives. Contact hours include only those hours in which the instructor is directly teaching the students. For example, a class meeting for fifty minutes each week would have 250 contact minutes, or 4.2 contact hours, per week.

Column F: Provide the number of course credit hours a student receives on a college transcript for completing the course (e.g., typically 3 hours for a non-lab class, and 4 hours for a course which includes an additional lab portion).
**Column G**: Provide the total number of course sections available to dual credit students on your campus which were taught by a college professor for all semesters the course was offered during fall 2009 – summer 2010 period.

**Column H**: Provide the total number of course sections available to dual credit students on your campus which were taught by a high school teacher for all semesters the course was offered during fall 2009 – summer 2010 period.

**Column I**: Provide the total number of students enrolled in the course for all three sessions – fall 2009, spring 2010, and summer 2010 – that the course was offered. Include high school students enrolled in the course that are not receiving dual credit for the course.

**Column J**: Provide the total number of non-dual credit seeking students enrolled in the dual credit course sections (e.g., the number of students enrolled in the course receiving high school credit for the course but not college credit).

**Column K**: This column intends to capture the amount of instructor time needed to teach an online course section as a percentage of the instructor time required to teach the same course in a classroom setting. Estimate the amount of total instructor time needed to teach an online section of a course (including preparation, grading, etc.) as a percentage of the total instructor time needed to teach a classroom section of the course. For example, if teachers need ten hours a week to teach a classroom section of a course, and eight hours a week to teach the online section, then the amount of time needed to teach the online section would be 80% of the total time needed to teach the classroom section. This column should only include percentages, not hours. Only fill this column out for courses taught online. For classroom sections of a course, this column is not applicable.

**Column L**: Provide the total cost to each student of the required textbooks and other books for this course. For example, if a course required each student to have a textbook which cost $80, a novel which cost $10, and a course packet which cost $30, the total cost for each student of the required books would be $120. Assume the course books are purchased new.

**Column M**: Provide the total amount of other course-related fees charged to each student for the course, including any fees for materials, lab equipment, and software which must be paid per student enrolled.

**Column N**: Provide the total supplemental amount (e.g., stipend in excess of base salary) paid to each high school teaching staff member who teaches this course. Include only those stipend amounts the teacher staff member receives as a result of teaching this dual credit course. For example, teachers may receive a stipend of $1,000 for teaching a dual credit biology course.

**Column O**: Provide the total contracted fee per section of this dual credit course. This total should include any amounts paid by the campus to college professors for teaching sections of this course at the high school campus. For example, college professors contracted to teach a dual credit English course on the high school campus may receive a payment of $1,000 for each section taught.
Fill in all 14 columns for each course offered on your campus to dual credit students for the fall 2009, spring 2010, and summer 2010 sessions.

Tab 2 – Campus Information

The information requested in Tab 2 pertains to expenditures related to your dual credit program for the fall 2009 – summer 2010 period. Complete cells B4, B5, and B6 with the requested information related to your campus dual credit program.

Cell B4: Provide the total amount paid, if any, by your campus to contracted professors for teaching dual credit courses during the 2010 fiscal year. Include only payments to professors contracted on a course-by-course basis to teach, not payments to teachers employed by the campus who receive a salary.

Cell B5: Provide the total number of high school teachers who taught one or more dual credit course on your campus.

Cell B6: Provide the average total instructional (contact) hours taught per week by each teacher on your campus during the 2009-10 school year. Exclude instructional hours taught during summer 2010 from this average. Include dual credit and non-dual credit course instructional hours in the average. Include only teachers employed by the campus who received a salary. For example, teachers at your campus may teach an average total of 25 instructional hours per week.
Regression of Counts of Enrollment in Courses for Dual Credit on High School Characteristics

A generalized linear model using variable exposure Poisson regression was fit to the school-level data with dual credit enrollment counts as the outcome variable and various school characteristics as the predictor variables. The variable exposure Poisson regression is a typical model used when the outcome of interest is a count and the counts come from populations of different sizes. In this instance, schools with larger student populations are more likely to have higher enrollment in courses for dual credit than small schools with limited potential enrollees. The variable exposure regression uses school size (number of students) to control for these differences; data from the 2009–10 academic year were used for this analysis.

For a variable exposure Poisson regression, the outcome $Y_i$ (in this case, the count of students enrolled in courses for dual credit in school $i$) follows a Poisson distribution with rate $\theta_i$ and exposure $u_i$ (number of students in the school).

$$Y_i \sim Poisson(u_i\theta_i)$$

where

$$\theta_i = \exp(X_i\beta)$$

with $X_i\beta$ denoting the matrix algebra representation of the regression equation. In these models, $\log(u_i)$ is called the offset. In particular, this model includes the offset as a regression predictor with coefficient set to 1 (i.e., no regression coefficient is estimated by the model). This model is analogous to a standard regression model, which includes a variable (in this case, the offset) to account for the different sizes of the schools. The key additional feature is a linking function that accounts for the distribution of the dependent variable (the count of enrollments in courses for dual credit).

The model also accounts for overdispersion in the data (a phenomenon that can happen when data are modeled with an exponential or Poisson distribution) and nonnormality of predictor variables. To account for overdispersion, the data were scaled using the ratio of model deviance to degrees of freedom as an estimate of the dispersion parameter. This process resulted in a fit index that was in the acceptable range. Non-normality of the predictor variables are accounted for using an inverse normal transformation.

Table G1 shows the results of the analysis, including the regression coefficient estimates, standard errors, Chi-square statistics, and significance levels. Of the 1,268 schools included in the extant data, 96 had some level of missing data and were excluded from the analysis. The regression results below are based on 1,172 schools (92% of the total sample).
Table G1. Parameter Estimates for the Poisson Variable Exposure Regression

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DF</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>Chi-Square</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1</td>
<td>-3.6898</td>
<td>0.3136</td>
<td>138.44</td>
<td>0.0001</td>
</tr>
<tr>
<td>Percentage of students proficient on TAKS-Reading</td>
<td>1</td>
<td>0.452</td>
<td>0.1555</td>
<td>8.45</td>
<td>0.0036</td>
</tr>
<tr>
<td>Percentage of students proficient on TAKS-Math</td>
<td>1</td>
<td>0.0102</td>
<td>0.1261</td>
<td>0.01</td>
<td>0.9358</td>
</tr>
<tr>
<td>Percentage of African-American students</td>
<td>1</td>
<td>-0.1626</td>
<td>0.0444</td>
<td>13.42</td>
<td>0.0002</td>
</tr>
<tr>
<td>Percentage of Hispanic students</td>
<td>1</td>
<td>0.1071</td>
<td>0.0559</td>
<td>3.67</td>
<td>0.0553</td>
</tr>
<tr>
<td>Percentage of LEP students</td>
<td>1</td>
<td>-0.4267</td>
<td>0.0748</td>
<td>32.55</td>
<td>0.0001</td>
</tr>
<tr>
<td>Percentage of economically disadvantaged students</td>
<td>1</td>
<td>0.2515</td>
<td>0.0703</td>
<td>12.81</td>
<td>0.0003</td>
</tr>
<tr>
<td>Teacher-student ratio</td>
<td>1</td>
<td>-0.0228</td>
<td>0.0124</td>
<td>3.36</td>
<td>0.067</td>
</tr>
<tr>
<td>Percentage of gifted and talented students</td>
<td>1</td>
<td>0.2877</td>
<td>0.0816</td>
<td>12.43</td>
<td>0.0004</td>
</tr>
<tr>
<td>Rural location of the school</td>
<td>1</td>
<td>-0.3541</td>
<td>0.1301</td>
<td>7.41</td>
<td>0.0065</td>
</tr>
<tr>
<td>Percent of students taking AP/IB exams</td>
<td>1</td>
<td>-0.1738</td>
<td>0.0488</td>
<td>12.66</td>
<td>0.0004</td>
</tr>
</tbody>
</table>

Sources: 2009–10 data from the Academic Excellence Indicator System, the Public Education Information Management System, and the Texas Assessment of Knowledge and Skills (Texas Education Agency, 2011)
Appendix H

Percentage of Courses Taken for Dual Credit by Course Type, Race Ethnicity, and Year

The tables below provide supplementary data on the percentage of courses taken for dual credit during the 2007–08 and 2008–09 academic years by course type and race/ethnicity. The table summarizing findings from 2009–10 was presented in the text, but is included again so that differences across years can be examined. As noted previously, in 2009–10, African-American (21%) and Hispanic (15%) students took a greater percentage of coursework in career or technical education compared with white (6%) and Asian students (7%). In contrast, white and Asian students took a greater percentage of courses in academic subjects such as social studies/history. In 2009–10, 37% of the courses taken by white students and 33% of those taken by Asian students were in social studies/history compared with 26% of courses taken by African-American students and 25% of courses taken by Hispanic students (see Table H3). With regards to the percentage of courses by course type and race/ethnicity taken in 2007–08 and 2008–09 (see Tables H1 and H2), these same patterns are evident. There are some differences across years, however. For example, the percentage of social studies/history courses taken by African-American students increased from 21% in 2007–08 to 26% in 2009–10. Similarly, the percentage of social studies/history courses taken by Hispanic students increased from 22% in 2007–08 to 25% in 2009–10.

Table H1. Percentage of Courses Taken by Course Type and Race/Ethnicity, 2007–08

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Asian/Pacific Islander</th>
<th>African American</th>
<th>Hispanic</th>
<th>White</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>24.3%</td>
<td>20.7%</td>
<td>21.6%</td>
<td>39.1%</td>
<td>37.2%</td>
</tr>
<tr>
<td>English language arts</td>
<td>19.3%</td>
<td>18.6%</td>
<td>18.4%</td>
<td>32.4%</td>
<td>32.7%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>12.1%</td>
<td>20.6%</td>
<td>15.3%</td>
<td>4.7%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Computer science</td>
<td>13.9%</td>
<td>22.1%</td>
<td>16.3%</td>
<td>3.1%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>11.5%</td>
<td>3.9%</td>
<td>7.1%</td>
<td>10.3%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Science</td>
<td>6.4%</td>
<td>3.4%</td>
<td>3.8%</td>
<td>4.0%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>3.7%</td>
<td>1.8%</td>
<td>4.7%</td>
<td>3.5%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>1.2%</td>
<td>0.8%</td>
<td>1.2%</td>
<td>0.6%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Other</td>
<td>7.5%</td>
<td>8.0%</td>
<td>11.5%</td>
<td>2.3%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>10,931</td>
<td>19,169</td>
<td>92,208</td>
<td>114,662</td>
<td>874</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)
### Table H2. Percentage of Courses Taken by Course Type and Race/Ethnicity, 2008–09

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Asian/Pacific Islander</th>
<th>African American</th>
<th>Hispanic</th>
<th>White</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>26.8%</td>
<td>20.8%</td>
<td>22.5%</td>
<td>39.6%</td>
<td>31.9%</td>
</tr>
<tr>
<td>English language arts</td>
<td>21.5%</td>
<td>19.4%</td>
<td>19.6%</td>
<td>31.4%</td>
<td>31.2%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>10.3%</td>
<td>19.1%</td>
<td>15.5%</td>
<td>5.7%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Computer science</td>
<td>11.3%</td>
<td>21.9%</td>
<td>16.0%</td>
<td>3.8%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>10.9%</td>
<td>4.3%</td>
<td>7.5%</td>
<td>9.8%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Science</td>
<td>6.7%</td>
<td>3.4%</td>
<td>3.1%</td>
<td>3.4%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>3.8%</td>
<td>2.1%</td>
<td>4.9%</td>
<td>3.3%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>1.0%</td>
<td>1.4%</td>
<td>1.9%</td>
<td>0.7%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Other</td>
<td>7.8%</td>
<td>7.6%</td>
<td>9.1%</td>
<td>2.4%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>12,107</td>
<td>25,023</td>
<td>108,925</td>
<td>127,681</td>
<td>868</td>
</tr>
</tbody>
</table>

*Source: Public Education Information Management System (Texas Education Agency, 2011)*

### Table H3. Percentage of Courses Taken by Course Type and Race/Ethnicity, 2009–10

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Asian/Pacific Islander</th>
<th>African American</th>
<th>Hispanic</th>
<th>White</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>33.2%</td>
<td>25.8%</td>
<td>24.9%</td>
<td>38.1%</td>
<td>35.7%</td>
</tr>
<tr>
<td>English language arts</td>
<td>28.6%</td>
<td>23.4%</td>
<td>24.0%</td>
<td>33.8%</td>
<td>30.0%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>7.4%</td>
<td>20.5%</td>
<td>14.9%</td>
<td>5.6%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Computer science</td>
<td>5.1%</td>
<td>13.6%</td>
<td>11.7%</td>
<td>2.9%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>9.8%</td>
<td>4.2%</td>
<td>7.7%</td>
<td>9.5%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Science</td>
<td>5.4%</td>
<td>3.0%</td>
<td>3.8%</td>
<td>4.7%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>3.0%</td>
<td>1.5%</td>
<td>4.8%</td>
<td>2.3%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>1.9%</td>
<td>2.0%</td>
<td>2.1%</td>
<td>0.8%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Other</td>
<td>5.5%</td>
<td>6.1%</td>
<td>6.2%</td>
<td>2.4%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>9,670</td>
<td>19,547</td>
<td>100,992</td>
<td>114,230</td>
<td>4,424</td>
</tr>
</tbody>
</table>

*Source: Public Education Information Management System (Texas Education Agency, 2011)*
Appendix I

Percentage of Courses Taken for Dual Credit by Course Type, Limited English Proficiency Status, and Year

The tables below provide supplementary data on the percentage of courses taken for dual credit during the 2007–08 and 2008–09 academic years by course type and LEP status. The table summarizing findings from 2009–10 was presented in the text, but is included again so that differences across years can be examined. As previously noted, in 2009–10, LEP students and students who had exited LEP status took a greater concentration of coursework in career or technical education and computer science than non-LEP students. For example, 32% of courses taken by LEP students and 23% of those taken by students who had exited LEP status were in career or technical education compared with 10% of courses taken by non-LEP students. In contrast, non-LEP students took a greater concentration of coursework in core academic subject areas such as social studies/history and English language arts than LEP students or students who had exited LEP status. For example, 32% of the courses taken by non-LEP students in 2009–10 were in social studies/history compared with 11% of the courses taken by LEP students and 15% of the courses taken by students who had exited LEP status (see Table I3). In looking at the percentage of courses by course type and LEP status taken in 2007–08 and 2008–09 (see Tables I1 and I2), these patterns are consistent across years.

There are some notable differences, however, in patterns of course-taking across the three years examined. For example, the percentage of social studies/history courses taken by LEP students increased from 1.9% in 2007–08 to 11% in 2009–10. Similarly, the percentage of social studies/history courses taken by students who had exited LEP status increased from 10% in 2008–09 to 15% in 2009–10. The percentage of English language arts courses taken by LEP students also increased from 1% in 2007–08 to 6% in 2009–10, and the percentage of English language arts courses by students who had exited LEP status increased from 7% in 2008–09 to 13% in 2009–10. In addition, the percentage of computer science courses taken by LEP students decreased from 42% in 2007–08 to 25% in 2009–10; the percentage of computer science courses taken by students who had exited LEP status decreased from 35% in 2008–09 to 24% in 2009–10.
Table I1. Percentage of Courses Taken by Course Type and Limited English Proficiency Status, 2007–08

<table>
<thead>
<tr>
<th>Course Type</th>
<th>LEP</th>
<th>Exited LEP But Monitored</th>
<th>Not LEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>1.9%</td>
<td>N/A</td>
<td>30.5%</td>
</tr>
<tr>
<td>English language arts</td>
<td>1.1%</td>
<td>N/A</td>
<td>25.5%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>26.9%</td>
<td>N/A</td>
<td>10.2%</td>
</tr>
<tr>
<td>Computer science</td>
<td>41.5%</td>
<td>N/A</td>
<td>9.9%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>1.5%</td>
<td>N/A</td>
<td>8.7%</td>
</tr>
<tr>
<td>Science</td>
<td>2.5%</td>
<td>N/A</td>
<td>4.0%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>4.2%</td>
<td>N/A</td>
<td>3.9%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>1.5%</td>
<td>N/A</td>
<td>0.9%</td>
</tr>
<tr>
<td>Other</td>
<td>19.0%</td>
<td>N/A</td>
<td>6.4%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>2,850</td>
<td>N/A</td>
<td>234,994</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)

Notes. Data for students who exited LEP status but were monitored were not reported in 2007–08.

Table I2. Percentage of Courses Taken by Course Type and Limited English Proficiency Status, 2008–09

<table>
<thead>
<tr>
<th>Course Type</th>
<th>LEP</th>
<th>Exited LEP But Monitored</th>
<th>Not LEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>5.3%</td>
<td>9.9%</td>
<td>31.0%</td>
</tr>
<tr>
<td>English language arts</td>
<td>3.7%</td>
<td>7.3%</td>
<td>25.6%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>26.6%</td>
<td>19.8%</td>
<td>10.7%</td>
</tr>
<tr>
<td>Computer science</td>
<td>39.2%</td>
<td>34.7%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3.1%</td>
<td>4.9%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Science</td>
<td>2.3%</td>
<td>2.3%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>4.8%</td>
<td>3.4%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>3.7%</td>
<td>2.7%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Other</td>
<td>11.2%</td>
<td>15.1%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>3,097</td>
<td>2,789</td>
<td>268,718</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)
Table I3. Percentage of Courses for Dual Credit Taken by Course Type and Limited English Proficiency Status, 2009–10

<table>
<thead>
<tr>
<th>Course Type</th>
<th>LEP</th>
<th>Exit LEP But Monitored</th>
<th>Not LEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>10.8%</td>
<td>15.4%</td>
<td>31.9%</td>
</tr>
<tr>
<td>English language arts</td>
<td>6.1%</td>
<td>12.9%</td>
<td>29.1%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>32.0%</td>
<td>23.1%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Computer science</td>
<td>24.8%</td>
<td>23.8%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>4.0%</td>
<td>6.3%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Science</td>
<td>0.8%</td>
<td>2.1%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>7.5%</td>
<td>4.2%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>5.5%</td>
<td>3.1%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Other</td>
<td>8.5%</td>
<td>9.2%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>2,014</td>
<td>2,648</td>
<td>244,201</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)
Appendix J

Percentage of Courses Taken for Dual Credit by Course Type, Vocational Education Status, and Year

The tables below provide supplementary data on the percentage of courses taken for dual credit during the 2007–08 and 2008–09 academic years by course type and vocational education status. The table summarizing findings from 2009–10 was presented in the text but is included again so that differences across years can be examined. As previously noted, vocational education students took a greater concentration of coursework in career or technical education and computer science in 2009–10 than non-vocational education students. For example, percentages ranging from 10% to 17% of courses taken for dual credit by vocational education students were in career or technical education compared with 4% of courses taken by non-vocational education students. In contrast, non-vocational education students took a slightly greater concentration of courses in core academic subjects such as social studies/history and English language arts. For example, 37% of the courses taken by non-vocational education students were in social studies/history compared with percentages ranging from 27% to 32% of courses taken by vocational education students (see Table J3). In looking at the percentage of courses by course type and vocational education status taken in 2007–08 and 2008–09 (see Tables J1 and J2), these patterns are generally consistent across years, although there are some minor variations across years.
### Table J1. Percentage of Courses for Dual Credit Taken by Course Type and Vocational Education Status, 2007–08

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Career/Tech Coherent Sequence, Grades 9–12</th>
<th>Enrolled in Career/Tech Electives, Grades 6–12</th>
<th>Participates in Tech Prep Program</th>
<th>No Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>31.4%</td>
<td>27.3%</td>
<td>25.4%</td>
<td>35.5%</td>
</tr>
<tr>
<td>English language arts</td>
<td>27.7%</td>
<td>24.0%</td>
<td>22.0%</td>
<td>27.0%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>8.7%</td>
<td>11.7%</td>
<td>16.3%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Computer science</td>
<td>11.2%</td>
<td>16.7%</td>
<td>11.4%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>8.9%</td>
<td>5.9%</td>
<td>8.9%</td>
<td>10.3%</td>
</tr>
<tr>
<td>Science</td>
<td>3.4%</td>
<td>4.7%</td>
<td>3.4%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>3.8%</td>
<td>1.9%</td>
<td>2.9%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>0.5%</td>
<td>0.7%</td>
<td>0.6%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Other</td>
<td>4.3%</td>
<td>7.1%</td>
<td>9.1%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>54,099</td>
<td>58,744</td>
<td>56,376</td>
<td>68,625</td>
</tr>
</tbody>
</table>

*Source: Public Education Information Management System (Texas Education Agency, 2011)*

*Notes. Percentages may not sum to 100 due to rounding. “Career/Tech Coherent Sequence, Grades 9–12” refers to recommended sequences of career or technical education courses that are offered to high school students, and “Career/Tech Electives, Grades 6–12” refers to elective courses available to students in these grades that are not part of a defined course sequence. “Tech Prep Program” refers to a college-preparatory program that provides students with academic as well as applied technical skills. The high school program prepares students to continue in a college program that leads to a minimum of a two-year postsecondary degree (or apprenticeship license).*
## Table J2. Percentage of Courses for Dual Credit Taken by Course Type and Vocational Education Status, 2008–09

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Career/Tech Coherent Sequence, Grades 9–12</th>
<th>Enrolled in Career/Tech Electives, Grades 6–12</th>
<th>Participates in Tech Prep Program</th>
<th>No Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>30.9%</td>
<td>29.5%</td>
<td>25.5%</td>
<td>35.2%</td>
</tr>
<tr>
<td>English language arts</td>
<td>26.5%</td>
<td>25.1%</td>
<td>22.2%</td>
<td>26.7%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>10.4%</td>
<td>10.3%</td>
<td>17.5%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Computer science</td>
<td>13.1%</td>
<td>16.1%</td>
<td>11.0%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>8.5%</td>
<td>7.0%</td>
<td>8.4%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Science</td>
<td>2.7%</td>
<td>4.1%</td>
<td>3.0%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>3.6%</td>
<td>2.6%</td>
<td>3.1%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>1.1%</td>
<td>0.8%</td>
<td>0.9%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Other</td>
<td>3.2%</td>
<td>4.5%</td>
<td>8.4%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>61,612</td>
<td>67,288</td>
<td>66,091</td>
<td>79,613</td>
</tr>
</tbody>
</table>

*Source*: Public Education Information Management System (Texas Education Agency, 2011)

*Notes.* Percentages may not sum to 100 due to rounding. “Career/Tech Coherent Sequence, Grades 9–12” refers to recommended sequences of career or technical education courses that are offered to high school students, and “Career/Tech Electives, Grades 6–12” refers to elective courses available to students in these grades that are not part of a defined course sequence. “Tech Prep Program” refers to a college-preparatory program that provides students with academic as well as applied technical skills. The high school program prepares students to continue in a college program that leads to a minimum of a two-year postsecondary degree (or apprenticeship license).
Table J3. Percentage of Courses for Dual Credit Taken by Course Type and Vocational Education Status, 2009–10

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Career/Tech Coherent Sequence, Grades 9–12</th>
<th>Career/Tech Electives, Grades 6–12</th>
<th>Tech Prep Program</th>
<th>Does Not Participate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies/history</td>
<td>31.0%</td>
<td>31.6%</td>
<td>26.6%</td>
<td>36.9%</td>
</tr>
<tr>
<td>English language arts</td>
<td>29.1%</td>
<td>29.1%</td>
<td>24.6%</td>
<td>32.0%</td>
</tr>
<tr>
<td>Career or technical</td>
<td>11.8%</td>
<td>10.1%</td>
<td>17.1%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Computer science</td>
<td>10.3%</td>
<td>8.9%</td>
<td>8.9%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>7.9%</td>
<td>7.6%</td>
<td>8.3%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Science</td>
<td>3.5%</td>
<td>4.9%</td>
<td>4.1%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Foreign language</td>
<td>2.4%</td>
<td>2.1%</td>
<td>3.3%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Fine arts</td>
<td>0.8%</td>
<td>1.5%</td>
<td>1.1%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Other</td>
<td>3.1%</td>
<td>4.0%</td>
<td>6.0%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Total courses taken</td>
<td>58,101</td>
<td>62,048</td>
<td>63,546</td>
<td>65,168</td>
</tr>
</tbody>
</table>

Source: Public Education Information Management System (Texas Education Agency, 2011)

Notes. Percentages may not sum to 100 due to rounding. “Career/Tech Coherent Sequence, Grades 9–12” refers to recommended sequences of career or technical education courses that are offered to high school students, and “Career/Tech Electives, Grades 6–12” refers to elective courses available to students in these grades that are not part of a defined course sequence. “Tech Prep Program” refers to a college-preparatory program that provides students with academic as well as applied technical skills. The high school program prepares students to continue in a college program that leads to a minimum of a two-year postsecondary degree (or apprenticeship license).