Career and Technical Education

Program Analysis Scorecard Report, 2018-2019

Department of Research and Evaluation

AUSTIN INDEPENDENT SCHOOL DISTRICT

Table of Contents

Career and Technical Education Program Analysis Scorecard Report
2018-2019

Purpose of Evaluation

This report summarizes results of the Career and Technical Education (CTE) Program Analysis Scorecard for the 2018–2019 school year. Program outcomes for program alignment, instruction quality, and access and equity are described. CTE Program Analysis Scorecard results for the 2018–2019 school year are summarized to provide information about program effectiveness and help facilitate decisions about program implementation and improvement.
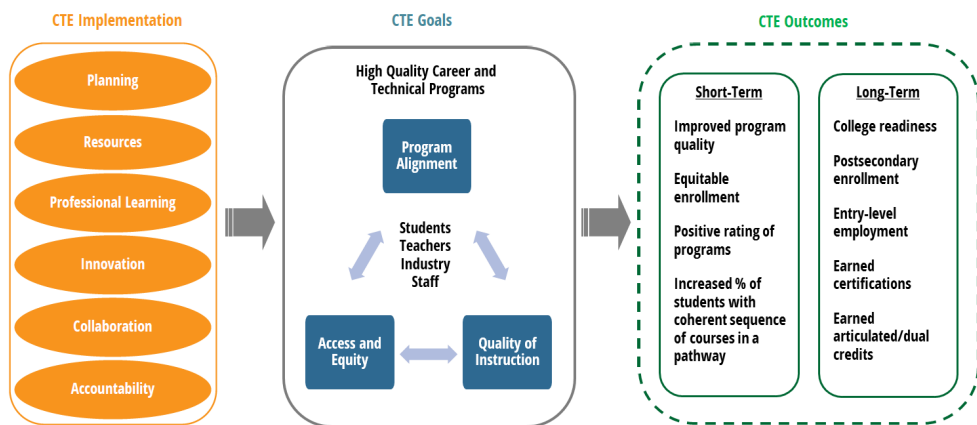
Program Description

CTE provides students with academic knowledge and technical skills needed to gain entry to high-demand, high-skill, and high-wage industries. CTE offers work-based learning experiences that combine hands-on learning with real-world scenarios, so students are prepared to enter the workforce or college after they graduate high school.

Five-Year Plan Goals

CTE was in the first year of the 5-Year Plan (5YP) implementation during the 2018–2019 school year. The 5YP aims to prepare all students for high-demand, high-skill, and high-wage careers through industry-aligned pathways built on academic, professional, and technical skills, leadership development, work experiences, and postsecondary credentials. As illustrated by the CTE theory of change, CTE focused on goals in three areas: (a) program alignment, (b) instruction quality, and (c) access and equity to improve short- and long-term outcomes (Figure 1).

Figure 1
CTE theory of change

Source. AISD Career and Technical Education, 2018

Program Evaluation Description

The CTE Program evaluation for 2018–2019 sought to measure and describe progress toward outcomes in the first year of the 5YP. Austin Independent School District (AISD) Department of Research and Evaluation (DRE) staff collected and analyzed quantitative and qualitative data from AISD information systems, CTE teachers, and students. Appendix A provides more information about the evaluation methodology. To measure and describe program conditions and outcomes, program evaluation questions related to goals in focus areas: program alignment, instruction quality, and access and equity (Figure 2).

Figure 2
CTE program evaluation questions

Program alignment

- Was the CTE Program implementation aligned with industry and postsecondary standards that prepared students for college and careers?

Instruction quality

- Did the CTE Program provide teachers with the resources and professional learning opportunities needed to provide high-quality work-based instruction?

Access and equity

- Did the CTE Program provide students with access to a coherent sequence of courses that met students' pathway aspirations?

Source. **CTE evaluation plan, 2018-2019**

Program Alignment

To describe program alignment, AISD information systems provided CTE student certification and dual credit data from the 2018–2019 school year.

Was the CTE Program implementation aligned with industry and postsecondary standards that prepared students for college and career?

The CTE program included 17,158 students enrolled in 9th through 12th grades. Across CTE clusters, the percentage of students who earned industry-based certifications (23%) was greater than the percentage who earned dual credits (16%). Among CTE students, 3,203 students earned at least one industry-based certification; and, 2,401 students earned at least one dual credit. Program implementation aligned with industry and postsecondary standards to prepare students to earn postsecondary credentials, including industry-based certifications and dual credits.

Industry-Based Certification

Among CTE students in 2018–2019, 23% earned an industry-based certification. Most students who sought to earn an industry-based certification passed their examinations. Of the 4,528 students preparing for certification examinations, 3,203 (71%) passed their examinations and earned the industry-based certification.

The arts, AV technology, and communications cluster had the greatest number of students who earned at least one certification; government and public administration had the least (Figure 3). Percentage wise, education and training (53%) produced the highest rate of certifications earned across all career clusters (Figure 4).

Figure 3
Arts, AV technology, and communications had the greatest number of students who earned certifications (*n* = 766).

Cluster	Count
Arts, av technology, and communications	766
Health science	435
STEM	333
Agriculture, food, and natural resources	286
Law, public safety, corrections, and security	259
Hospitality and tourism	259
Business management and administration	207
Human services	198
Education and training	154
Transportation, distribution, and logistics	136
Architecture and construction	64
Information technology	57
Finance	40
Marketing	7
Government and public administration	2

Source. AISD student enrollment records, 2018-2019

Figure 4
Education and training cluster students earned certifications at the highest rate (53%), above the district average (23%).

Cluster	Percent
Education and training	53%
Transportation, distribution, and logistics	40%
Architecture and construction	40%
Hospitality and tourism	29%
Agriculture, food, and natural resources	28%
Human services	27%
Arts, AV technology, and communications	21%
Law, public safety, corrections, and security	17%
Health science	15%
Government and public administration	15%
STEM	14%
Business management and administration	12%
Marketing	10%
Information technology	9%
Finance	8%
Manufacturing	5%

District (line at 23%)

Source. AISD student enrollment records, 2018-2019

Legend
Clusters in business and industry endorsement
Clusters in public service endorsement
Clusters in STEM Endorsement

Program Alignment

In this evaluation, DRE staff used two measures to assess alignment with the 5YP. Earning industry-based certifications and/or dual credits helped to gauge whether the CTE Program provided opportunities for students to prepare for career and college after high school.

Industry Based Certification

Industry based certifications are credentials earned by passing an assessment administered by a certifying agency that is recognized by business and industry. Industry – based certifications are postsecondary credentials that put CTE students a step ahead in their chosen career fields. Earning industry-based certifications shows students are experienced and dedicated, and gives them a competitive edge in the job market. Certifications may have age and/or experience requirements; not all certifications are available for every cluster and/or campus.
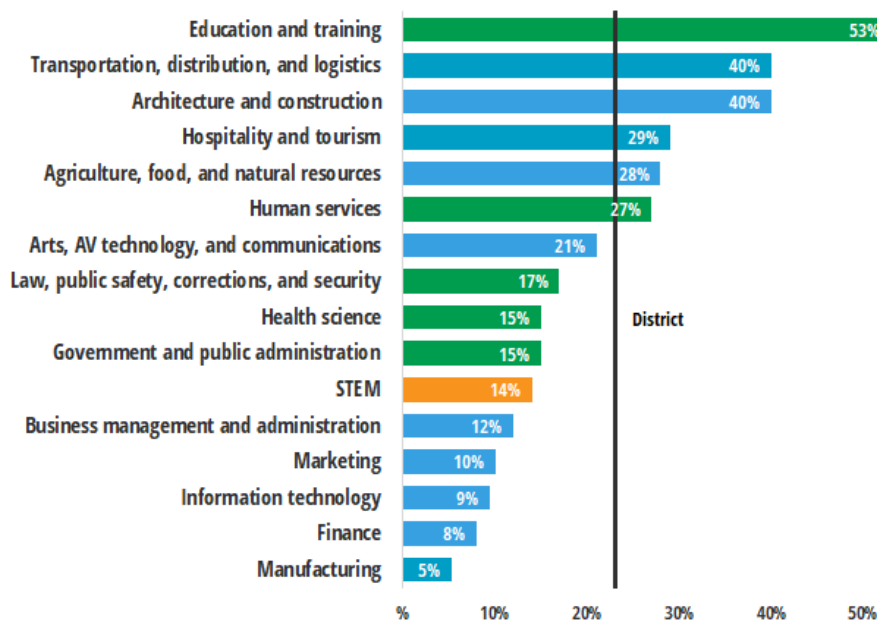
Dual Credit

Dual credit refers to college courses students take during high school. Students enrolled in dual credit courses earn college credit for little or no cost, and get an early start in postsecondary education. CTE dual credit courses involve rigorous academic and technical foundations that prepare students for college and the workplace. Additionally, dual credit course enrollment is an effective strategy to promote student access and persistence in postsecondary education (Karp & Hughes, 2008).
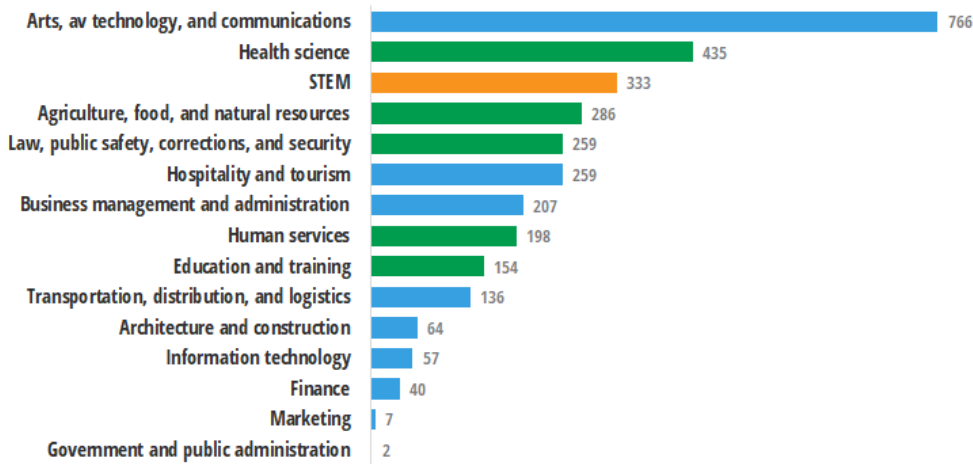
Dual Credit

All career clusters had students who earned at least one dual credit. High school students enrolled in dual credit courses to earn academic credits recognized by postsecondary institutions. Career clusters with higher enrollment rates also had the higher numbers of students who earned at least one dual credit. Health science and STEM had the greatest number of students who earned at least one dual credit; marketing and government clusters had the smallest number of students (Figure 5).

Figure 5
Career clusters with the most students earning at least one dual credit included health science and STEM.

Legend
Clusters in business and industry endorsement
Clusters in public service endorsement
Clusters in STEM endorsement
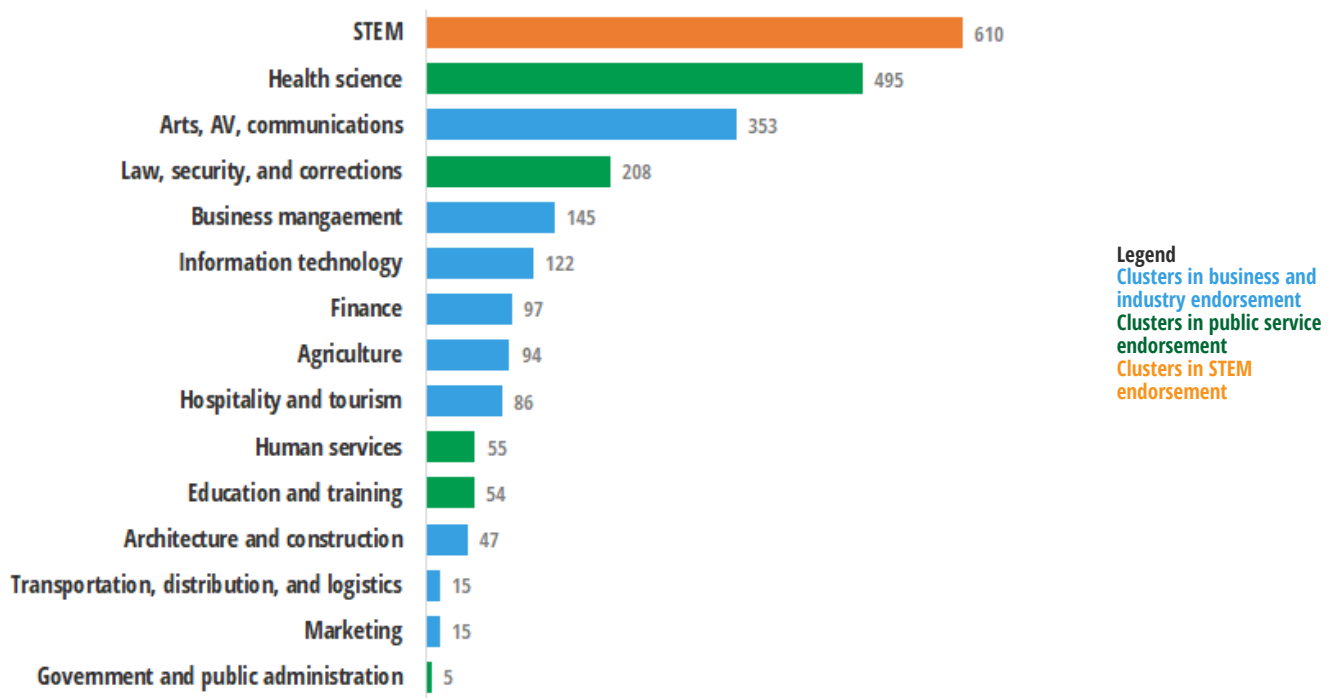
Source. AISD student enrollment records, 2018-2019

Standards-Aligned, Industry-Integrated Curriculum

CTE staff completed curriculum maps for alignment to industry and postsecondary standards for all 78 CTE pathways. Guided by the 5YP to improve CTE programs using the ACTE (2018) High-Quality Programs Framework, CTE program staff also focused on indicators of high quality programs. CTE program curriculum maps ensured standards-aligned and industry integrated curriculum.

Industry partners included 140 businesses and organizations in the Austin area who offered internships with work-based experiences to AISD CTE students in 2018-2019. CTE Program staff expanded industry-aligned work-based experiences designed to prepare students for careers. Industry relationships were built with multiple business and community partnerships to develop work-based learning opportunities for CTE students.

78 pathway curriculum maps

140 industry partner internships

Quality of Instruction

To describe quality of instruction, DRE staff administered surveys for CTE teachers and students to self-report their experiences with CTE classes, pathways, and learning opportunities. The CTE Student Survey was completed by 1,265 of 6,450 students (33% response rate). The CTE Teacher Survey was completed by 176 out of 185 CTE teachers (85% response rate).

Did the CTE Program provide teachers with the resources and professional learning opportunities needed to provide high-quality work-based instruction?

High-quality work-based instruction uses innovative, industry-standard resources, curriculum, training and instruction to provide relevant experiences that prepare all students for postsecondary success. CTE Program staff provided resources and professional learning opportunities for teachers to provide high-quality work-based instruction. Professional learning opportunities were provided to CTE teachers by the district's CTE Department in professional learning, career pathway development, curriculum, funding, equipment, and course information (Figure 6).

Figure 6
Quality of instruction may lead to an improved quality of programs and positive ratings of programs.

*Source.* CTE evaluation plan and theory of change, 2018-2019

During 2018–2019, CTE continued to focus on quality of instruction consistent with the CTE 5YP and elements of ACTE high-quality CTE programs framework (Imperatore & Hyslop, 2014). CTE staff met with CTE Department chairs and teachers to develop curriculum maps and implement standards-based assessment models for each CTE program. The basis for conversations focused on reviewing programs and identifying improvement areas.

CTE Teacher Survey

Most CTE teachers (163, 93%) were very or moderately satisfied with the quality of the CTE program. CTE teachers were supported in pathway development, curriculum, other resources, course information, professional learning, equipment, and funding (Figure 7). Overall, CTE teachers' ratings on quality of program support were positive.

Figure 7
CTE equipment and funding were most highly rated excellent or good (>80%) CTE Program support areas by CTE teachers.
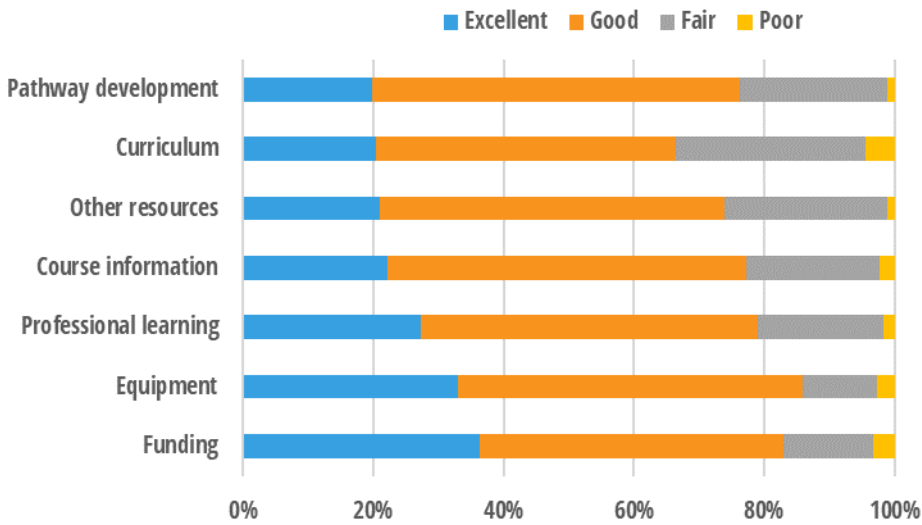
Teachers were asked to indicate if they wanted additional professional learning from a list of topics (Figure 8). The topics most frequently requested included content-specific curriculum (91 teachers, 15%), project-based learning (72 teachers, 12%), software training (69 teachers, 11.4%), and postsecondary education and employment options for students in the CTE pathway (65 teachers, 11%).

Figure 8
Content-specific curriculum training was the top professional learning interest among CTE teachers.

8
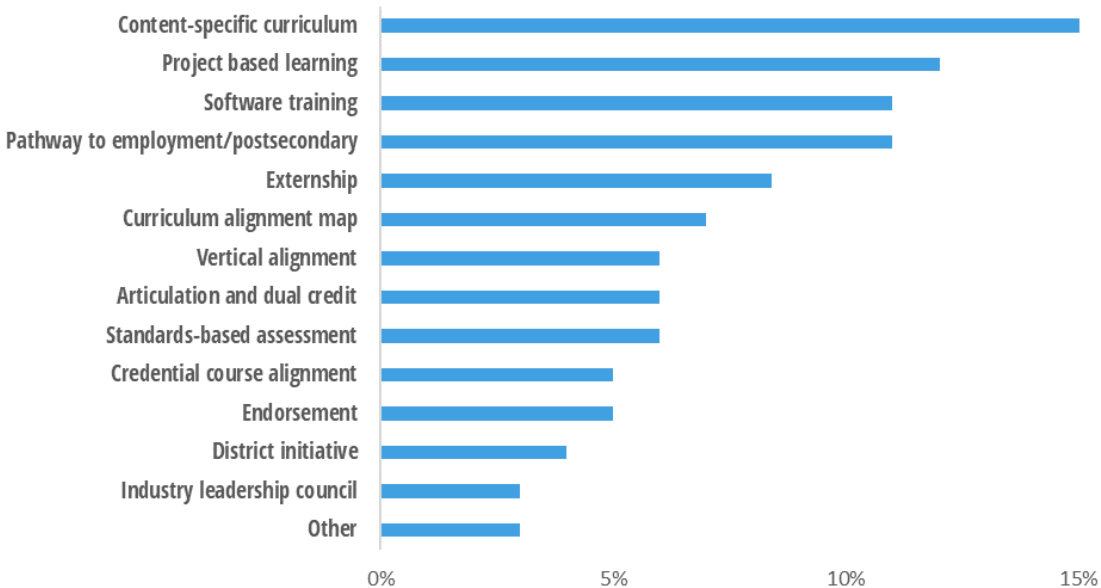
Access and Equity

To measure access and equity, data were collected from CTE teachers through the CTE Teacher Survey, and from CTE students through the CTE Student Survey in 2018–2019. AISD information systems supplied AISD and CTE students' demographic and enrollment information from the 2018–2019 school year.

Did the CTE Program provide students with information about pathways and courses accessible for enrollment?

The majority of CTE teachers and CTE students were well-informed about CTE pathways and courses for enrollment. CTE teachers reported 81% of their students were well-informed about pathways (Figure 9), and 65% of CTE students reported CTE courses were available in their pathway (Figure 11).

CTE Teacher Survey

CTE teachers described their beliefs, perceptions, and behaviors related to their experiences with the CTE Program in the CTE Teacher Survey in 2018–2019. Specifically, CTE teachers described their students' familiarity with the CTE pathways available to them at their schools (Figure 9) and the capacity of courses within pathways at their schools (Figure 10).

Among the 176 CTE teachers, 101 (58%) reported their CTE courses were frequently full. CTE teachers reported the capacity of courses as frequently (58%), occasionally (32%), rarely (10%), or never (0%) full each semester (Figure 10). Accessibility to CTE courses within a pathway is necessary for a CTE student to complete a pathway. CTE students who complete a coherent sequence of courses gain knowledge, skills, and expertise needed for postsecondary success.

Figure 9
The majority of CTE teachers (81%) reported their students were very (28%) or moderately (53%) well-informed about pathways at their school.
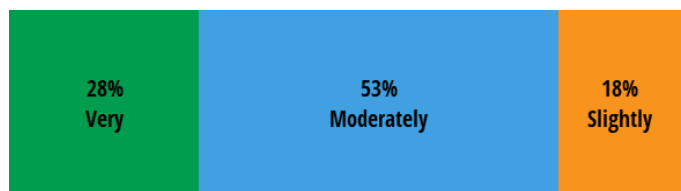
28% Very	53% Moderately	18% Slightly

Figure 10
More than half of CTE teachers (58%) reported frequently filled courses in their pathway.

| 58% Frequently	32% Occasionally	10% Rarely

Source. CTE teacher survey, 2018-2019

CTE Student Survey

CTE students described their beliefs, perceptions, and behaviors related to their experiences with the CTE Program in the CTE Student Survey in 2018–2019. CTE students also described accessibility to courses, pathways, interests, and transportation in CTE.

Regarding availability of CTE courses and pathways, 65% of CTE students reported CTE courses related to a career pathway of their interest were available at their school. Only 12% said no courses were available, and 23% did not know about course availability related to their career pathway (Figure 11). Availability of CTE courses within each pathway is necessary for CTE students to enroll and progress through sequences that will advance their knowledge and skills as well as gain work-based experience to prepare for career fields with in-demand and high-wage jobs.

Figure 11
CTE courses in career pathways were available according most students (65%).
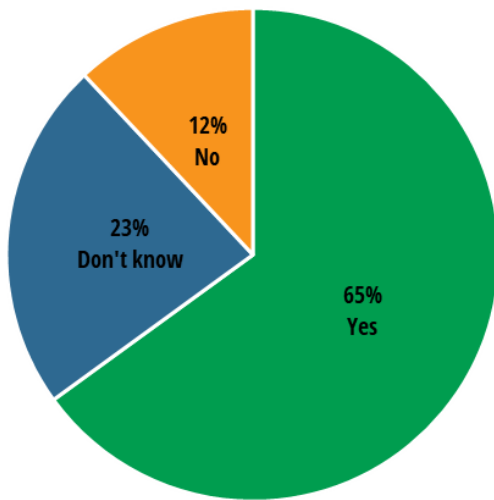
Source. CTE student survey, 2018-2019

CTE students' reports of academic counseling about 4-year plans were mixed; 40% of CTE students had talked with a counselor or CTE teacher about their 4-year plan, 39% had not talked about 4-year plan, and 21% did not remember (Figure 12). Accessibility to information about CTE courses, pathways, and 4-year plans is essential to students' ability to earn endorsements, industry-based certifications, postsecondary credentials, internships, and job placements.

Figure 12
Similar percentages of students talked about their 4-year plans (40%) compared to had not talked about plans (39%).
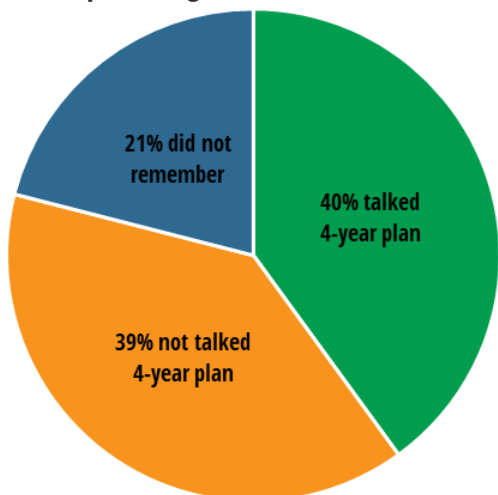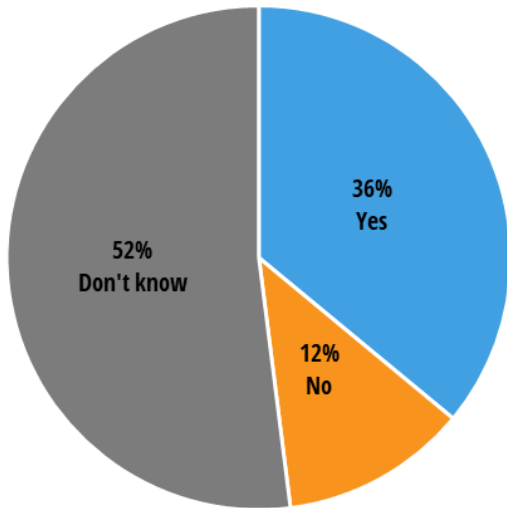

Source. CTE student survey, 2018-2019

With respect to students' intentions about CTE course enrollment, 41% of CTE students reported they planned to take the next CTE course in the CTE pathway after completing the current course. Furthermore, 24% of these students believed taking more courses in the CTE pathway would help prepare them for their career. On the other hand, about a quarter of CTE students (24%) reported they did not plan to take the next course in the pathway, and 35% did not know if they planned to take the next course. Among these students, 36% wanted to take other types of courses.

About half of CTE students (52%) did not know about transportation for CTE extracurricular activities. CTE students were asked about adequate transportation provided to them for participation in CTE activities that take place outside of school time. About one-third (36%) reported "yes" and 12% said "no" in response to adequate transportation for CTE extracurricular activities (Figure 13).

Figure 13
Most students (52%) did not know about adequate transportation provided for CTE activities outside of school.

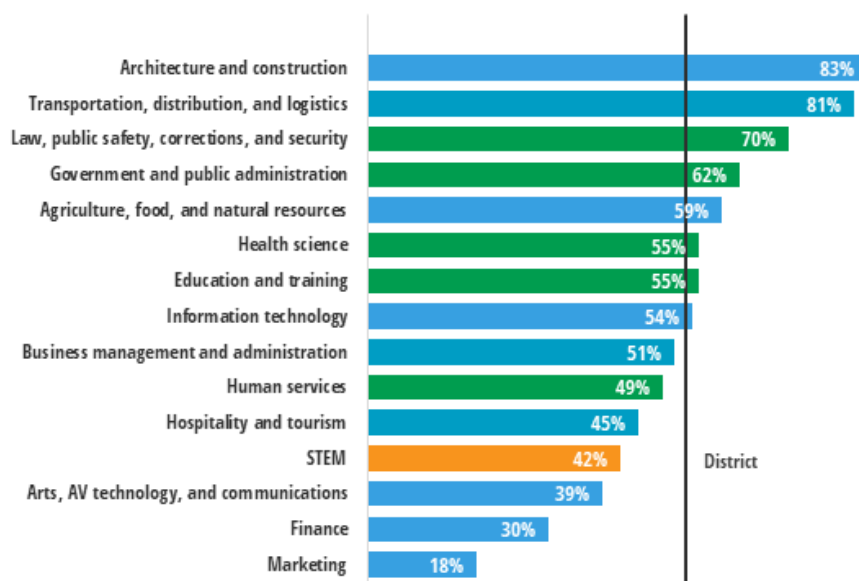*Source.* CTE student survey, 2018-2019

What was the cluster enrollment for special populations?

Students' demographic information and rates of enrollment in career clusters and the district were reported for students who were economically disadvantaged; English learners (EL), in special education (SPED); or enrolled in a nontraditional course, by gender (Figures 14 through 18).

Economically Disadvantaged

More than half of career clusters were above the district average with respect to enrollment of economically disadvantaged students (Figure 14). The percentage of economically disadvantaged students enrolled in career clusters varied in comparison with the overall district percentage of economically disadvantaged students (53%). The area with the highest enrollment of economically disadvantaged students was architecture and construction; the lowest enrollment was in marketing.

Figure 14
Architecture and construction had the highest enrollment rate (83%) of economically disadvantaged students above the district average (53%).

Cluster	Percentage
Architecture and construction	83%
Transportation, distribution, and logistics	81%
Law, public safety, corrections, and security	70%
Government and public administration	62%
Agriculture, food, and natural resources	59%
Health science	55%
Education and training	55%
Information technology	54%
Business management and administration	51%
Human services	49%
Hospitality and tourism	45%
STEM	42%
Arts, AV technology, and communications	39%
Finance	30%
Marketing	18%

Source. AISD student enrollment records, 2018-2019

Legend
Clusters in business and industry endorsement
Clusters in public service endorsement
Clusters in STEM Endorsement

Endorsements and Clusters

Endorsements

Endorsements represent coherent sequences or series of courses in one of five areas including: Arts and Humanities, Business and Industry, Multidisciplinary Studies, STEM, and Public Service. CTE offers endorsements in Business and Industry, Public Service, and STEM.

Clusters

Clusters are groups of careers with similar skills and themes based on industry. There are 16 clusters which correspond to designated endorsements. CTE offers programs of study for all 16 clusters across the district.

Career clusters and endorsements AISD align with state and federal standards.

STEM Endorsement
- STEM

Business and Industry Endorsement
- Agriculture, Food, and Natural Resources
- Architecture and Construction
- Arts, AV Technology, and Communications
- Business Management and Administration
- Finance
- Hospitality and Tourism
- Information Technology
- Marketing
- Manufacturing
- Transportation, Distribution, and Logistics

Arts and Humanities Endorsement
- None

Public Service Endorsement
- Education and Training
- Government and Public Administration
- Health Science
- Human Services
- Law, Public Safety, Corrections, and Security

Multidisciplinary Studies Endorsement
- All Career Clusters

EL and SPED

The percentages of ELs and SPED students enrolled in clusters were below the district averages for EL (16%) and SPED students (11%) in most instances (Figures 15 and 16). For ELs, the highest enrollment was in transportation, distribution, and logistics; the lowest enrollment was in STEM (Figure 15). Five of 10 clusters in the business and industry endorsement had the highest percentages of SPED students enrolled (Figure 16).

Figure 15
Transportation, distribution, and logistics had the highest rate (33%) of EL enrollment above the district average (16%).
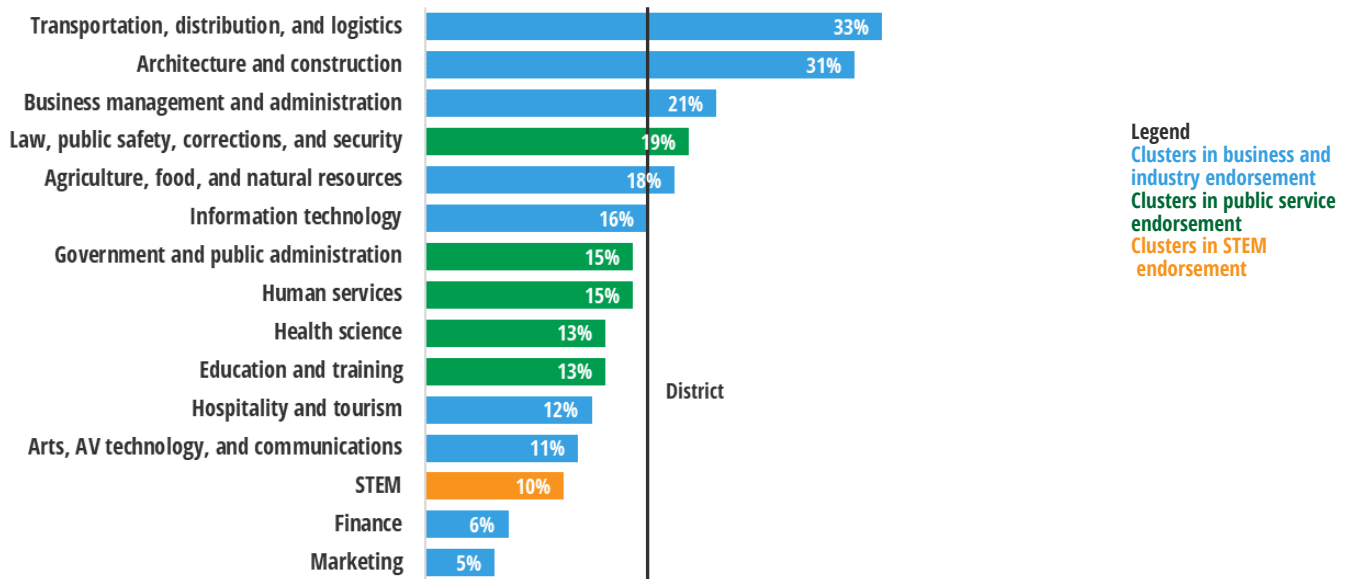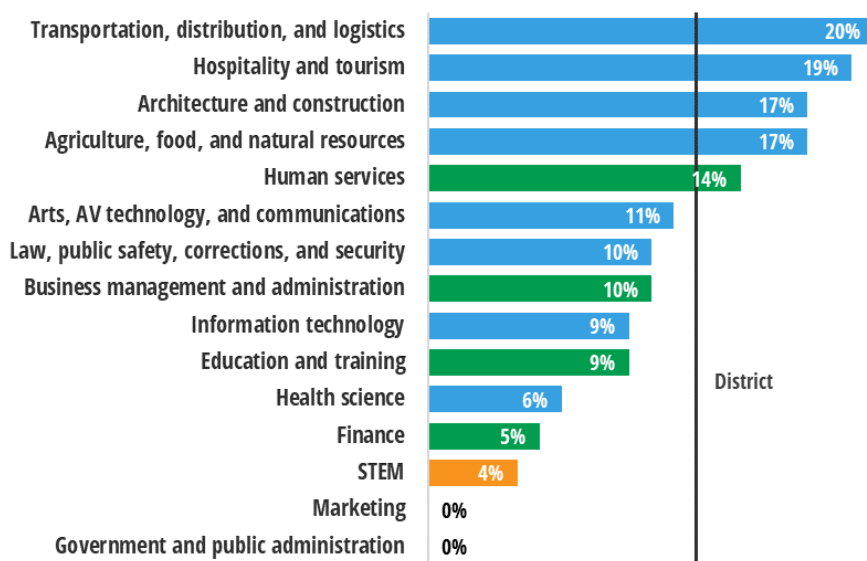
Cluster	Percentage
Transportation, distribution, and logistics	33%
Architecture and construction	31%
Business management and administration	21%
Law, public safety, corrections, and security	19%
Agriculture, food, and natural resources	18%
Information technology	16%
Government and public administration	15%
Human services	15%
Health science	13%
Education and training	13%
Hospitality and tourism	12%
Arts, AV technology, and communications	11%
STEM	10%
Finance	6%
Marketing	5%

Legend
Clusters in business and industry endorsement
Clusters in public service endorsement
Clusters in STEM endorsement

District

Figure 16
Transportation, distribution, and logistics had the highest rate (20%) of SPED enrollment above the district average (12%).

Cluster	Percentage
Transportation, distribution, and logistics	20%
Hospitality and tourism	19%
Architecture and construction	17%
Agriculture, food, and natural resources	17%
Human services	14%
Arts, AV technology, and communications	11%
Law, public safety, corrections, and security	10%
Business management and administration	10%
Information technology	9%
Education and training	9%
Health science	6%
Finance	5%
STEM	4%
Marketing	0%
Government and public administration	0%

District

Source. AISD student enrollment records, 2018-2019
Note. District averages only include students in grades 9-12.

Nontraditional Course Cluster Enrollment, by Gender

Nontraditional course taking was mixed across clusters for female and male students. Agriculture, food, and natural resources had the highest rate (13%) of female nontraditional students above the district average (50%). Business management and administration had the highest rate (40%) of male nontraditional students above the district average (50%) (Figure 17).

Not all clusters were represented as having nontraditional students enrolled. Far fewer courses were identified as nontraditional for males than for females. For male nontraditional students, three clusters in the public services endorsement and two clusters in the business and industry endorsement offered courses for male nontraditional students (Figure 18). Business management and administration increased by 7 percentage points in the representation of nontraditional students (40%), compared to 2017–2018 (33%) (Coco & Bonazzo, 2019).

Figure 17
Agriculture, food, and natural resources had the highest enrollment of female nontraditional students (13%). Fifty percent of the district was female.
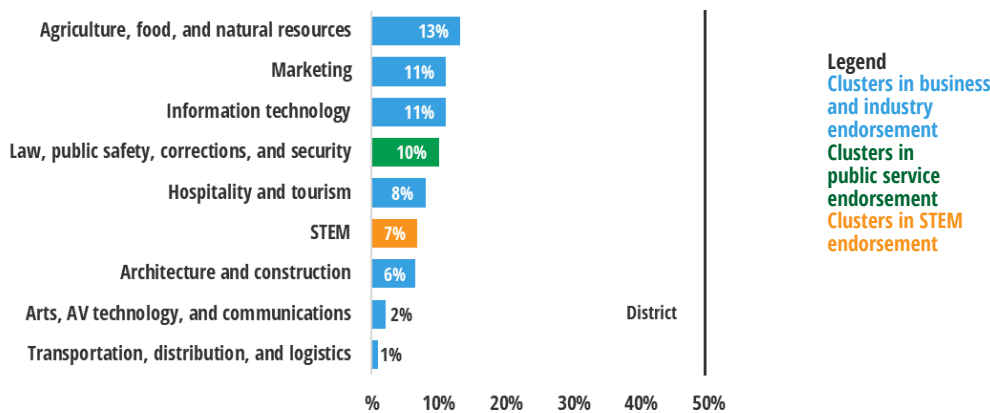

Legend
Clusters in business and industry endorsement
Clusters in public service endorsement
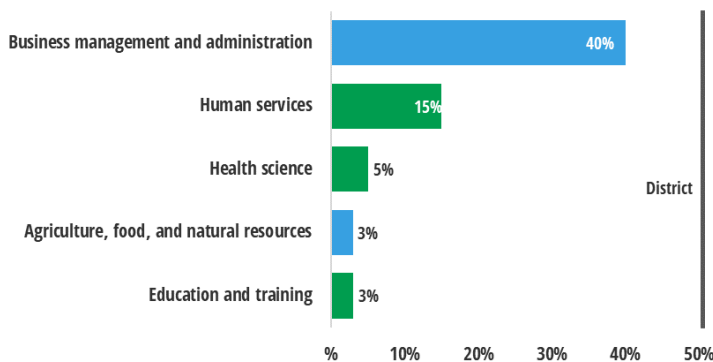Clusters in STEM endorsement

Figure 18
Business management and administration had the highest enrollment of male nontraditional students (40%). Fifty percent of the district was male.

Source. AISD student enrollment records, 2018–2019

Summary of Year 1 Data

This report summarizes program data for the 2018–2019 *CTE Program Analysis Scorecard Annual Report*. Consistent with goals in the CTE 5YP, the CTE Program development and implementation focused on program alignment, quality of instruction, and equity and access; indicators in the focus areas were evaluated and described for year 1 of the 5YP.

Student certification and dual credit earnings helped to measure program alignment. There was an increase in the number of students who earned at least one certification in 2018-2019 (3,203 students), compared to the previous year of baseline data collection in 2017-2018 (2,961 students) (Coco & Bonazzo, 2019).

Teachers' self-assessment of their programs helped to determine the perceived quality of instruction in career clusters. Ratings were positive, as 93% of teachers reported satisfaction with the quality of the CTE Program in 2018–2019. Based on teachers' and students' survey results, CTE provided information about pathways and courses accessible for enrollment so that students were able to learn, specialize, and complete requirements in a career pathway. Generally, teachers believed their students were informed about their options, and students believed interesting courses were available to them in their CTE program.

There was inconsistency in conversations with students about their 4-year academic plans in high schools. Although some students had talked with a teacher or counselor about their plans, many students either had not talked or did not remember if they had talked with school staff regarding their academic 4-year plans. Accessibility to adequate transportation for participation in CTE extracurricular activities was not widely known to CTE students. About half of CTE students did not know about the availability or lack thereof for transportation to attend CTE activities outside of school time.

Disaggregating student enrollment demographics in the career clusters helped to gauge equitable access to the CTE programs offered throughout the district. The demographic characteristics of CTE student enrollment varied across clusters. Architecture and construction as well as transportation, distribution, and logistics were consistent in higher enrollments of students with economic disadvantage, EL, and SPED representation; however, the representation of nontraditional students was noticeably absent. Nontraditional students continue to have lower percentage of equitable enrollment than do other students, although some clusters had gains in the percentage of nontraditional student enrolled.

Overall, data presented in this report indicated that the CTE Program is making progress with respect to its 5YP. The CTE 5YP highlights steps to fulfill the CTE vision for all AISD CTE students to graduate college, career, and life ready from high-quality, standards-based, industry-aligned programs of study that provide work experience, academic knowledge, technical and professional skills, leadership development, and postsecondary credentials. In addition to looking at program alignment, quality of instruction, and equity and access, it is recommended to examine the college and career readiness of CTE students and their ability to earn certifications and dual credits.

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Appendix A

Evaluation Methodology

Data Collection

To provide data with which CTE Program staff could measure progress with the 5YP, quantitative and qualitative analyses were conducted using various forms of data. Staff used district information systems to obtain demographics, course enrollments, dual credits, and certifications. CTE teachers submitted self-assessment surveys about their experiences with their CTE program.

DRE staff collected both qualitative and quantitative data to measure the program's progress toward its goals. District information systems will provide students' CTE status; demographic, course, and/or dual-credits enrollment; course grade; certification completion; and testing data. District surveys, such as the AISD High School Exit Survey, provided information to assess students' college and career preparation and expectations for postsecondary education, as well as administrators' and teachers' perceptions of the quality of support they received from the CTE administration. CTE teachers completed surveys evaluating their professional development activities and needs. They also provided data regarding students' participation in industry certification exams. DRE staff also created a student survey to measure whether CTE programs were meeting students' career and college aspirations.

Data Analysis

As articulated in the CTE 5YP, DRE staff summarized CTE Program data from the 2018–2019 school year. The analysis included career cluster enrollment, certifications earned, and dual credits earned. DRE staff used a mixed-methods approach to provide the evaluation information pertaining to CTE programs. They analyzed quantitative data (e.g., course enrollment) using descriptive statistics (e.g., numbers and percentages). Data were further explored by disaggregating by endorsement, cluster, campus, race/ethnicity, gender, economic disadvantage status, and SPED status. Qualitative data (e.g., open-ended survey responses) were analyzed using content analysis techniques to identify important details, themes, and patterns.

Nontraditional Occupations for Males

CODE	COURSE NAME
AGRICULTURE, FOOD, AND NATURAL RESOURCES CAREER CLUSTER	
13000600	VETERINARY MEDICAL APPLICATIONS
ARTS, AUDIO VIDEO TECHNOLOGY AND COMMUNCATIONS CAREER CLUSTER	
13009600	PRINTING AND IMAGING TECHNOLOGY
13009700	ADVANCED PRINTING AND IMAGING TECHNOLOGY
13009800	PRACTICUM IN PRINTING AND IMAGING TECHNOLOGY
13009810	PRACTICUM IN PRINTING AND IMAGING TECHNOLOGY II
BUSINESS MANAGEMENT AND ADMINISTRATION CAREER CLUSTER	
13011300	TOUCH SYSTEM DATA ENTRY
13011400	BUSINESS INFORMATION MANAGEMENT I
13011500	BUSINESS INFORMATION MANAGEMENT II
EDUCATION AND TRAINING	
13014400	INSTRUCTIONAL PRACTICES IN EDUCATION AND TRAINING
13014500	PRACTICUM IN EDUCATION AND TRAINING
13014510	PRACTICUM IN EDUCATION AND TRAINING II
FINANCE CAREER CLUSTER	
13016300	BANKING AND FINANCIAL SERVICES
HEALTH SCIENCE CAREER CLUSTER	
13020300	MEDICAL TERMINOLOGY
13020400	HEALTH SCIENCE
13020700	MEDICAL MICROBIOLOGY
HUMAN SERVICES CAREER CLUSTER	
13024500	LIFETIME NUTRITION AND WELLNESS
13024800	CHILD GUIDANCE
13025100	INTRODUCTION TO COSMETOLOGY
13025200	COSMETOLOGY I
13025300	COSMETOLOGY II

Source. Texas - Perkins IV

Appendix C

Nontraditional Occupations for Females

CODE	COURSE NAME
AGRICULTURE, FOOD, AND NATURAL RESOURCES CAREER CLUSTER	
13000300	LIVESTOCK PRODUCTION
13000400	SMALL ANIMAL MANAGEMENT
13000500	EQUINE SCIENCE
13000700	ADVANCED ANIMAL SCIENCE
13000900	AGRIBUSINESS MANAGEMENT AND MARKETING
13001200	ADVANCED ENVIRONMENTAL TECHNOLOGY
13001300	FOOD TECHNOLOGY AND SAFETY
13001400	FOOD PROCESSING
13001500	WILDLIFE, FISHERIES, AND ECOLOGY MANAGEMENT
13001600	RANGE ECOLOGY AND MANAGEMENT
13001700	FORESTRY AND WOODLAND ECOSYSTEMS
13001900	LANDSCAPE DESIGN AND TURF GRASS MANAGEMENT
13002000	HORTICULTURE SCIENCE
13002100	ADVANCED PLANT AND SOIL SCIENCE
13002200	AGRICULTURAL MECHANICS AND METAL TECHNOLOGIES
13002300	AGRICULTURAL FACILITIES DESIGN AND FABRICATION
13002400	AGRICULTURAL POWER SYSTEMS
ARCHITECTURE AND CONSTRUCTION CAREER CLUSTER	
13004600	ARCHITECTURAL DESIGN
13004700	ADVANCED ARCHITECTURAL DESIGN
13004800	PRACTICUM IN ARCHITECTURAL DESIGN
13004810	PRACTICUM IN ARCHITECTURAL DESIGN II
13004900	CONSTRUCTION MANAGEMENT
13005000	ADVANCED CONSTRUCTION MANAGEMENT
13005100	CONSTRUCTION TECHNOLOGY
13005200	ADVANCED CONSTRUCTION TECHNOLOGY
13005300	MILL AND CABINETMAKING TECHNOLOGY
13005400	BUILDING MAINTENANCE TECHNOLOGY
13005500	ADVANCED BUILDING MAINTENANCE TECHNOLOGY

13005600	ELECTRICAL TECHNOLOGY
13005700	ADVANCED ELECTRICAL TECHNOLOGY
13005800	HVAC AND REFRIGERATION TECHNOLOGY
13005900	ADVANCED HVAC AND REFRIGERATION TECHNOLOGY
13006000	PIPING AND PLUMBING TECHNOLOGY
13006100	ADVANCED PIPING AND PLUMBING TECHNOLOGY
13006200	PRACTICUM IN CONSTRUCTION MANAGEMENT
13006210	PRACTICUM IN CONSTRUCTION MANAGEMENT II

ARTS, AUDIO VIDEO TECHNOLOGY, AND COMMUNICATIONS CAREER CLUSTER	
13008500	AUDIO VIDEO PRODUCTION
13008600	ADVANCED AUDIO VIDEO PRODUCTION
13008700	PRACTICUM IN AUDIO VIDEO PRODUCTION
13008710	PRACTICUM IN AUDIO VIDEO PRODUCTION II
BUSINESS MANAGEMENT AND ADMINISTRATION	
13011800	GLOBAL BUSINESS
HOSPITALITY AND TOURISM CAREER CLUSTER	
13022600	CULINARY ARTS
13022700	PRACTICUM IN CULINARY ARTS
13022710	PRACTICUM IN CULINARY ARTS II
13023000	FOOD SCIENCE
INFORMATION TECHNOLOGY CAREER CLUSTER	
13027300	COMPUTER MAINTENANCE
13027400	TELECOMMUNICATIONS AND NETWORKING
13027500	COMPUTER TECHNICIAN
13027600	COMPUTER PROGRAMMING
13027700	ADVANCED COMPUTER PROGRAMMING
LAW, PUBLIC SAFETY, CORRECTIONS, AND SECURITY CAREER CLUSTER	
13029300	LAW ENFORCEMENT I
13029400	LAW ENFORCEMENT II
13029600	COURT SYSTEMS AND PRACTICES
13029800	SECURITY SERVICES
13029900	FIREFIGHTER I
13030000	FIREFIGHTER II

MANUFACTURING CAREER CLUSTER	
13032200	PRINCIPLES OF MANUFACTURING
13032300	WELDING
13032400	ADVANCED WELDING
13032500	PRECISION METAL MANUFACTURING
13032600	ADVANCED PRECISION METAL MANUFACTURING
13032700	FLEXIBLE MANUFACTURING
13032800	ADVANCED FLEXIBLE MANUFACTURING
13032900	MANUFACTURING ENGINEERING
13033000	PRACTICUM IN MANUFACTURING
13033010	PRACTICUM IN MANUFACTURING II
MARKETING CAREER CLUSTER	
13034400	ENTREPRENEURSHIP

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS (STEM) CAREER CLUSTER	
13036500	ENGINEERING DESIGN AND PRESENTATION
13036600	ADVANCED ENGINEERING DESIGN AND PRESENTATION
13036800	ELECTRONICS
13036900	ADVANCED ELECTRONICS
13037000	ROBOTICS AND AUTOMATION
13036500	ENGINEERING DESIGN AND PROBLEM SOLVING
13037500	PRINCIPLES OF ENGINEERING
13037600	DIGITAL ELECTRONICS
TRANSPORTATION, DISTRIBUTION, AND LOGISTICS CAREER CLUSTER	
13039300	ENERGY, POWER, AND TRANSPORTATION SYSTEMS
13039400	AIRCRAFT TECHNOLOGY
13039500	ADVANCED AIRCRAFT TECHNOLOGY
13039600	AUTOMOTIVE TECHNOLOGY
13039700	ADVANCED AUTOMOTIVE TECHNOLOGY
13039800	COLLISION REPAIR AND REFINISHING
13039900	ADVANCED COLLISION REPAIR AND REFINISHING
13040000	SMALL ENGINE TECHNOLOGY
13040100	ADVANCED SMALL ENGINE TECHNOLOGY
13040200	TRANSPORTATION SYSTEMS MANAGEMENT
13040300	LOGISTICS, PLANNING, AND MANAGEMENT SYSTEMS
13040400	PRACTICUM IN TRANSPORTATION, DISTRIBUTION, AND LOGISTICS
13040410	PRACTICUM IN TRANSPORATATION, DISTRIBUTION, AND LOGISTICS II

Source. Texas - Perkins IV