THE ANNUAL CONDITION OF

SECONDARY CAREER & TECHNICAL EDUCATION

Courses, Programs, Students and Faculty

ISSUED
MARCH
2020

COMMUNITY COLLEGES &
WORKFORCE PREPARATION

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Letter from the Director

Dear Education Stakeholders,

One of the critical functions of the Iowa Department of Education is to provide and interpret educational data. We do this to support accountability, transparency and the ongoing improvement of our schools. Staff in the Division of Community Colleges and Workforce Preparation continue to refine and improve the methods in which we collect, analyze and report data to ensure that it is both meaningful and easily understood.

Meaningful educational data reports are essential to Iowans as we strive to improve our schools and prepare students for success. At the district level, data helps administrators, teachers and counselors make important programmatic and operational decisions that impact the success of their students. At the state level, data provide policymakers and educators information about the students, the programs and opportunities offered to them, and metrics regarding how well they are progressing toward their educational goals. At the local level, data enable communities to understand the impact of the opportunities provided through their school districts.

Through the Future Ready Iowa initiative, Governor Reynolds has called for 70 percent of Iowans in the workforce to have postsecondary education or training by 2025. Aligning with the Future Ready Iowa initiative, the Department's goals, as reflected in the State Board of Education's priorities, are to ensure all high school students have consistent and equitable access to high-quality career and technical education (CTE) programs and to facilitate efficient delivery of curricula aligned with regional economic demand. Iowa is well-positioned to align the state and federal efforts to create a single cohesive model for secondary CTE.

The Annual Condition of Secondary Career and Technical Education 2020 provides information on the trends in secondary CTE courses and programs, enrollment, student characteristics and secondary CTE human resources using Iowa Department of Education data from Academic Years (AY) 2015-2019. Additionally, the report briefly describes the four areas of focused policy interest for implementing high-quality CTE throughout the state. More generally, the information provided in the report sets the stage for aligning HF2392 implementation with the development and implementation of the State Plan required under Perkins V.

Thank you for taking the time to review this report and for your ongoing support of secondary CTE in Iowa. I look forward to working with you to provide Iowans with quality programs, services and opportunities to meet their career and educational goals.

Sincerely,

Ryan M. Wise

Ryan M. Wise, Ed.L.D.
Director
Iowa Department of Education

Executive Summary

On July 1, 2019, Iowa began the implementation of the fifth iteration of the federal Carl D. Perkins Act, known as the Strengthening Career and Technical Education for the 21st Century (called Perkins V). The previous iteration, the Carl D. Perkins Career and Technical Education Act of 2006 (often referred to as Perkins IV), was in place for over 12 years. Since its inception in 1984, the federal Carl D. Perkins Act has been the main driver of secondary and postsecondary CTE across the nation, providing a framework that links programs, budgeting and finance, and accountability.

One of the priorities of the State Board of Education is for all students to have equal access to robust career and technical education (CTE), work-based learning experiences and community college credit opportunities through an integrated system. This priority came about because the Iowa Department of Education has the responsibility for implementing HF2392. Signed into law in 2016, HF2392 set forth a forward-looking policy framework for secondary CTE, replacing an archaic vocational education law adopted in 1989. There are many similarities between the state HF2392 requirements and those under Perkins V. In fact, the HF2392 requirements and the current implementation of the law across the school districts formed the basis for developing the Perkins V State Plan. The current state effort around the redesign of secondary CTE provided a good foundation for development of the Perkins V State Plan, and its subsequent implementation across school districts.

Report Highlights

From the tables and figures presented in this report, the following can be said for secondary CTE over the five-year period covering academic years 2015 through AY2019 (AY15-AY19):

Secondary CTE Courses and Programs

Over a five-year time period:

- The total number of CTE courses and programs offered and taught more or less held steady, with only minor shifts occurring up or down. On a year-to-year basis, there has been a small but steady growth over the five-year period.
- Small- to medium-sized school districts had growth in the average number of CTE programs offered and taught, whereas program offerings in larger school districts remained flat.
- There was significant growth in the use of college-credit contracted courses in secondary CTE programs, nearly 45 percent over a five-year period, and this growth is related to the size of the school districts with larger ones offering and teaching more college-credit contracted courses.
- At the service area level, the growth in CTE programs is similar – some areas increased, while other areas decreased. It is interesting to note that given that Information Solutions is a new service area, programs within it have increased rapidly from 45 in AY15 to 80 programs in AY19.

Secondary CTE Enrollment

Over a five-year time period:

- Overall enrollment in secondary CTE and overall secondary CTE participation rates remained steady. Nevertheless, more recent participation in CTE courses and programs has shown an upward tick. Students in smaller school districts participated at relatively higher rates in secondary CTE.
- Student participation in college-credit contracted CTE courses experienced significant growth. However, college-credit contracted CTE participation rates were much lower for smaller school districts than larger school districts.
- CTE student enrollment by grade level declined after 9th grade, with the lower enrollment in subsequent grades.
- In general, enrollment of students in all service areas showed an upward trend, except in the Information Solutions and Business, Finance, Marketing and Management service areas.

Characteristics of Secondary Students

Over a five-year time period:

- Secondary CTE participation declined sightly for white students, while there was a slight increase for minority students.
- Hispanic and African American students made up about (70) percent of the overall minority secondary student CTE participation. CTE participation for different student population groups held steady.
- More male students than female students participated in secondary CTE courses.
- The proportion of secondary CTE students who were eligible for free and reduced-prices meals through the National School Lunch Program remained steady. There was not a significant relationship between the proportion of secondary CTE students who were eligible for the National School Lunch Program and those who were not when it came to CTE course taking.
- There has been a steady rise in annual CTE courses taken across grades 9-12.
- The average number of CTE courses taken by students declined slightly in AY19.
- The proportion of students who took at least two courses remained steady through AY17 and has increased since AY18.

Secondary CTE Human Resources

Over a five-year time period:

- Secondary CTE teacher characteristics did not change significantly over the past five years. The average age of secondary CTE teachers was 43 years and 98.1 percent identified as white.
- The service areas in which secondary CTE teachers received the most CTE endorsements were aligned to those service areas that were in place prior to the reconfiguration as a result of HF2392. As HF2392 reaches full implementation, there should be realignment as secondary CTE teachers focus more on the newer service areas or attain endorsements in multiple areas.

» While secondary CTE teachers have experienced some increases in salary, in real terms there has been very little change.

» Community college CTE faculty who taught high school students were primarily female, white, worked as part-time or adjunct faculty and were close to 50 years old.

Career and Technical Student Organizations (CTSOs)

Over a five-year time period:

» Secondary CTSO membership steadily increased, reaching a record high of 27,155 students. Some CTSOs had declines in membership while others had membership increases.

» FCCLA and FFA had record high memberships in AY19. FBLA and TSA had a steady rise in memberships. DECA's membership fluctuated, while BPA, HOSA and SkillsUSA memberships declined over the four-year period.

Secondary Career and Academic Planning

» In AY19, all districts reported that a district team with the required membership, collaborated with internal and external stakeholders to write the district plan.

» Three-hundred and four (304) school districts reported using a career information system (CIS).

» Individual Career and Academic Plan (ICAP) completions increased an average of 11 percent for students in grades 9-12. Grade 8 completions increased by 12 percent from AY18.

Work-Based Learning

Over a five-year time period:

» Between AY15 and AY17, the number of work-based learning courses rose steadily. However, since AY18, the number increased significantly. The same can be said about college-credit contracted courses, even though the proportion of college-credit contracted courses dropped in AY19.

» More school districts offered work-based learning courses in AY19 than in AY15. The number of school districts offering work-based learning courses increased regardless of school district size.

» The number of work-based learning courses in all service areas (including the unassigned category) experienced growth, with the exception of the Business, Finance, Marketing and Management service area.

» Participation in work-based learning courses by grade level increased as students moved from grades 9 through 12.

» Participation rates in work-based learning courses by gender, ethnicity and eligibility for national free and reduced-price lunch programs were consistent with those of the general secondary CTE student population, with the exception of gender. Male students participated in general CTE coursework at higher rates, while female students participated in work-based learning courses at higher rates.

Regional Centers

- Regional centers tend to be clustered around major metropolitan areas in Iowa, which typically have the larger school districts and high school populations to make the regional center viable. While some regional centers have been established in rural areas that serve small school districts, there are many regions of Iowa that do not have regional centers.
- With the implementation of HF2392, regional planning partnerships (RPPs) have begun to explore the viability of regional centers as a way to expand options for students and ensure equitable access to a variety of high-quality CTE programs that meet regional workforce needs.
- In FY19, there were 19 regional centers providing 165 career academy programs to 6,045 high school students from 125 school districts. Among the 19 regional centers, six are located on community college campuses.
- Applied Science, Technology, Engineering and Manufacturing was the service area with the most career academy programs offered (66), followed by Health Sciences (28), Information Solutions (25), Human Services (25) and Business, Finance, Marketing and Management (16). Agriculture, Food and Natural Resources was the smallest service area with only five career academy programs being offered within a regional center.

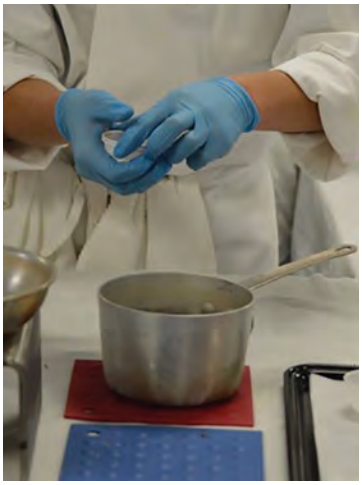

Table of Contents

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Chapter 1: Introduction and Overview

On July 1, 2019, Iowa began the implementation of the fifth reiteration of the federal Carl D. Perkins Act, known as the Strengthening Career and Technical Education for the 21st Century Act (Perkins V). A transition plan was submitted to OCTAE (Office of Career, Technical and Adult Education) in Washington DC and was approved for the FY20 fiscal year. The FY20 year is being spent developing a four-year plan for Perkins V and developing the Comprehensive Local Needs Assessment (CLNA) required for each Perkins recipient (secondary consortia/districts and community colleges). Since its inception in 1984, the federal Perkins Act has been the main driver of secondary and postsecondary CTE across the nation, providing a framework that links programs, budgeting and finance and accountability. During the development of the plan for Perkins V, external input is required and expected and the Bureau of Career and Technical Education has been working with an advisory committee and several subcommittees to determine expectations for the next four years.

The Perkins V law defines career and technical education (CTE) as:

> *An educational option that provides learners with the knowledge and skills they need to be prepared for college and careers, giving purpose to learning by emphasizing real-world skills and practical knowledge within a selected career focus.*

CTE in Iowa includes organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in employment in current or emerging occupations. These programs include:

- competency-based, applied learning, which contributes to an individual's academic knowledge;
- higher-order reasoning and problem-solving skills; and
- work attitudes, general employability skills, and occupational-specific skills.

With Perkins V, the Iowa Department of Education (Department) is looking to expand work with middle school students (5-8), teacher preparation, retention and recruitment and equity. The Department also had the opportunity to choose from three new targets which included reporting concurrent enrollment, reporting work-based learning activities and reporting student obtainment of certifications. The Department intends to focus on work-based learning and will work to add in certifications at a later date.

At the secondary level, CTE programs are organized within six broad service areas:

1. Agriculture, Food and Natural Resources;
2. Information Solutions;
3. Applied Sciences, Technology, Engineering and Manufacturing, including Transportation, Distribution, Logistics, Architecture and Construction;
4. Health Sciences;
5. Human Services; and
6. Business, Finance, Marketing and Management.

Programs within these service areas are further aligned with the National Career Clusters™ Framework. The Career Clusters™ framework also organizes CTE programs at the postsecondary (community college) level. This report focuses on secondary CTE courses, programs, students, and faculty, drawing on five years of data (AY15-AY19).

State CTE Legislation and Perkins V Implementation

One of the priorities of the State Board of Education is the following:

> *All students will have equal access to robust career and technical education, work-based learning experiences, and community college credit opportunities through an integrated system.*

This priority came about because the Iowa Department of Education has the responsibility for implementing HF2392. Signed into law in 2016, HF 2392 set forth a forward-looking policy framework for secondary CTE, replacing an archaic vocational education law adopted in 1989 and building off of exceptional practices implemented around the state.

HF2392, the state law to redesign CTE, had its roots in the five broad directional recommendations of the legislatively mandated statewide secondary CTE Task Force: career guidance, high-quality CTE programming, work-based learning, teacher preparation and professional development and regional partnerships/regional centers. Implementing HF2392 focuses on the individual career and academic plans (ICAP), district-wide career guidance and development, regional planning partnerships (RPPs), multi-year plans, program approval, fiscal responsibility and budgeting. With the passing of HF2392 signed into law on May 26, 2019, Iowa has been working on these legislative recommendations that will tie closely with the Perkins V plan. These include:

1. ICAP – Individual Career Academic Plan and Career Planning. Each district is required to have a team in place to work with students on career planning and submit a plan to the state. Each district can choose from state-approved career development software to use with students. Reporting on that use is required. All 8th graders are required to have an ICAP in place and to have it reviewed on a yearly basis.
2. Regional Planning Partnerships have been created for 15 regions (aligned with the community college regions) around the state. These partnerships have state maintenance of effort funding to assist with expanding CTE programs at the secondary level, work with the districts on professional development, determine if a career center is needed to provide equitable career courses for all students and review program approvals for all districts.
3. Program approvals are now mandatory for all CTE programs. The Department is in its second year of reviewing these, with 20 percent of programs being reviewed each year. Once the regional planning partnerships have reviewed and worked with the districts to identify goals, they are forwarded to the Department for review.

The State Board has approved standards and benchmarks for five of six service areas. Pilot standards have been developed for the sixth service area and final standards will be presented to the State Board for approval in spring 2020.

Perkins V introduces a comprehensive needs assessment, which needs to be completed once every two years by the local recipients of the federal funds. The needs assessment includes a review of CTE student performance, program quality, labor market needs, educator development and special populations' access to programs of study. The driving force at the local level is data-driven decision-making requiring school districts to review student performance, including those students who fall into the different special population categories.

What is new is the fact that school districts need to consult a wide variety of stakeholders when developing the accountability framework under Perkins V. In turn, the accountability framework needs to be connected to the local needs assessment, the results of which need to be included within the local application for federal funds. In this regard, Perkins V builds upon Perkins IV by more tightly connecting planning, payment, program and performance – the four Ps. The current state effort around the redesign of secondary CTE lays a good foundation for developing the four Ps within the Perkins V State Plan, and its subsequent implementation across school districts.

Implementing Federal CTE Legislation in Iowa

Under Perkins IV, Iowa receives over $12 million annually in federal funds, an amount that was increased slightly in 2019. The Department is the designated state eligible agency (SEA) responsible for distributing these funds to 89 local eligible agencies (LEAs), which include the 15 community colleges; 44 Perkins consortia, with each consortium, made up of multiple school districts; and 30 individual school districts. Of the total funds received by Iowa under Perkins V, 85 percent is distributed to LEAs while 15 percent is used for state CTE leadership and administration. The basis for how these funds are to be allocated, distributed and expended is outlined in Iowa's state transition plan as a requirement under Perkins V.

A key feature in meeting the requirements under Perkins IV was a set of accountability indicators (prescribed in the law itself). Secondary CTE programs are measured by six accountability indicators:

- 1S1: Academic Attainment in Reading/Language Arts
- 1S2: Academic Attainment in Mathematics
- 2S1: Technical Skills Attainment
- 3S1: Secondary School Completion
- 4S1: Student Graduation Rate
- 5S1: Secondary Placement
- 6S1: Nontraditional Participation
- 6S2: Nontraditional Completion

In the transition year, it was not required to collect data on these targets and in the prior year, Technical Skills Attainment was eliminated. Based on data we have collected through the Secondary CTE Reporting Application, we are able to determine our status for each of these and will include that information. Table 1.1 shows how Iowa has performed relative to the annual targets since AY15. During the past three years, Iowa's secondary CTE has met or exceeded nearly all of the targets.

TABLE 1.1: STATE-LEVEL SECONDARY PERKINS ACCOUNTABILITY INDICATORS: TARGET AND PERFORMANCE

	1S1		1S2		2S1		3S1	
Academic	Target	Actual	Target	Actual	Target	Actual	Target	Actual
2015	79.0%	79.4%	78.0%	84.6%	91.0%	92.5%	93.0%	93.3%
2016	80.0%	99.0%	80.0%	99.0%	92.0%	93.0%	93.0%	97.0%
2017	80.0%	81.7%	83.0%	80.1%	92.0%	93.0%	93.0%	99.0%
2018	80.0%	81.0%	85.0%	80.6%	92.6%	92.1%	93.5%	89.0%
2019	See Table 1.2							

	4S1		5S1		6S1		6S2	
Academic	Target	Actual	Target	Actual	Target	Actual	Target	Actual
2015	93.0%	92.7%	88.0%	87.9%	45.0%	38.0%	36.0%	29.5%
2016	93.0%	97.0%	88.0%	93.0%	40.0%	38.0%	34.0%	34.0%
2017	93.0%	98.0%	88.0%	94.0%	38.0%	41.0%	30.0%	32.0%
2018	93.0%	88.8%	89.0%	86.8%	38.5%	42.3%	29.5%	34.5%
2019	See Table 1.2							

In FY21, we will start collection under the newly established targets for Perkins V, which include:

- (1S1) Graduation rate
- (2S1) Academic Attainment in Reading/Language Arts
- (2S2) Academic Attainment in Math
- (2S3) Academic Attainment in Science (NEW)
- (3S1) Percentage of CTE concentrators who, in the second quarter after exiting from secondary education, are in postsecondary education or advanced training, military service or a national service program, or are employed
- (4S1) Percentage of concentrators in programs/programs of study that lead to non-traditional fields

An additional secondary indicator focuses on program quality. States would have to submit performance on no less than one indicator of program quality, which include:

- (5S1) Attainment of recognized postsecondary credentials
- (5S2) Attainment of postsecondary credit in the CTE program
- (5S3) Participation in work-based learning

TABLE 1.2: PERKINS V PERFORMANCE INDICATOR TARGETS

Performance Indicator Code	Performance Indicator	(Baseline) 2019-20	(Year 1) 2020-21	(Year 2) 2021-22	(Year 3) 2022-23	(Year 4) 2023-24
1S1	Four-Year Graduation Rate	92.6%	93.0%	93.3%	93.5%	93.8%
2S1	Academic Proficiency in Reading/Language Arts	65.8%	66.0%	66.3%	66.5%	66.8%
2S2	Academic Proficiency in Mathematics	61.8%	62.0%	62.3%	62.5%	62.8%
2S3	Academic Proficiency in Science	58.0%	58.3%	58.5%	58.8%	59.0%
3S1	Post-Program Placement	89.1%	89.5%	90.0%	90.5%	91.0%
4S1	Non-traditional Program Concentration	36.9%	37.0%	37.3%	37.5%	37.8%
5S2	Program Quality - Attained Postsecondary Credits	30.0%	31.0%	32.0%	33.0%	34.0%
5S3	Program Quality - Participated in Work-Based Learning	6.0%	7.0%	8.0%	9.0	10.0%

Table 1.2 shows Iowa's 2019-2020 baseline performance and the state-determined levels of performance (SDLPs) targets for academic years 2020-2021, 2021-2022, 2022-2023, and 2023-2024. Perkins V brings a greater focus on data and accountability, with a few notable shifts in this area. It begins with explicitly defining who is included in the accountability system. Then it requires changing the process for setting performance targets, arrived at through broad consultation of stakeholders. Finally, Perkins V adds a new focus on increasing opportunities for special populations. There is also a greater emphasis on disaggregating data to identify and address the gaps and disparities in performance between groups of students.

There are several things to note about accountability under Perkins V. First, a secondary CTE concentrator is explicitly defined. Second, indicators are based on the accountability framework laid out under the Every Students Succeeds (ESSA) Act, with the exception of the nontraditional indicator. Third, for every indicator, performances are measured for population and special population groups. Fourth, states consult with stakeholders to develop target levels of performance for each indicator. All four years (AY20 to AY24) of target levels of performance must be included in the state plan for implementing Perkins V. Five, states will need to address performance gaps for all indicators, as well as gaps among the different sub-populations for each indicator, and then target federal funds to develop strategies for addressing these gaps. The longitudinal data used for this report places Iowa in a favorable position to complete the accountability requirements under Perkins V.

Methodology

Data from multiple sources were used to generate this report. The data sources used for Chapters 2-5 include Student Reporting in Iowa (SRI), the Iowa Basic Educational Data Survey (BEDS), the Iowa Board of Educational Examiners (BOEE) database and the Iowa Department of Education Community College Management Information System (MIS). Student Reporting in Iowa includes data on courses a student took or was taking in a given academic year, as well as student demographics. Data from the BEDS, along with data from the BOEE database, provides information on K-12 CTE teachers. The Iowa Department of Education Community College Management Information System was used to gather information on community college faculty teaching college-credit contracted CTE courses to high school students.

Chapter 6 presents data on career and technical student organizations (CTSOs), which comes from the Iowa Department of Education and the various national CTSO organizations. Chapter 7 includes career guidance data gathered by the Department's Bureau of School Improvement through the Consolidated Accountability and Support Application and the Comprehensive School Improvement Plan. Chapter 8 summarizes SRI data on work-based learning courses and students who took these courses. This report also uses data gathered through a survey administered by the Department's Division of Community Colleges and Workforce Preparation for the purposes of obtaining information on regional centers (see chapter 9).

The School Courses for the Exchange of Data (SCED) and the Classification of Instructional Programs (CIP) were used to calculate the number of secondary CTE courses and programs offered. The SCED code provides information about the course topic and course subject area. For example, in chapter 8, work-based learning courses are identified by the last two digits of the five-digit SCED code. If the last two digits of a SCED code is 98, the course is usually a work-based learning course. Similar to the SCED code, the CIP indicates what instructional program a CTE course belongs to. For this report, a unique SCED in a given school district was identified as a secondary CTE course instance. A similar approach was used to identify a secondary CTE program instance. The number of unique state student IDs was used to indicate unduplicated secondary CTE enrollment.

The Report Layout

This report is divided into two main sections: Section I presents five-year longitudinal data (AY14-AY15 to AY18-AY19) on participation in secondary CTE courses and programs, secondary CTE enrollment patterns, CTE student characteristics and secondary CTE teacher resources. Section II briefly describes three aspects of CTE programming – career and technical student organizations (CTSOs), career guidance, and regional centers, which are coming to the forefront as HF2392 moves to full implementation across public school districts in Iowa.

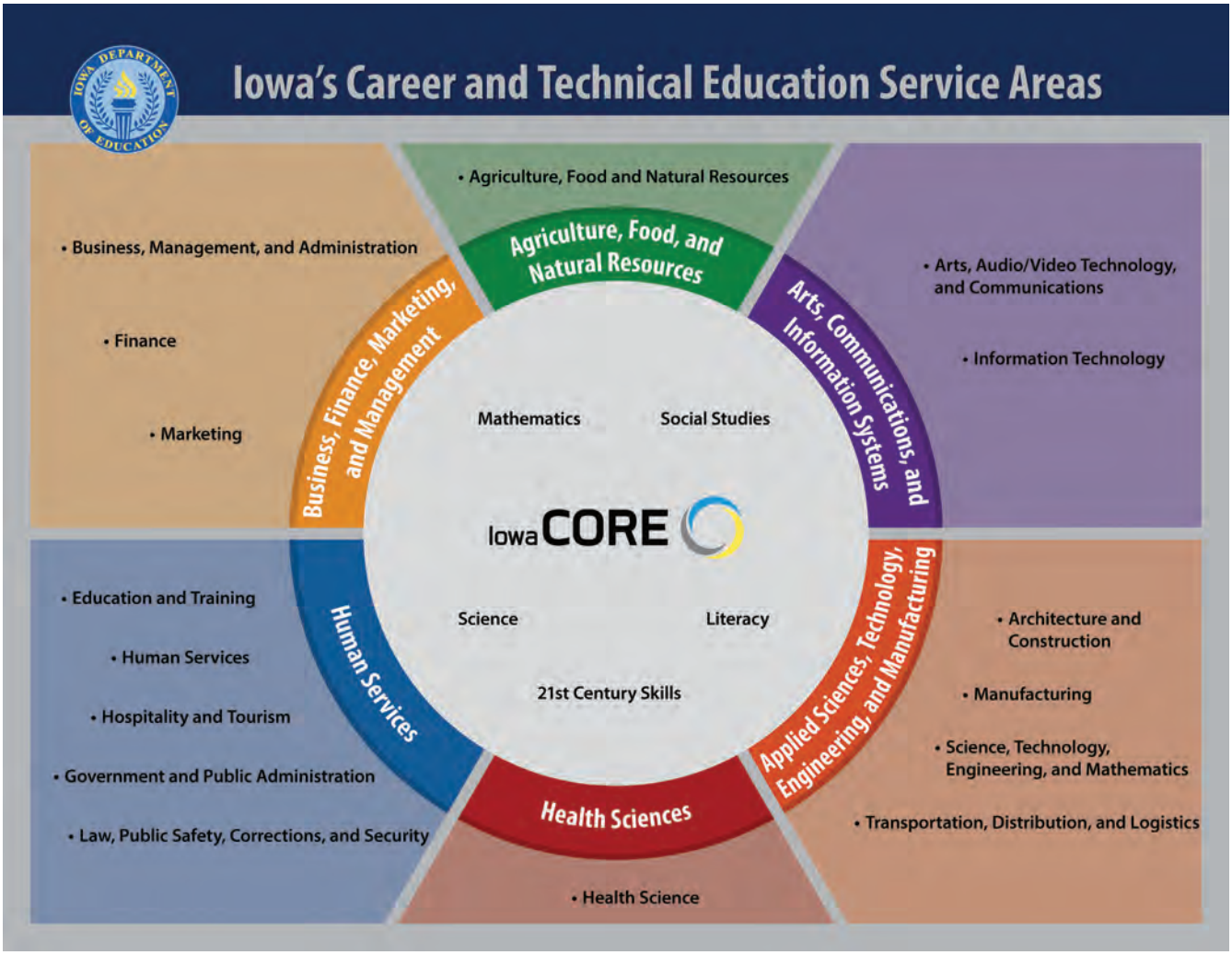
Section I:
Trends in Secondary Career and Technical Education

Courses and Programs, Enrollment, Student Characteristics, and Instructors

Chapter 2. Secondary CTE Courses and CTE Programs

CTE's direct and explicit focus on preparing students for specific ranges of occupations has resulted in a long history of interest and involvement in educational, occupational and industrial classification systems. The National Career Clusters™ Framework provides a way for schools to organize instruction and student experiences around sixteen broad categories that together encompass all occupations from entry through professional levels. The clusters are groupings of careers with similar skills or common themes based on industry groups. They assist students, parents, employers and those in the educational system to better understand how curriculum relates to potential career opportunities.

At the secondary level in Iowa's public school districts, CTE programs are organized within six service areas, as defined in Iowa Code section 256.11(5) (h). Iowa has made a conscious effort to align these service areas to the National Career Clusters™ Framework as shown in the graphic below.

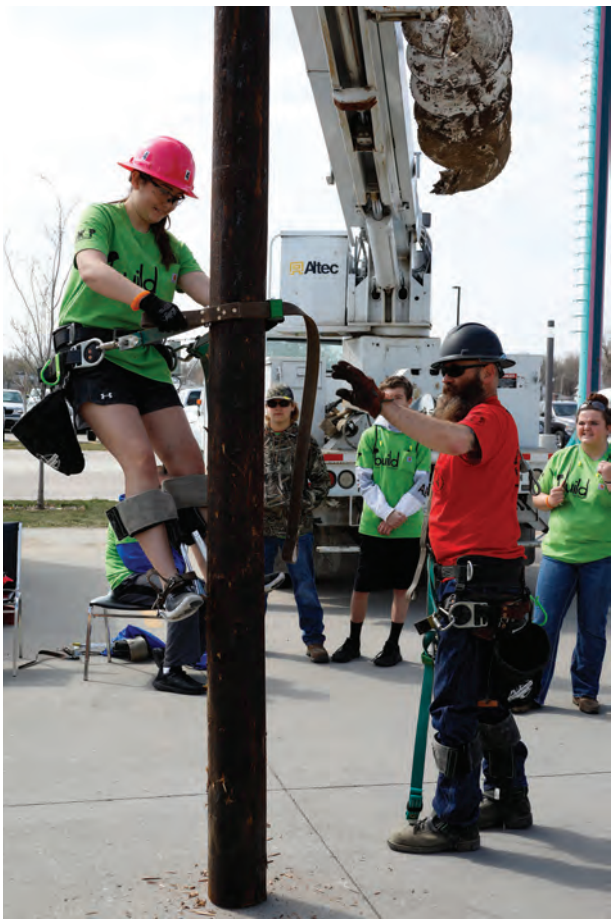


Realigned in 2016, the six service areas broadly define the career pathway focus the student may have when s/he determines what courses and programs s/he might choose to enroll. Also, the six service areas now being used by school districts to meet the requirement to offer and teach CTE programs have a much broader span and scope than what existed before the implementation of HF2392. There were three changes to these original six services areas:

1) Business and marketing were combined into one service area;
2) Family and consumer sciences was reconfigured as Human Services to include a more extensive array of programs; and
3) Information Solutions was introduced as a new service area to reflect the importance of the corresponding career clusters to current and future workforce needs.

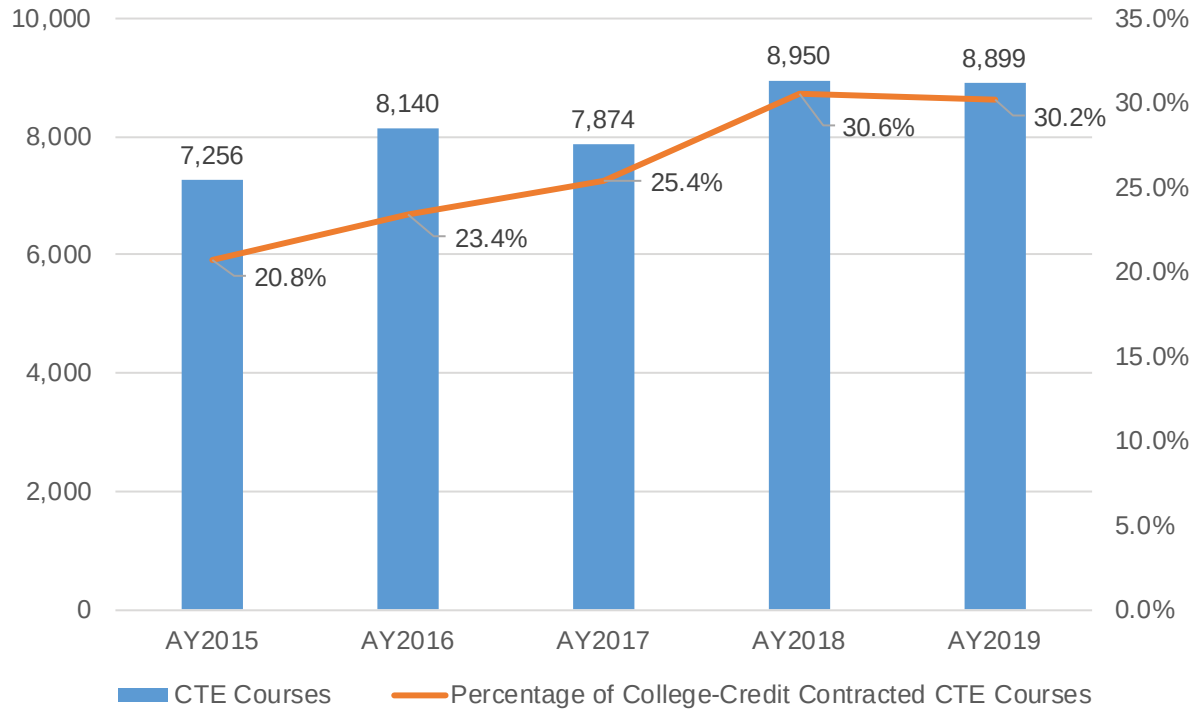
Secondary CTE Courses and Programs

Iowa Code chapter 12 requires that every public school district offer and teach a minimum of three sequential CTE units within at least four of the six service areas. Each unit may consist of one or more courses depending on classroom and lab time. However, the most common configuration is a (Carnegie) unit comprised of two 0.50 unit courses; three consecutive "Carnegie" CTE units equates to a basic CTE program. This report defines a secondary CTE course instance as a unique SCED code at a specific school district. Similarly, a program instance is defined as a particulate CIP code at a specific school district.



Additionally, secondary students in Iowa have access to college-credit coursework through a variety of means, most of which are at no (or low) cost to the student/family. Data on college-credit CTE courses contracted through one (or more) of Iowa's community colleges are reported throughout this document. This section summarizes all of the CTE courses and CTE programs taught during AY15-AY19 for students in grades 9-12 in Iowa.

FIGURE 2.1: NUMBER OF CTE COURSES AND PROPORTION OF COLLEGE-CREDIT CONTRACTED CTE COURSES: AY15-AY19*



** Due to an error in calculation in last year's report, the percentage of college-credit contracted CTE courses for AY18 was updated.*

Figure 2.1 displays the number of secondary CTE courses taught and the percentage of those courses that were college-credit contracted CTE courses from AY15 to AY19. In AY19, 8,899 secondary CTE courses were offered in Iowa, which is a 0.6 percent decrease from the year before. While the number of courses dropped slightly in AY19, the compound annual growth rate over the five-year period (AY15-AY19) was 5.2 percent. The proportion of college-credit contracted CTE courses also increased steadily. In AY15, these courses only accounted for 20.8 percent of the total secondary CTE courses, whereas in AY19, 30.2 percent of all secondary CTE courses were college-credit contracted courses, a little over a 45 percent increase.

TABLE 2.1: AVERAGE NUMBER OF CTE COURSES BY SCHOOL DISTRICT SIZE: AY15-AY19

High School Student Enrollment	AY15	AY16	AY17	AY18	AY19	CAGR*
<100	15.4	17.9	16.2	19.0	17.5	3.2%
100-299	20.5	23.0	22.8	25.5	25.4	5.5%
300-499	26.5	29.5	28.3	33.6	33.2	5.8%
500-1249	27.6	30.7	30.8	35.2	35.3	6.3%
1250-3999	33.1	36.8	36.3	42.0	43.8	7.3%
>4000	63.5	70.0	65.8	62.8	64.0	0.2%
Total	23.4	26.3	25.7	29.4	29.4	5.9%

*Note: * CAGR=Compound Annual Growth Rate*

Table 2.1 displays the average number of CTE courses offered by school district size while Table 2.2 shows the average number of college-credit contracted CTE courses by school district size. In this report, school district size was based on high school student enrollment. More information on high school enrollment can be obtained at https://www.educateiowa.gov/education-statistics.

The average number of CTE courses offered in AY19 increased from the previous year in larger school districts, while the average number decreased in smaller school districts. In terms of compound annual growth rate, school districts with high school enrollments between 1,250-3,999 and those between 500-1,249 grew by 7.3 percent and 6.3 percent, respectively. School districts with high school enrollments of 4,000 or more increased by 0.2 percent. The average number of college-credit contracted CTE courses also increased in larger school districts and decreased in smaller school districts. The number of CTE courses and the number of college-credit contracted CTE courses were both positively correlated to school district size, as larger schools offered more high school and college-credit contracted CTE courses (see Tables 2.1 and 2.2).

TABLE 2.2: AVERAGE COLLEGE-CREDIT CTE COURSES BY SCHOOL DISTRICT SIZE: AY15-AY19

High School Student Enrollment	AY15	AY16	AY17	AY18	AY19	CAGR*
<100	1.7	2.9	2.5	4.6	3.7	21.5%
100-299	3.2	4.2	4.7	6.3	6.0	17.0%
300-499	6.1	7.2	7.2	11.7	11.4	16.9%
500-1249	6.7	8.5	9.4	11.6	12.0	15.7%
1250-3999	10.4	12.7	13.7	17.3	18.1	14.9%
>4000	30.8	34.0	34.3	32.2	32.6	1.4%
Total	6.0	6.1	6.5	9.0	8.7	22.3%

*Note: * CAGR=Compound Annual Growth Rate. Due to an error in calculation in last year's report, the average number of college-credit contracted courses offered by school district size for AY18 was updated.*

Figure 2.2 displays the total number of secondary CTE programs (at least three units of sequential CTE coursework aligning with a CIP code) taught since AY15. The number of CTE programs peaked in AY16 (1,857) and has decreased slightly each subsequent year. However, the number of secondary CTE programs from AY15 to AY18 grew, on a compound annual growth rate (CAGR) basis, by one percent. It is worth noting that in AY16, the Department began using a new data reporting system, which may be a contributing factor to the slight drop in CTE programs.

FIGURE 2.2: NUMBER OF SECONDARY CTE PROGRAMS: AY15-AY19

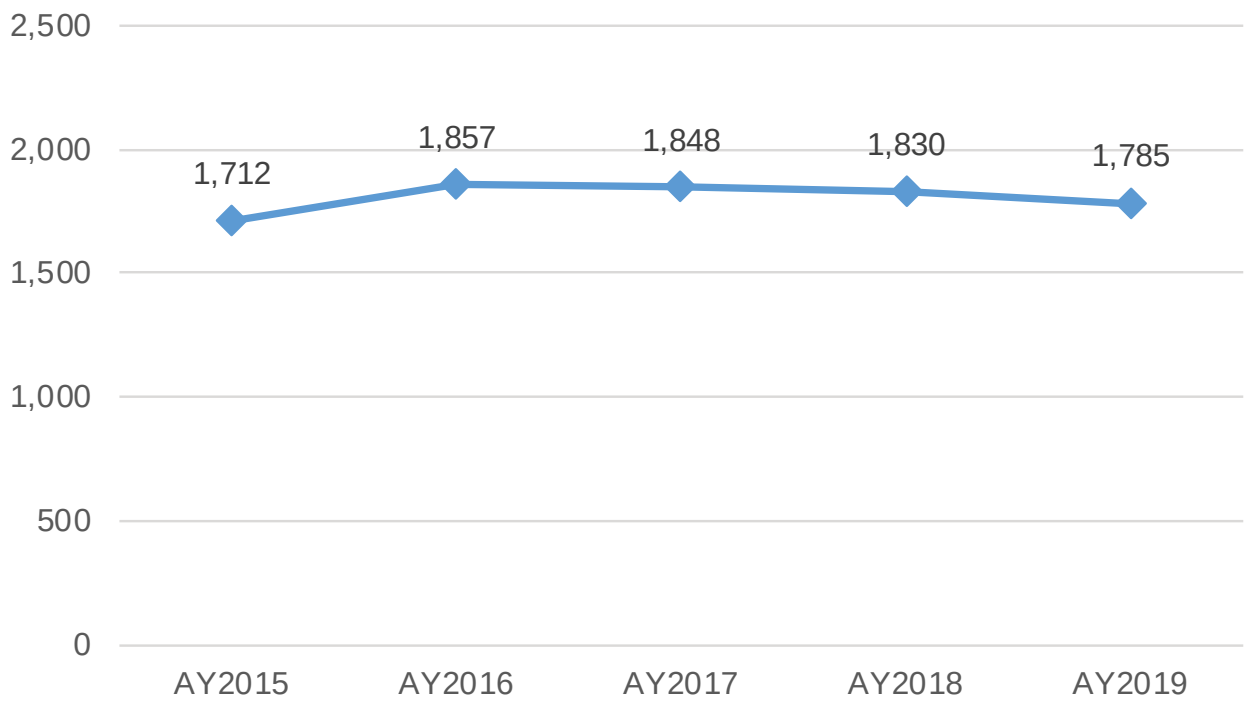


Table 2.3 shows the average number of CTE programs offered by school district size. Larger school districts offered more CTE than smaller school districts during each academic year reported. For example, in AY19, 13.8 secondary CTE programs were offered at school districts with more than 4,000 high school students, compared to 4.5 programs offered at school districts with enrollments of fewer than 100 high school students. Over the five-year period, the average number of CTE programs increased at school districts of all sizes, except for school districts with more than 4,000 students, which decreased by less than one percent. Statewide, the average number of secondary CTE programs increased by 1.8 percent since AY15.

Table 2.4 breaks down CTE programs by service area and shows that Applied Science, Technology, Engineering and Manufacturing was the most common service area, with 620 programs taught in AY19. By contrast, Information Solutions was the smallest service area, with 80 programs taught in the same year. Information Solutions grew, with a compound annual growth rate of 18.2 percent, followed by Applied Science, Technology, Engineering and Manufacturing (3.0 percent) and Human Services (1.6 percent). Business, Finance, Marketing and Management decreased by 4.8 percent.

TABLE 2.3: AVERAGE NUMBER OF CTE PROGRAMS BY SCHOOL DISTRICT SIZE: AY15 - AY19

High School Student Enrollment	AY15	AY16	AY17	AY18	AY19	CAGR*
<100	4.4	4.7	4.6	4.6	4.5	0.6%
100-299	4.7	5.1	5.2	5.1	4.9	1.0%
300-499	5.9	6.3	6.3	6.4	6.1	0.8%
500-1249	6.7	7.3	7.4	7.3	7.5	2.9%
1250-3999	8.7	9.7	9.7	9.4	9.1	1.1%
>4000	14.0	14.5	15.0	14.2	13.8	-0.4%
Total	5.5	6.0	6.0	6.0	5.9	1.8%

*Note: * CAGR=Compound Annual Growth Rate*

TABLE 2.4: NUMBER OF CTE PROGRAMS BY SERVICE AREAS: AY15 - AY19

Career Cluster	AY15	AY16	AY17	AY18	AY19	CAGR *
Business, Finance, Marketing, and Management	393	406	391	327	323	-4.8%
Agriculture, Food & Natural Resources	252	261	263	252	255	0.3%
Information Solutions	41	45	45	75	80	18.2%
Applied Science, Technology, Engineering, and Manufacturing	550	640	630	672	620	3.0%
Health Sciences	132	144	152	130	140	1.5%
Human Services	344	361	367	374	367	1.6%
Total	1,712	1,857	1,848	1,830	1,785	1.0%

*Note: * CAGR=Compound Annual Growth Rate*

Chapter Highlights

Over a five-year time period:

- The total number of CTE courses and programs offered and taught held steady, with only minor shifts occurring up or down.
- Small to medium-sized school districts had growth in the average number of CTE programs offered and taught, whereas the larger school districts experienced no change or decreased.
- There was significant growth of more than 45 percent over a five-year period in the use of college-credit contracted courses in secondary CTE programs. This growth differed by the size of the school districts with larger ones offering and teaching more college-credit contracted courses than smaller school districts.
- The service area with the most CTE programs offered was Applied Science, Technology, Engineering and Manufacturing with 620 programs representing 34.7 percent of all CTE programs offered in AY19.
- The Information Technology service area had the smallest number of CTE programs offered in AY19 at 80 programs. However, the number of programs in this service area had an 18.2 percent compound annual growth rate between AY15 and AY19, the highest growth of any service area.

Chapter 3. Secondary CTE Enrollment

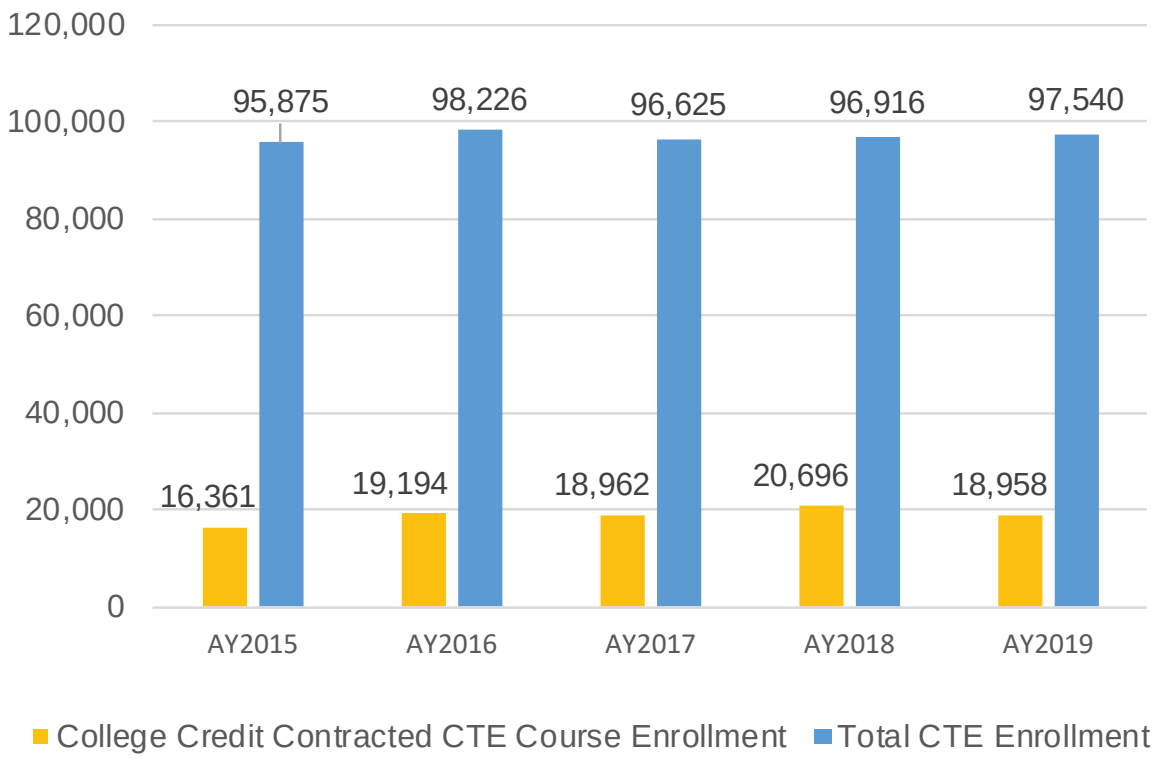
This chapter summarizes secondary CTE enrollment since AY15. The high school students who took at least one CTE course in a given academic year were identified as CTE students. It should be noted that while school districts are required to offer and teach a minimum of three units in at least four of the six service areas, high school students are free to determine the extent to which they will enroll and complete CTE courses and programs.

Trends in Secondary CTE Enrollment

Figure 3.1 displays secondary CTE enrollment and college-credit contracted CTE enrollment from AY15 to AY19. The number of students enrolled in secondary CTE courses peaked in AY16 (98,226). In AY19, there were 97,540 students enrolled in at least one CTE course, a 0.6 percent increase from the previous year.

Students who took at least one college-credit contracted CTE course were identified as college-credit CTE students. In AY19, 18,958 students (19.4 percent of the total CTE enrollment) took at least one college-credit contracted CTE course, which was an 8.4 percent decrease from the previous year.

FIGURE 3.1 SECONDARY CTE AND COLLEGE-CREDIT CONTRACTED CTE ENROLLMENT: AY15 - AY19



Over the past five years, the secondary CTE participation rate in Iowa was approximately 66 percent. As shown in Figure 3.2, the proportion of CTE enrollment in grades 9-12 increased from 65.4 percent in AY15 to 68.3 percent in AY19. The change in the secondary CTE participation rate aligns with the change in total secondary CTE enrollment.

Figure 3.3 on the following page displays CTE enrollment by school district size. In this report, school district size was based on high school student enrollment. On average, school districts with enrollments of 100-299 high school students had the largest secondary CTE enrollments. For instance, all of the school districts with high school enrollments of 100-299 students had a total combined CTE enrollment of 22,682 in AY19.

FIGURE 3.2 SECONDARY CTE PARTICIPATION RATE: AY15 - AY19

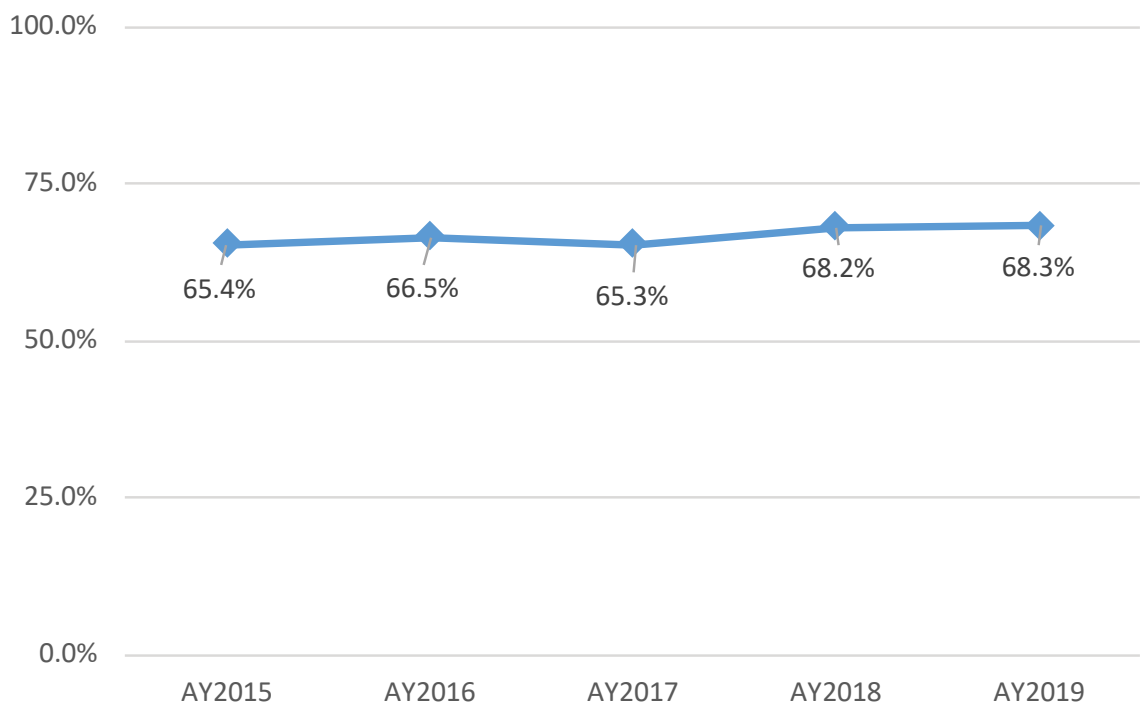


FIGURE 3.3: TOTAL COMBINED SECONDARY CTE ENROLLMENT BY SCHOOL DISTRICT SIZE: AY15 - AY19

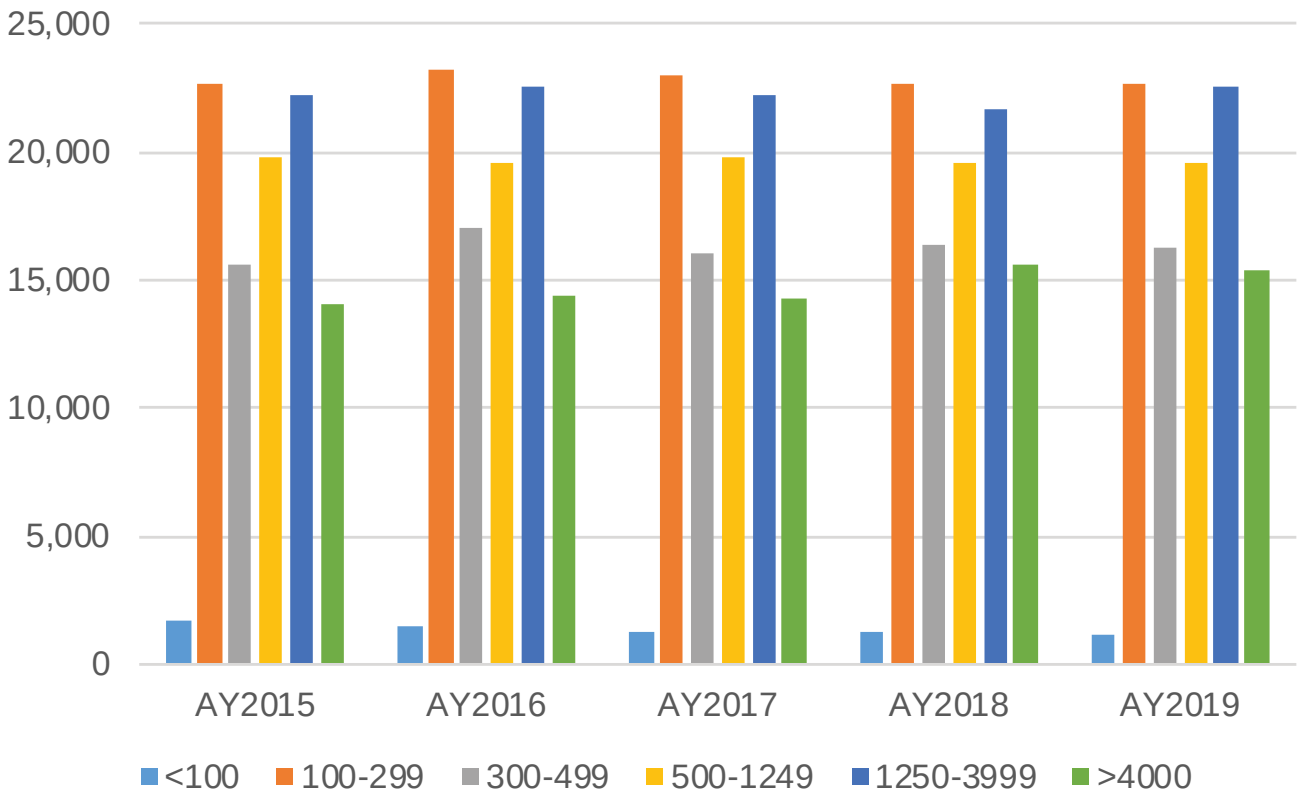


Figure 3.4 and Table 3.1 show CTE participation rates by school district size. When observing the year-to-year average over the five-year period, school districts with enrollments of 100-299 high school students had the highest secondary CTE participation rate in all years, except for AY18, with a five-year average rate of 76.0 percent. Comparatively, school districts with high school enrollments of 1,250-3,999 had the lowest CTE participation rate for all years, except for AY19. The five-year average participation rate for this group was 58.6 percent despite having contributed approximately 24 percent of the total secondary CTE enrollment statewide. In AY19, school districts with more than 4,000 high school students had the lowest CTE participation rate at 59.5 percent.

FIGURE 3.4: SECONDARY PARTICIPATION RATE BY SCHOOL DISTRICT SIZE: AY15- AY19

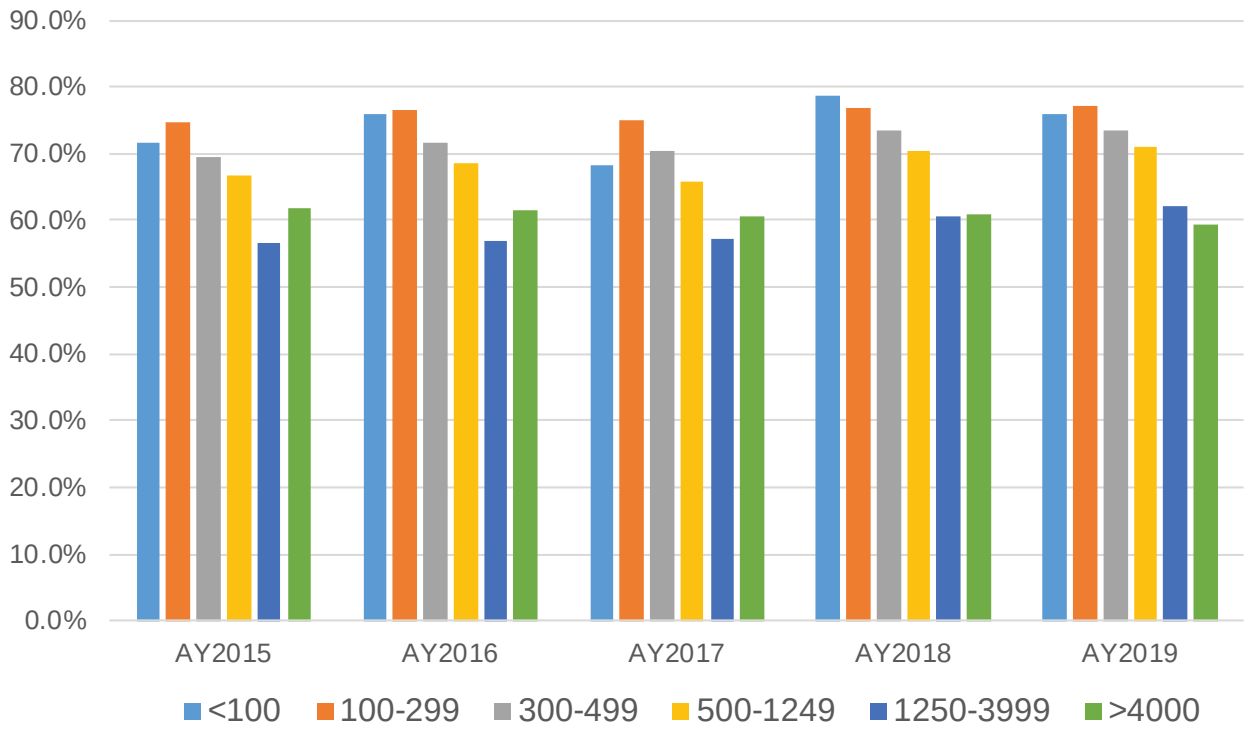


TABLE 3.1: SECONDARY CTE PARTICIPATION RATE BY SCHOOL DISTRICT SIZE: AY15-AY19

High School Student Enrollment	AY15	AY16	AY17	AY18	AY19	Five-Year Average
<100	71.6%	76.0%	68.2%	78.6%	75.9%	74.1%
100-299	74.7%	76.4%	75.0%	76.9%	77.1%	76.0%
300-499	69.5%	71.5%	70.3%	73.6%	73.4%	71.7%
500-1,249	66.8%	68.5%	65.7%	70.5%	71.0%	68.5%
1,250-3,999	56.5%	56.9%	57.1%	60.6%	62.0%	58.6%
>4,000	61.9%	61.6%	60.6%	60.9%	59.5%	60.9%
Total	65.4%	66.5%	65.3%	68.2%	68.3%	66.7%

Table 3.2 shows college-credit CTE students as a percentage of total secondary CTE enrollment by school district size. This percentage positively correlates to school district size: students in larger school districts were more likely to have taken college-credit contracted CTE courses. For example, in AY19, only 12.7 percent of secondary CTE students at school districts with fewer than 100 high school students enrolled in at least one college-credit contracted CTE course, compared to 26.9 percent of CTE students in school districts with enrollments of more than 4,000 high school students. The statewide percentage of college-credit contracted CTE students increased from 17.1 percent in AY15 to 19.4 percent in AY19, although there was a slight decrease from AY18 to AY19.

TABLE 3.2: COLLEGE-CREDIT CTE STUDENTS AS A PERCENTAGE OF TOTAL SECONDARY CTE ENROLLMENT BY SCHOOL DISTRICT SIZE: AY15-AY19

High School Student Enrollment	AY15	AY16	AY17	AY18	AY19	Five-Year Average
<100	8.6%	12.1%	12.1%	11.7%	12.7%	11.4%
100-299	10.0%	12.3%	13.3%	15.5%	15.3%	13.3%
300-499	15.2%	16.3%	15.8%	19.2%	18.2%	16.9%
500-1,249	16.9%	19.9%	19.1%	20.7%	19.0%	19.1%
1,250-3,999	20.9%	24.6%	23.6%	24.2%	20.1%	22.7%
>4,000	25.7%	27.4%	29.4%	29.6%	26.9%	27.8%
State Total	17.1%	19.5%	19.6%	21.4%	19.4%	19.4%

Figure 3.5 shows secondary CTE enrollment by grade level. The pattern of CTE enrollment by grade level held steady over the past five years. Students in the 9th grade consistently accounted for the largest proportion of total secondary CTE enrollment, averaging 28.7 percent over the past five years. Students in the 10th grade accounted for the next largest proportion, averaging 25.7 percent, followed by students in grades 11 and 12, which accounted for 23.6 percent and 22.0 percent, respectively.

Table 3.3 on the following page provides enrollment by service area and Figure 3.6 displays the change in enrollment by service area since AY15. Over the past five years, more students enrolled in Human Services courses than in any other service area. A total of 51,395 students took at least one course in this service area in AY19. Courses in the Applied Science, Technology, Engineering and Manufacturing service area were also popular among high school students. In AY19, a total of 31,692 students took at least one course in this service area.

AY19 enrollments increased from the previous year in Information Solutions, Health Sciences and Human Services, whereas they decreased in Business, Finance, Marketing and Management, Agriculture, Food and Natural Resources and Applied Science, Technology, Engineering and Manufacturing.

FIGURE 3.5: SECONDARY ENROLLMENT BY GRADE LEVEL: AY15 - AY19

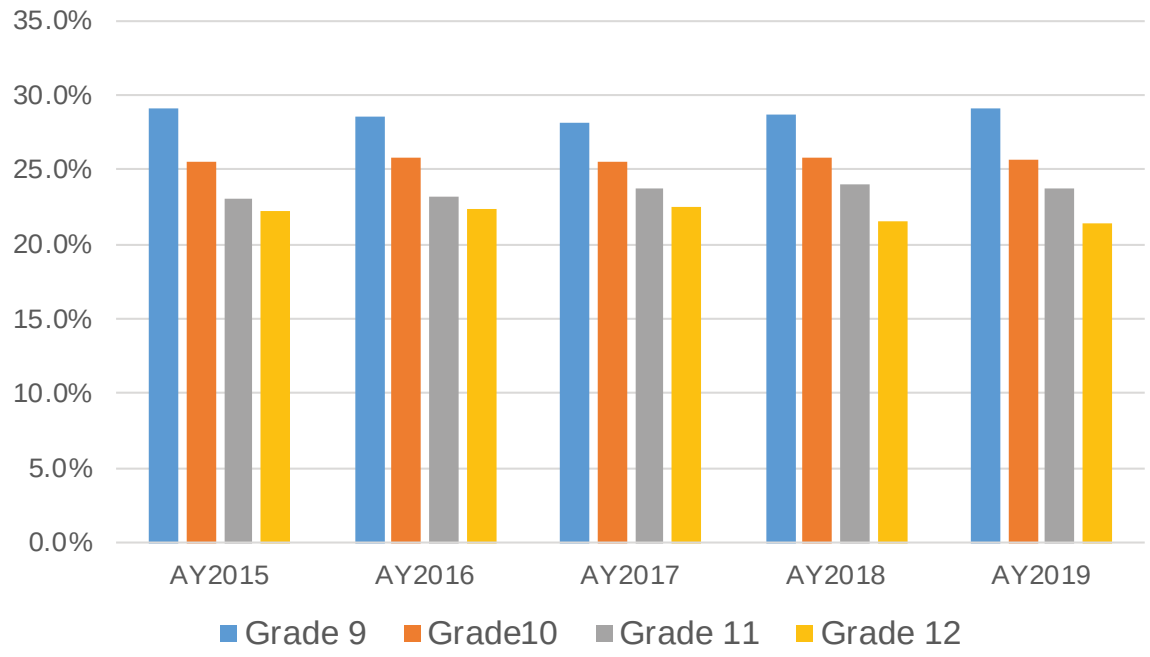
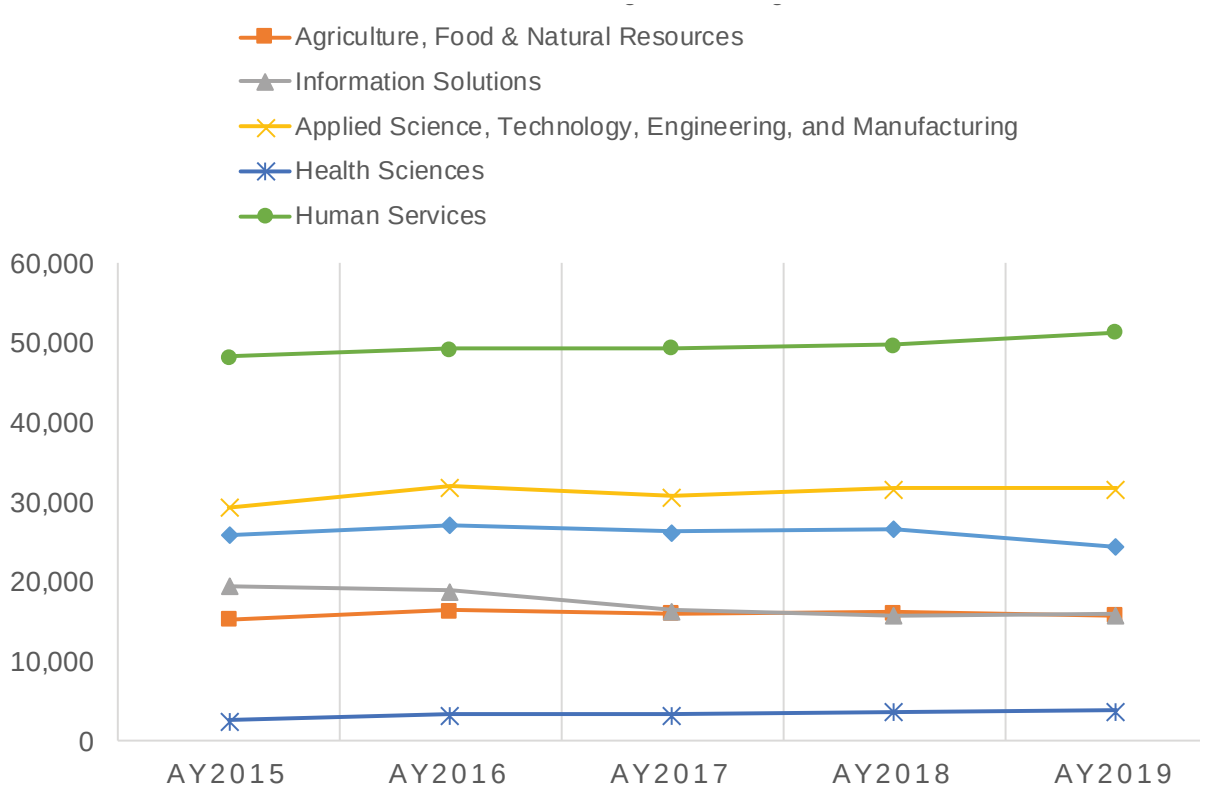


TABLE 3.3: SECONDARY CTE ENROLLMENT BY SERVICE AREA: AY15- AY19

Service Area	AY15	AY16	AY17	AY18	AY19	CAGR*
Business, Finance, Marketing, and Management	25,932	27,165	26,239	26,632	24,416	-1.5%
Agriculture, Food and Natural Resources	15,315	16,360	16,033	16,134	15,787	0.8%
Information Solutions	19,488	18,833	16,475	15,746	15,894	-5.0%
Applied Science, Technology, Engineering, and Manufacturing	29,425	32,023	30,787	31,763	31,692	1.9%
Health Sciences	2,628	3,285	3,314	3,684	3,876	10.2%
Human Services	48,313	49,257	49,340	49,767	51,395	1.6%

Note: Students can take CTE courses across different service areas and thus may be counted multiple times.
** CAGR=Compound Annual Growth Rate*

FIGURE 3.6: ENROLLMENT CHANGE IN SERVICE AREAS: AY15 - AY19



Chapter Highlights

Over a five-year period:

- Enrollment in secondary CTE courses and overall secondary CTE participation rates increased over the last two years after decreasing in AY17. The secondary CTE participation rate reached a five-year high in AY19, at 68.3 percent.
- While smaller school districts had higher overall secondary CTE participation rates, the proportion of secondary CTE enrollment in college-credit contracted CTE courses was larger in bigger school districts.
- Secondary CTE student enrollment was the highest in the 9th grade and decreased each consecutive year through 12th grade.
- Over the last five years, more students enrolled in Human Services courses than any other service area.
- Enrollment increased in three service areas from AY18 to AY19: Information Solutions, Health Sciences and Human Services.

Chapter 4. Student Characteristics

This chapter describes the characteristics of secondary CTE students, including demographics and eligibility for free and reduced-price lunch through the National School Lunch Program. Distributions and demographics of secondary CTE students across grades 9 through 12, the number of CTE courses take over the past five academic years and the number of CTE courses taken over the past five academic years is provided.

Demographics

White students made up 78.6 percent of all secondary CTE students in AY19. Figure 4.1 displays the proportion of white students and the proportion of minority students who were enrolled in secondary CTE programs from AY15 through AY19. The percentage of minority secondary CTE students increased steadily, from 18.5 percent in AY15 to 21.4 percent in AY19. Hispanic students comprised the largest minority group, averaging 47.3 percent of minority student CTE enrollment, followed by black students, who averaged 24.8 percent. Students who reported two or more races came in third, comprising 13.8 percent of minority student CTE enrollment, on average (see Table 4.1 on the following page).

Figure 4.2 on the following page shows the enrollment of secondary CTE students by gender. Over the past five years, more male students enrolled in CTE courses than female students. Although the number of female students who enrolled in CTE courses increased slightly from 43,335 in AY15 to 43,795 in AY19, the proportion of female students enrolled in secondary CTE courses decreased. Female students comprised 45.2 percent of secondary CTE enrollment during AY15 and dropped to 44.9 percent by AY19.

FIGURE 4.1: PROPORTION OF WHITE VS MINORITY SECONDARY CTE STUDENTS: AY15 - AY19

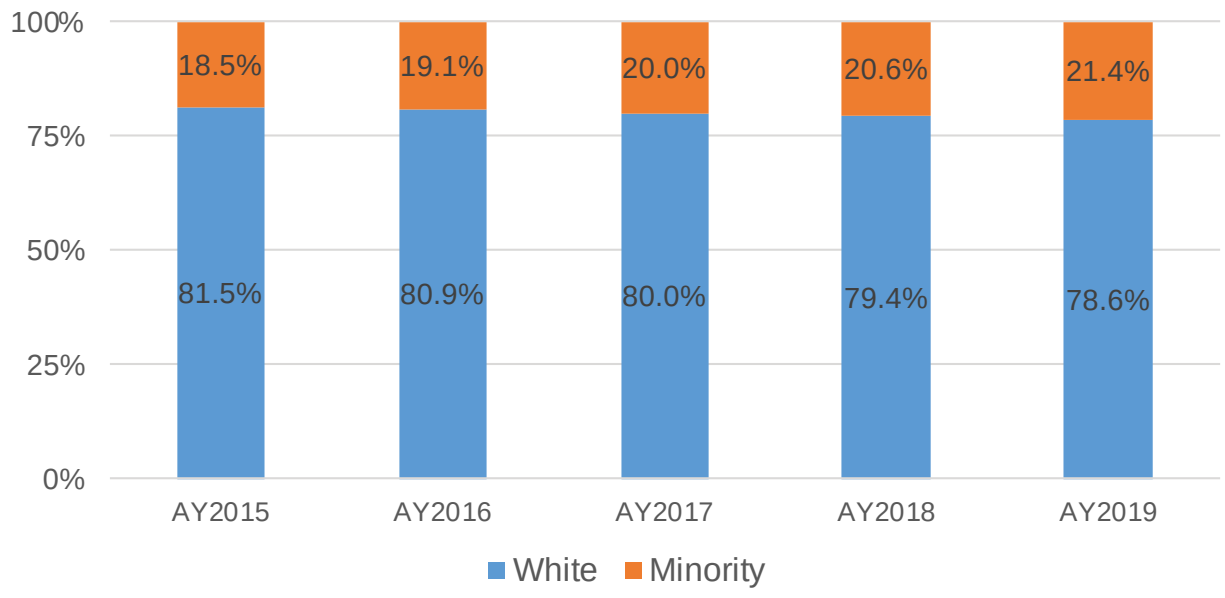


TABLE 4.1: DISTRIBUTION OF MINORITY SECONDARY CTE STUDENTS: AY15 - AY19

Race/Ethnicity	AY15		AY16		AY17		AY18		AY19	
	N	%	N	%	N	%	N	%	N	%
Hispanic	8,221	46.4	8,844	47.2	9,157	47.4	9,531	47.7	9,973	47.8
Black	4,340	25.8	4,573	25.8	4,638	24.8	4,818	24.9	4,836	24.2
More than one	2,241	13.3	2,336	13.2	2,595	13.9	2,603	13.5	2,761	13.8
Asian	1,951	11.6	2,099	11.8	2,146	11.5	2,193	11.4	2,306	11.5
American Indian/Alaskan Native	390	2.3	343	1.9	341	1.8	340	1.8	325	1.6
Pacific Islanders	127	0.8	151	0.9	162	0.9	201	1.0	224	1.1
State	17,723		18,726		19,312		19,983		20,876	

FIGURE 4.2: PROPORTION OF MALE AND FEMALE SECONDARY CTE STUDENTS: AY15 - AY19

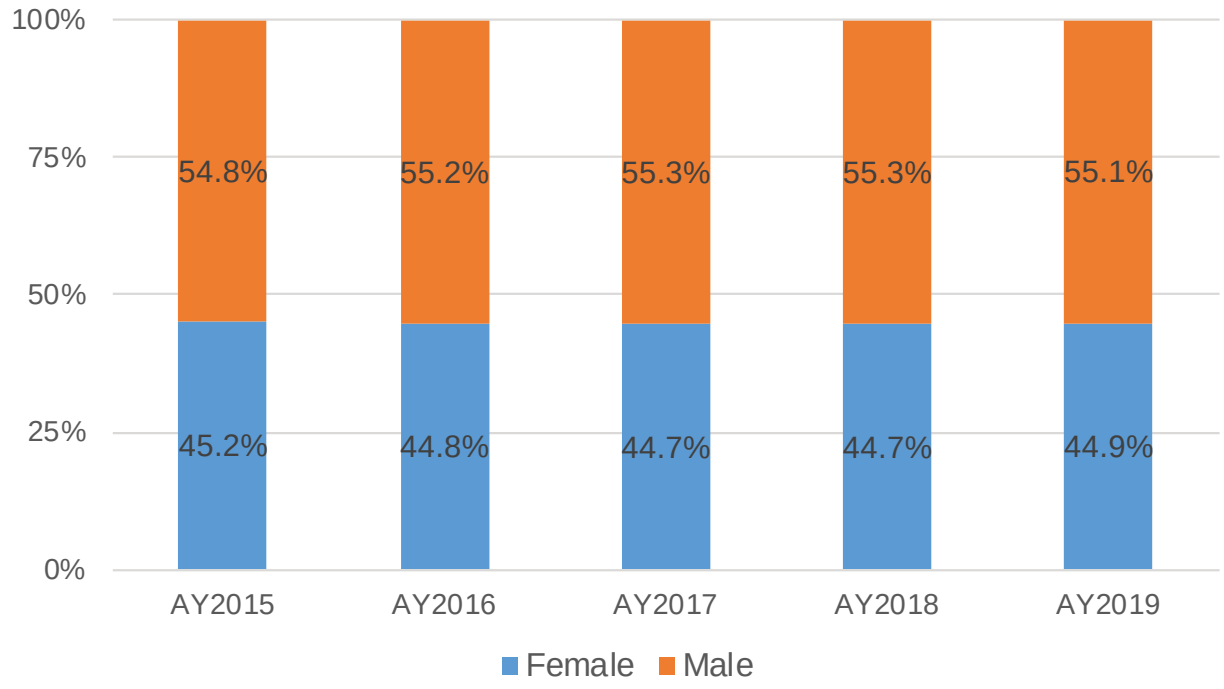
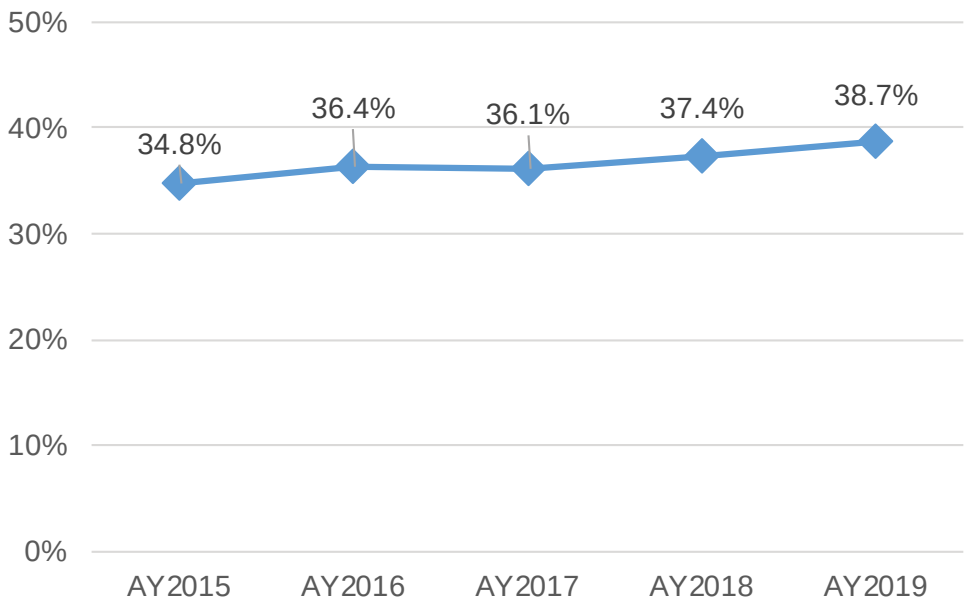


FIGURE 4.3: PROPORTION OF SECONDARY CTE STUDENTS WHO WERE ELIGIBLE FOR FREE AND REDUCED-PRICE MEALS THROUGH THE NATIONAL SCHOOL LUNCH PROGRAM: AY15 - AY19



Trends in Secondary CTE Course Taking

Figure 4.4 displays the distribution of CTE course taking (both secondary and college-credit contracted) per student since AY15. Between AY15 and AY17, approximately 44 percent of students took one CTE course in an academic year. In AY18 and AY19, the percent of students who took one CTE course in an academic year dropped to 33.8 percent and 34.5 percent, respectively. The percent of students who took two CTE courses in an academic year remained steady at approximately 30 percent over the past five years. Around 35 percent of students took three or more CTE courses during AY18 and AY19, compared to fewer than 25 percent of students between AY14 and AY17.

The average number of CTE courses taken per student grew by 5.3 percent (compound annual growth rate). In AY19, secondary students enrolled in an average of 2.34 CTE courses per academic year, compared to 1.90 in AY15 (Figure 4.5).

FIGURE 4.4: DISTRIBUTION OF SECONDARY STUDENTS BY NUMBER OF CTE COURSES: AY15 - AY19

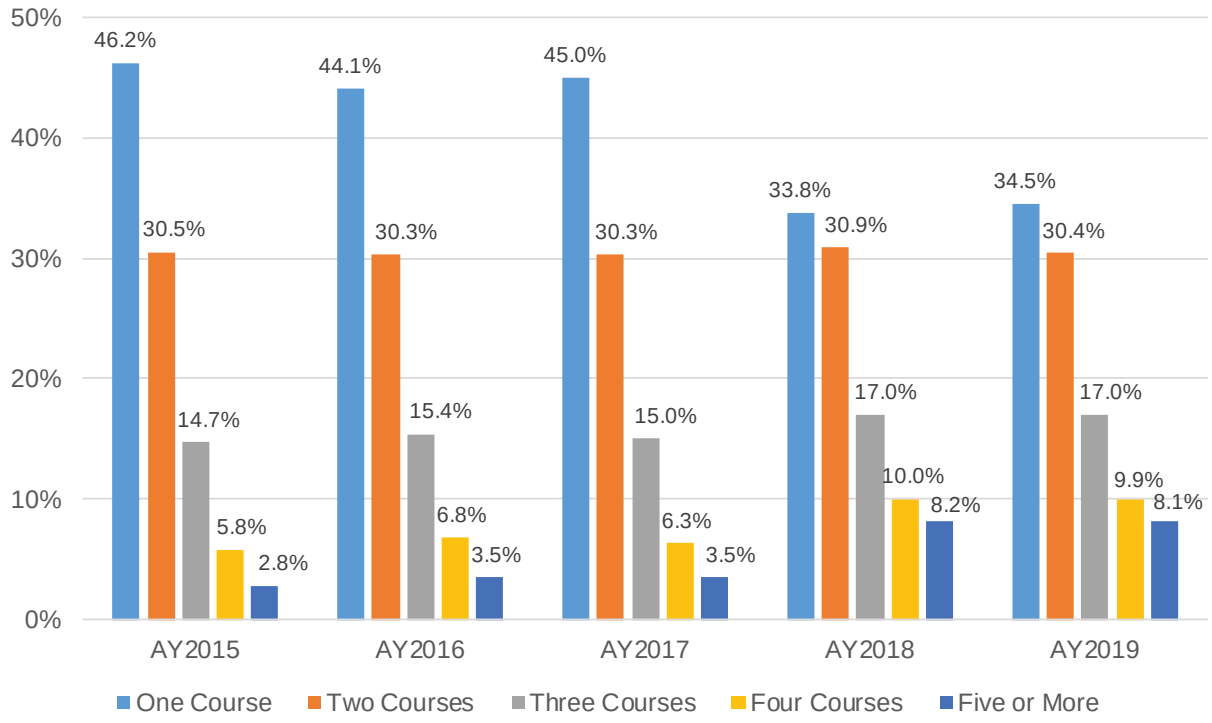
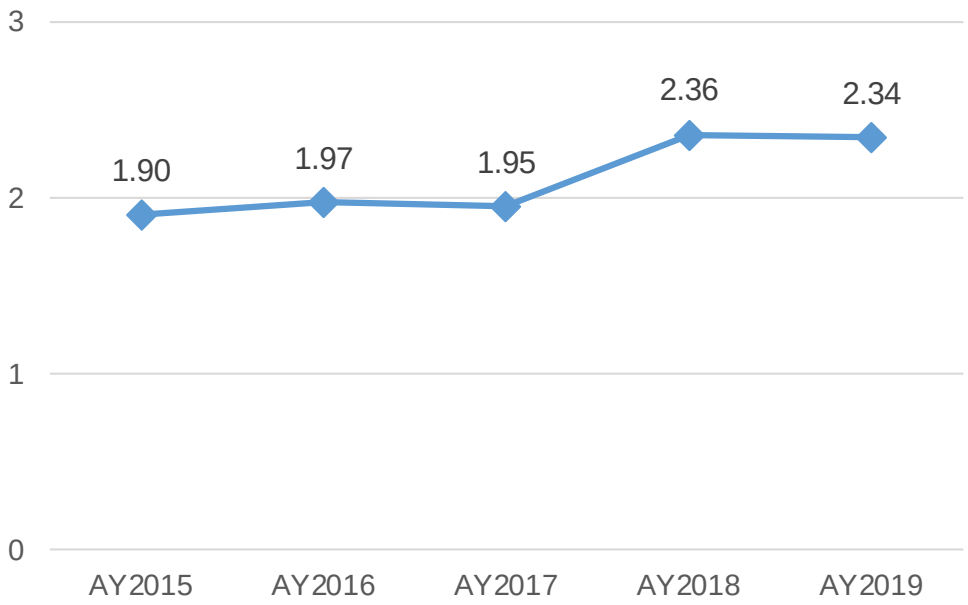


FIGURE 4.5: AVERAGE NUMBER OF CTE COURSES TAKEN BY SECONDARY STUDENTS: AY15 - AY19



On average, students in 12th grade took more CTE courses per academic year than students in other grades (Figure 4.6).

Figures 4.7 through 4.9 shows the average number of CTE courses broken down by gender, race/ethnicity and eligibility for free or reduced-price meals for AY15 through AY19. During each of the last five years, male secondary students took more CTE courses than female students and white secondary students took more CTE courses than minority students. There was little difference between secondary CTE students who were eligible for free and reduced-price meals through the National School Lunch Program and those who were not eligible.

FIGURE 4.6: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY GRADE LEVEL: AY15 - AY19

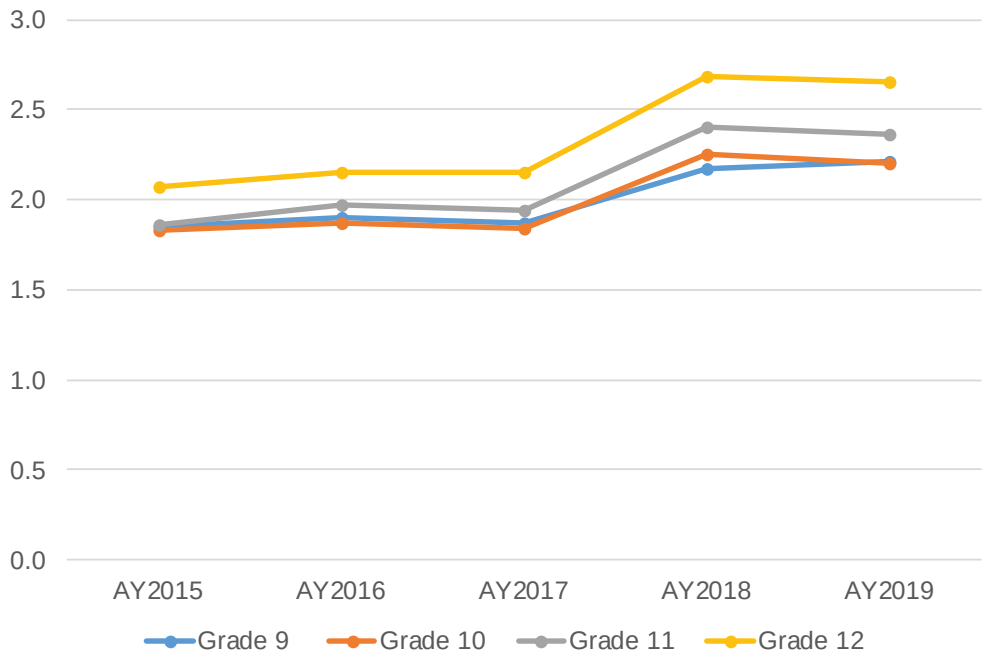


FIGURE 4.7: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY GENDER: AY15 - AY19

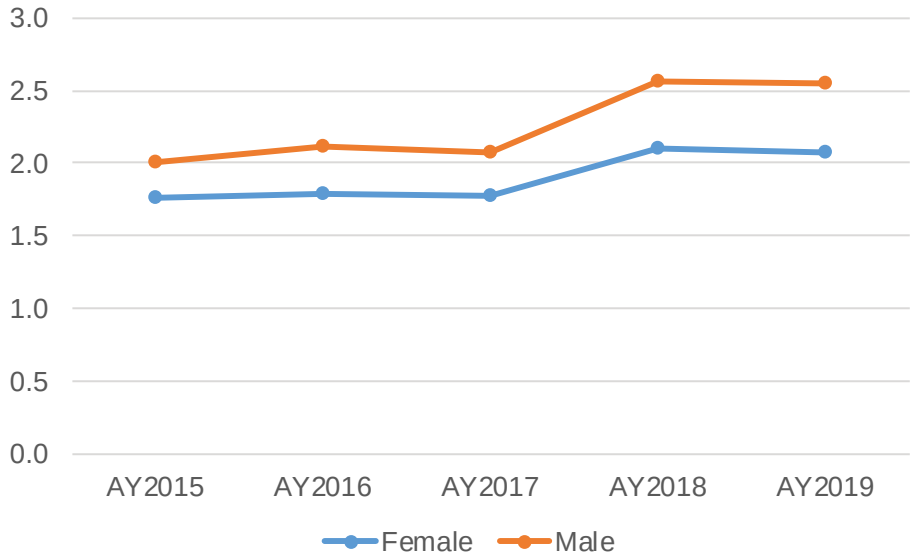


FIGURE 4.8: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY RACE/ETHNICITY: AY15 - AY19

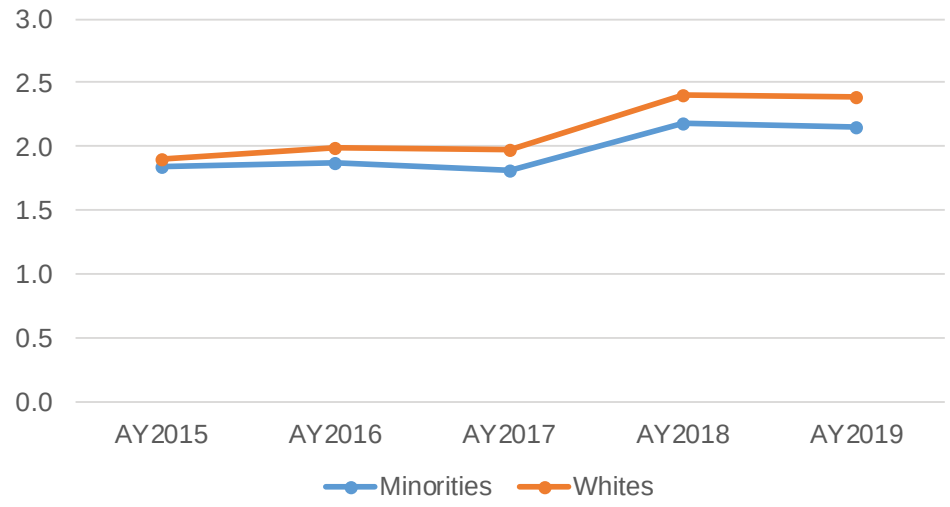
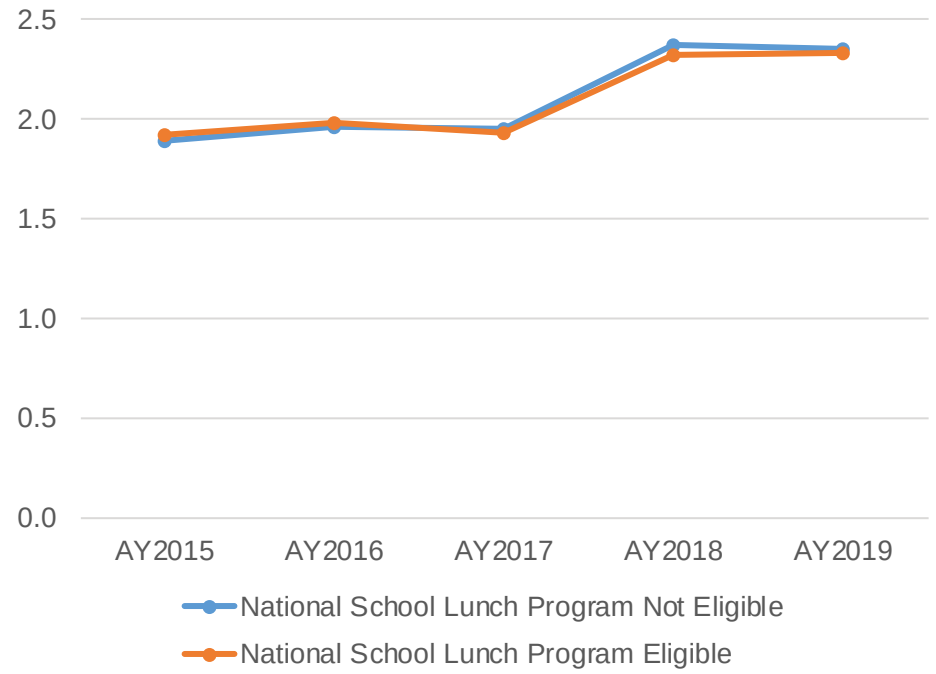


FIGURE 4.9: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY ELIGIBILITY FOR FREE AND REDUCED-PRICE MEALS THROUGH THE NATIONAL SCHOOL LUNCH PROGRAM ELIGIBILITY: AY15 - AY19



Chapter Highlights

Over a five-year time period:

- Secondary CTE participation declined slightly for white students, while there was a slight increase for minority students.
- Hispanic and African American students made up about 70 percent of overall minority secondary student CTE participation. CTE participation for different student population groups held steady.
- Secondary CTE participation was higher for male students than female students.
- The proportion of secondary CTE students who were eligible for free and reduced-price meals through the National School Lunch Program remained steady. There was not a significant relationship between the proportion of secondary CTE students who were eligible for the National School Lunch Program, and those who were not when it came to CTE course taking.
- There was a steady rise in annual CTE course-taking across grades 9 – 12.
- The proportion of students who took three or more courses remained steady until AY17. Since AY18, that proportion has increased.

Chapter 5. Secondary CTE Human Resources

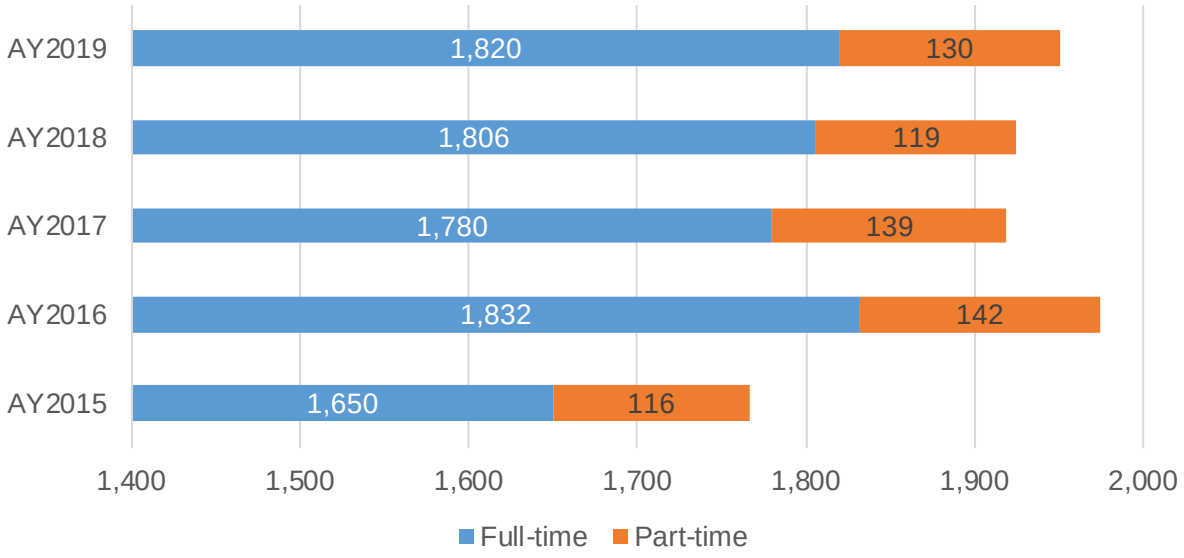
This chapter reports on secondary teachers and community college faculty responsible for teaching secondary CTE courses. The first part of this chapter summarizes data available on secondary CTE teachers employed by school districts. Information on K-12 staff was collected from Iowa's public school districts through the Licensed Staff Detail report on the Basic Educational Data Survey (BEDS) at the beginning of each school year. For this report, the following information on CTE teachers for grades 9-12 from AY15 to AY19 was extracted from BEDS: race/ethnicity, gender, age, years of experience, base salaries and type of employment. This data was also matched with the data from the Iowa Board of Educational Examiners to cross-reference teaching endorsements. Both full-time and part-time secondary CTE teachers are reported.

The second part of this chapter includes information on CTE faculty employed by Iowa's community colleges who taught college-credit contracted CTE courses for high school students. The Community College Management Information System (MIS) was used to report on this data. Community college faculty who had at least one high school student in their college-credit CTE classes in an academic year were identified as college-credit contracted CTE teachers in this report. These instructors included full-time, adjunct and part-time faculty. For differentiating purposes, faculty employed by school districts are referred to as secondary CTE teachers, and faculty employed by community colleges are referred to as college-credit contracted CTE faculty.

Secondary CTE Teacher Characteristics

Figure 5.1 displays the number of full-time and part-time CTE teachers employed by school districts from AY15 through AY19. The number of CTE teachers grew by 2.5 percent (compound annual growth) from 1,766 in AY15 to 1,950 in AY19. The number of full-time CTE teachers increased from 1,650 to 1,820, representing compound annual growth of 1.9 percent. The number of part-time CTE teachers increased from 116 in AY15 to 130 in AY19, representing compound annual growth of 2.9 percent.

FIGURE 5.1: NUMBER OF SECONDARY CTE TEACHERS BY EMPLOYMENT TYPE: AY15 - AY19



While there were more male CTE teachers than female teachers during AY 15 and AY16, female teachers have outnumbered male teachers in recent years (Figure 5.2). The number of female CTE teachers increased by 6.5 percent (compound annual growth) from AY15 to AY19, while the number of male CTE teachers dropped 0.9 percent (compound annual growth).

The proportion of white and minority teachers remained consistent over the past five years, with minorities accounting for less than two percent of the CTE teacher population (Table 5.1). Additionally, there was little variation in average age, average district experience and average total experience among secondary CTE teachers over the past five years (Table 5.2).

The average base salary of CTE teachers (including for part-time teachers) increased by 1.6 percent (compound annual growth), from $51,854 in AY15 to $55,163 in AY19. The average base salary for full-time CTE teachers increased by 1.6 percent (compound annual growth) from $53,059 in AY15 to $56,309 in AY19.

FIGURE 5.2: NUMBER OF SECONDARY CTE TEACHERS BY GENDER: AY15 - AY19

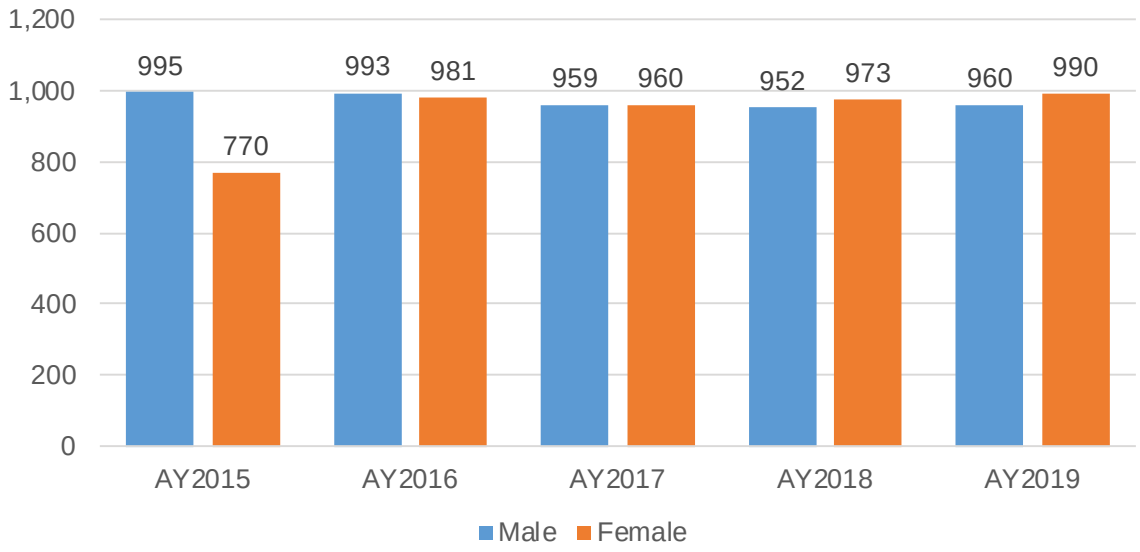


TABLE 5.1: SECONDARY CTE TEACHERS BY RACE/ETHNICITY: AY15 - AY19

Race/Ethnicity	AY15	AY16	AY17	AY18	AY19
	%	%	%	%	%
Asian	0.2	0.2	0.2	0.2	0.2
Black	0.6	0.7	0.6	0.7	0.7
Hispanic	0.1	0.2	0.3	0.4	0.8
More than one	0.1	0.1	0.1	0.1	0.2
American Indian/ Alaskan Native	0.1	0.1	0.1	0.1	0.1
White	98.8	98.7	98.9	98.5	98.1
Total	100	100	100	100	100

TABLE 5.2: AGE, BASE SALARY, TOTAL EXPERIENCE, AND DISTRICT EXPERIENCE OF SECONDARY CTE TEACHERS: AY15-AY19

Year	Age (Years)	Base Salary	Total Experience (Years)	District Experience (Years)
AY15	43.1	$51,854	14.7	10.6
AY16	43.4	$52,724	14.7	10.5
AY17	43.2	$54,229	14.7	10.5
AY18	43.1	$54,872	14.6	10.5
AY19	43.0	$55,163	14.2	10.2

Secondary CTE Teachers in Six Service Areas

High school teachers are required to obtain relevant CTE endorsements (certificates) or authorizations to teach secondary CTE courses. Each teacher can obtain multiple certificates. For reporting purposes, secondary CTE endorsements were categorized based on the six service areas. Teachers with 5-12 Multi-Occupations, 5-12 Work Experience Coordinator, PS Multi-Occupation Preparatory or Vocation (9-12) endorsements can teach secondary courses applicable to all service areas (noted in Figure 5.3 as Applicable to All Service Areas).

In AY19, teachers with endorsements in Business, Finance, Marketing and Management (1,100) made up the largest group, followed by Human Services (699), Applied Science, Technology, Engineering and Manufacturing (569) and Agriculture, Food, and Natural Resources (484) (Figure 5.3). Noticeably fewer secondary CTE teachers had endorsements in Information Solutions (29) and Health Sciences (29). A total of 146 teachers had endorsements applicable to all service areas.

FIGURE 5.3: NUMBER OF SECONDARY CTE TEACHERS BY ENDORSEMENT TYPE: AY19

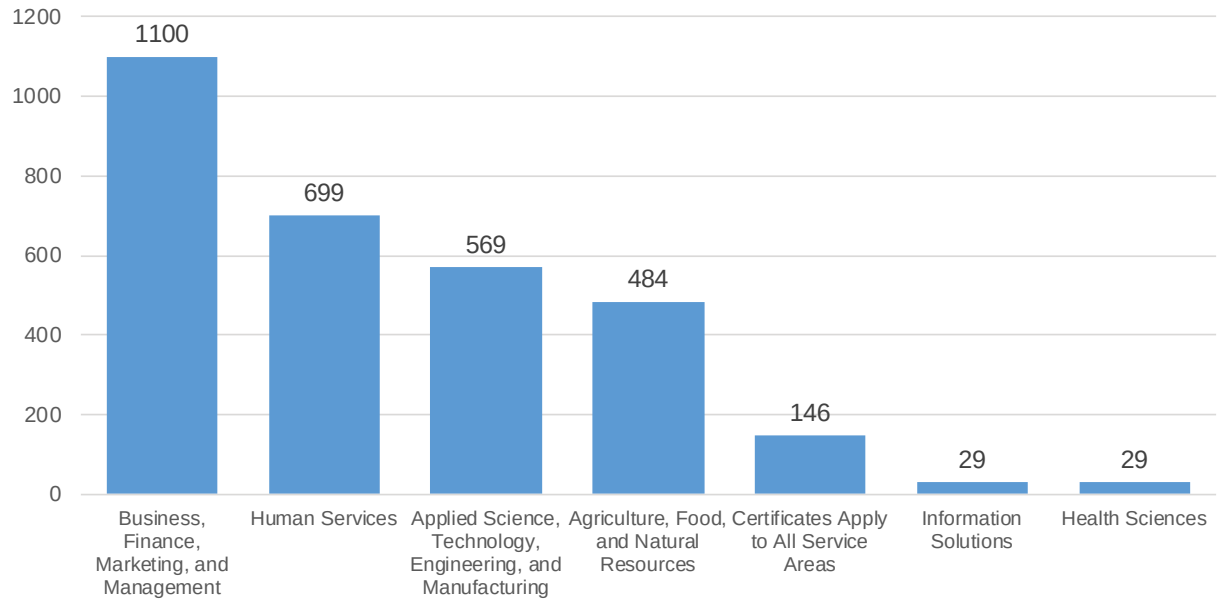
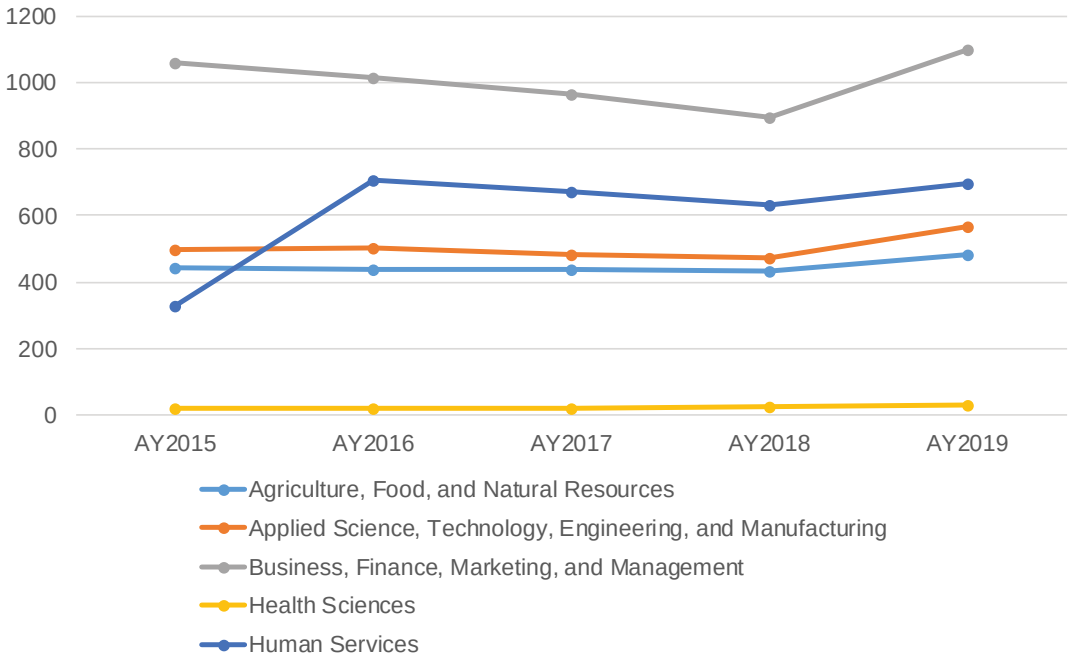


Figure 5.4 shows the change in the number of teachers with CTE endorsements by service area over the past five years. The number of CTE endorsements increased in all service areas from AY18 to AY19. The number of teachers with endorsements in the Human Services, Health Science and Applied Science, Technology, Engineering and Manufacturing service areas had compound annual growth rates of 20.6 percent, 6.0 percent and 3.3 percent, respectively.

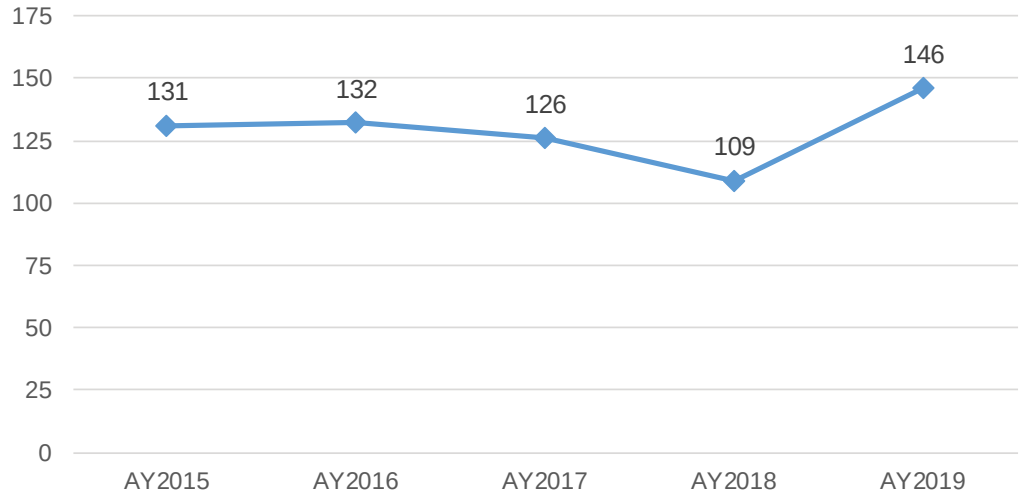
Figure 5.5 shows the change in the number of teachers with endorsements applicable to all service areas. The number of teachers with these endorsements decreased in AY17 and AY18 but increased to 146 teaches in AY19.

FIGURE 5.4: NUMBER OF TEACHERS WITH CTE ENDORSEMENTS BY SERVICE AREA: AY15-AY19



Note: Historical information is not available for Information Solutions since it was a new endorsement for K-12 teachers in AY18.

FIGURE 5.5: NUMBER OF TEACHERS WITH AN ENDORSEMENT APPLICABLE TO ALL SERVICE AREAS: AY15-AY19



Community College CTE Faculty Characteristics

Figure 5.6 displays the number of full-time, adjunct and part-time CTE faculty employed by community colleges who taught college-credit contracted CTE courses for AY15 through AY19. The number of community college CTE faculty who taught high school students increased by 0.5 percent (annualized) from 1,984 in AY15 to 2,027 in AY19. While secondary CTE teachers employed by school districts were primarily employed full time, nearly 70 percent of community college CTE faculty who taught high school students were either employed part-time or as adjuncts. Additionally, the number of full-time CTE faculty decreased by 1.0 percent (annualized) from 638 in AY15 to 613 in AY19.

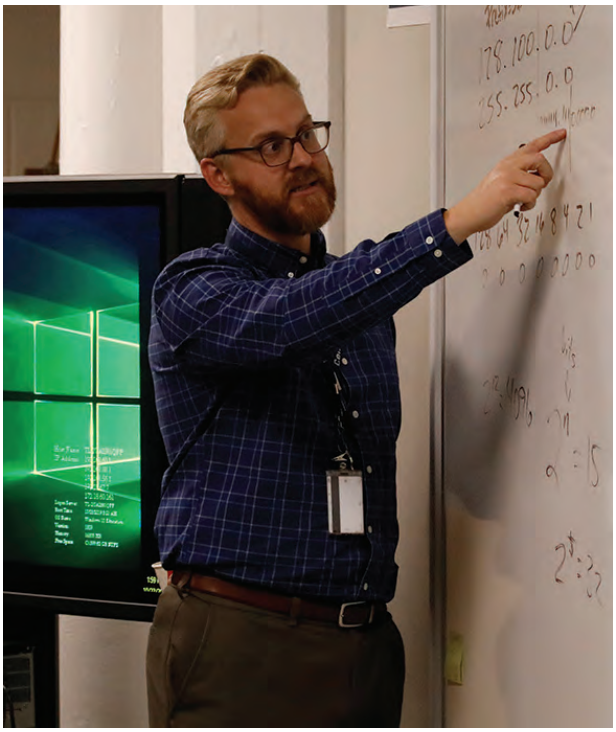
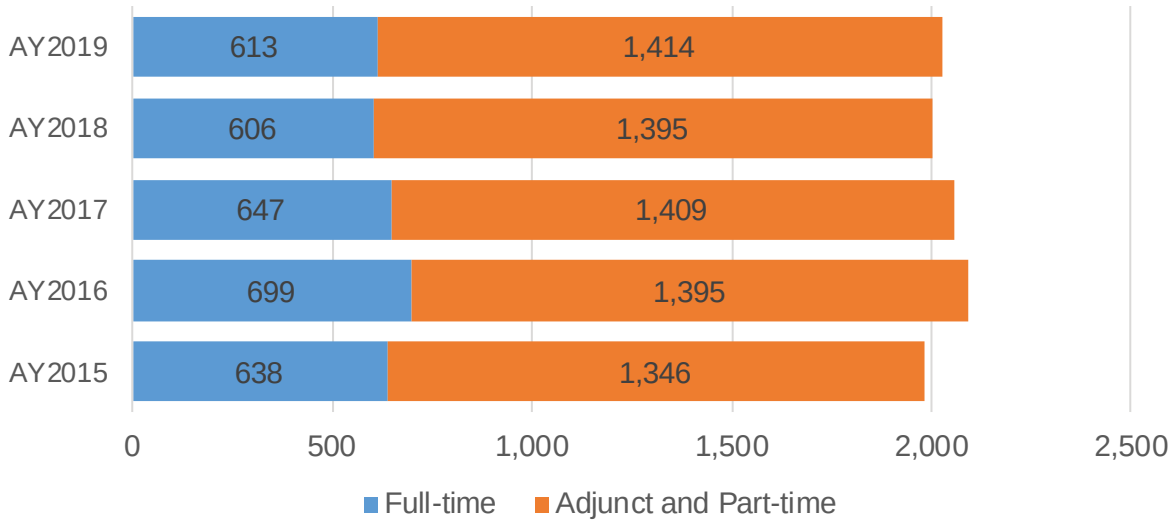


FIGURE 5.6: NUMBER OF COLLEGE-CREDIT CONTRACTED CTE FACULTY BY EMPLOYMENT TYPE: AY15-AY19



In each of the last five years, female college-credit contracted faculty outnumbered males (Figure 5.7). However, the numbers of both female and male community college CTE faculty who taught high school students increased from AY15 to AY19 with compound annual growth rates of 0.9 percent and 0.1 percent, respectively. The majority of faculty members who taught college-credit contracted CTE courses were white (see Table 5.3) and their average age was 49 years. The average salary of the CTE faculty (including part-time instructors) increased from $26,454 in AY15 to $29,551 in AY19, with a compound annual growth rate of 2.8 percent

FIGURE 5.7: NUMBER OF COLLEGE-CREDIT CONTRACTED CTE FAULTY BY GENDER: AY15 - AY19

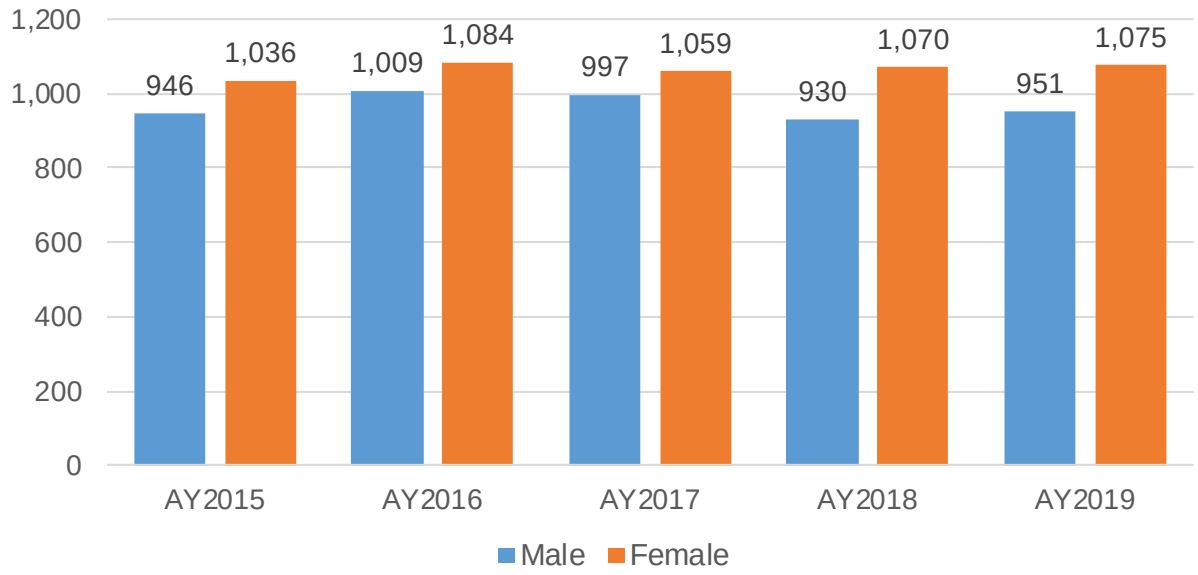


TABLE 5.3: COLLEGE-CREDIT CONTRACTED CTE FACULTY BY RACE/ETHNICITY: AY15-AY19

Race/Ethnicity	AY15	AY16	AY17	AY18	AY19
	%	%	%	%	%
Asian	1.8	1.8	2.0	1.5	1.7
Black	1.9	2.0	2.0	1.7	1.6
Hispanic	0.9	1.2	1.4	1.4	1.6
More than one	0.8	0.5	0.9	0.8	0.7
American Indian/ Alaskan Native	0.3	0.3	0.4	0.2	0.3
White	94.3	94.2	93.3	94.0	94.1
Total	100	100	100	100	100

College-Credit Contracted CTE Faculty in the Six Service Areas

Figure 5.8 displays the unduplicated count of community college CTE instructors who taught high school students by service area. Faculty members who taught courses in more than one service area were grouped in the "More than One" category. This was the largest community college faculty group teaching secondary students in AY19 with 856 instructors. The second largest faculty group taught Health Science (337), followed by Human Services (330). In contrast, only 53 CTE faculty taught courses solely in Agriculture, Food and Natural Resources, indicating that school districts relied more heavily on the community colleges for CTE instruction in other service areas.

Figure 5.9 on the following page shows the change in the number of community college CTE faculty members who taught secondary students in each of the six service areas over the past five years. The number of faculty in three service areas increased with compound annual growth rates from AY15 to AY19 of 5.8 percent for Health Sciences, 3.0 percent for Information Solutions and 0.3 percent for Business, Finance, Marketing and Management. Human Services and Agriculture, Food and Natural Resources decreased during this same time period at 3.5 percent and 0.8 percent, respectively. The number of faculty members who taught high school students in multiple service areas also decreased at 0.5 percent (Figure 5.10).

FIGURE 5.8: COLLEGE-CREDIT CONTRACTED CTE FACULTY BY SERVICE AREA IN AY19

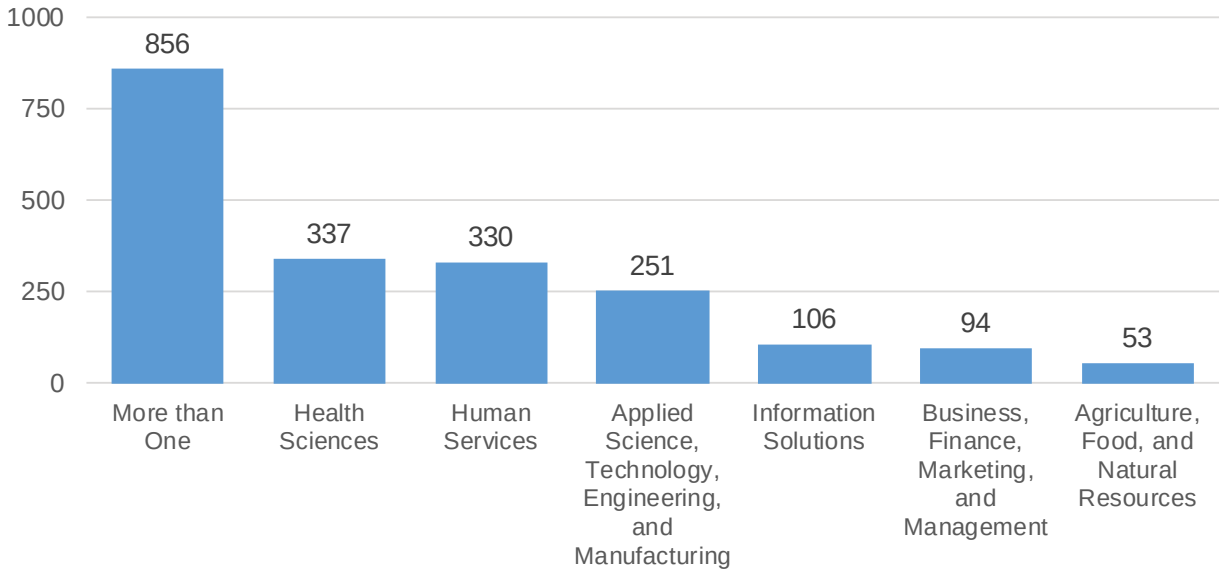


FIGURE 5.9: NUMBER OF COLLEGE-CREDIT CONTRACTED CTE FACULTY BY SERVICE AREA: AY15-AY19

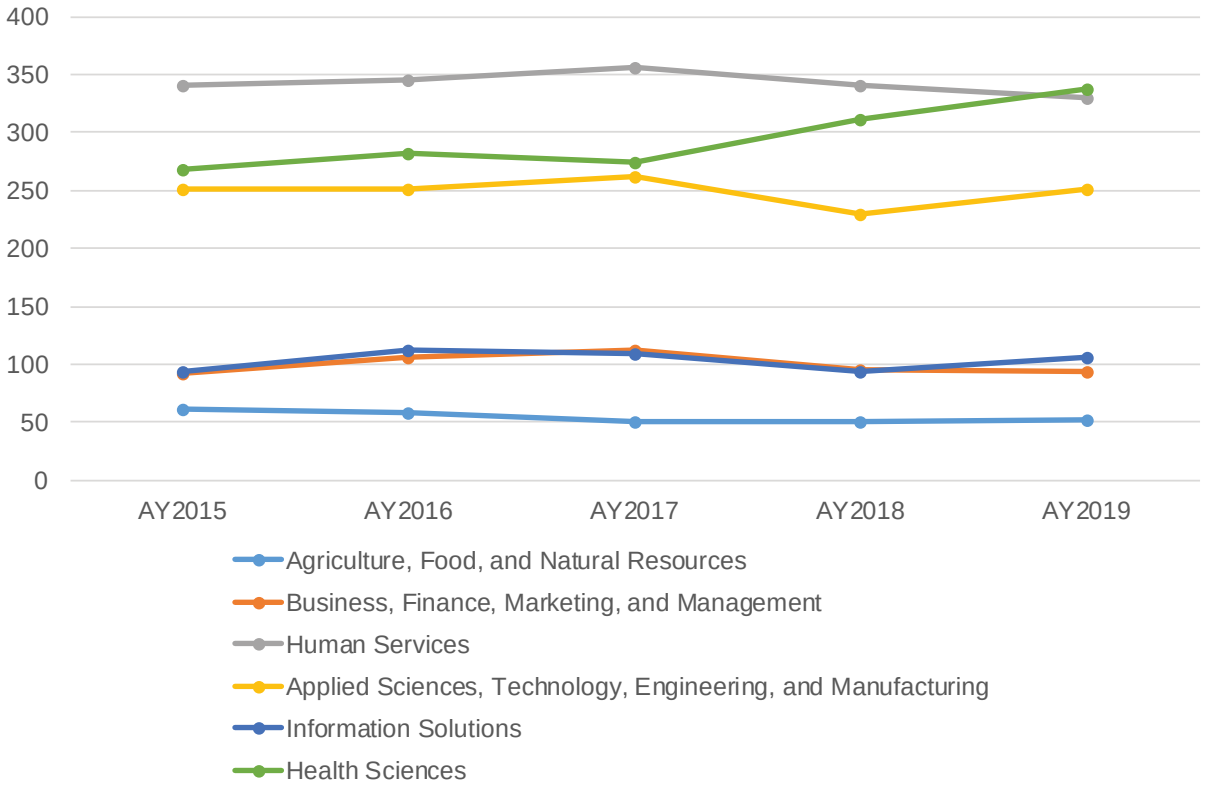
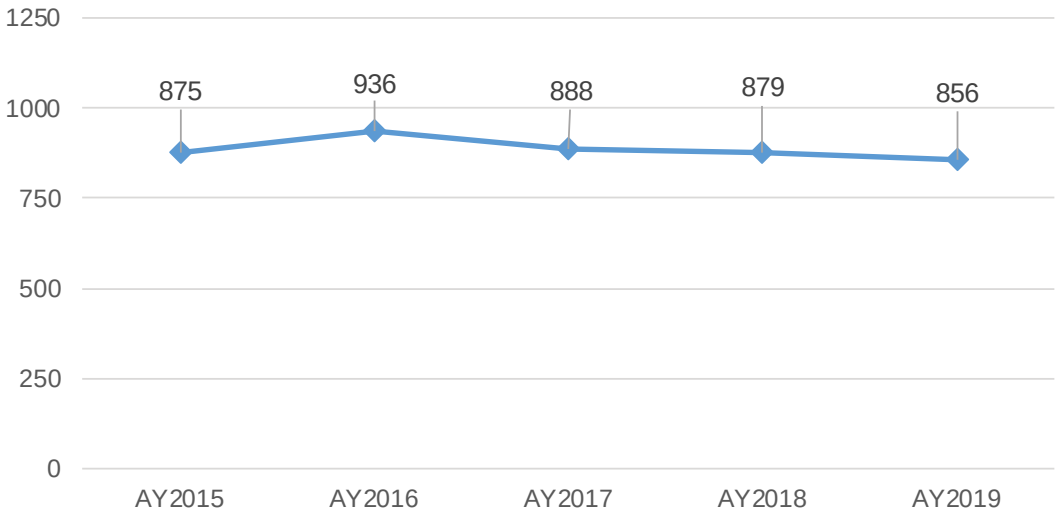


FIGURE 5.10: NUMBER OF COLLEGE-CREDIT CONTRACTED CTE FACULTY IN MORE THAN ONE SERVICE AREA: AY15 - AY19



Chapter Highlights

Over a five-year time period:

- The characteristics of secondary CTE teachers did not significantly change over the past five years. The majority of secondary CTE teachers were white and, on average, around 43 years old.
- The service areas in which secondary CTE teachers received the most CTE endorsements were in Business, Finance, Marketing and Management, Human Services, Applied Science, Technology, Engineering and Manufacturing and Agriculture, Food and Natural Resources.
- Base salaries of secondary CTE teachers experienced modest salary increases from $51,584 in AY 15 to $55,163 in AY19, which represented a compound annual growth rate of 1.6 percent.
- Community college CTE faculty members who taught high school students were primarily female, white, around 50 years old and worked part-time or as adjunct faculty.

Section II:

Four Emerging Areas of Focus for Implementing High-Quality Career and Technical Education

Chapter 6: Career and Technical Student Organizations

Career and technical student organizations (CTSOs) enhance the career and leadership development of secondary and postsecondary students through contextual instruction, applied learning and real-world application. More than just clubs or extracurricular activities, CTSOs provide a leadership component and are integral to classroom curriculum and instruction. CTSOs are considered co-curricular activities where students engage in hands-on demonstrations and work experiences related to a particular career interest. The national CTSO website (CTSOs.org) states the following:

"As student organizations, CTSO's guide students in developing a career path, (and) a program of study, and provide opportunities in gaining the skills and abilities needed to be successful in those careers through classroom/laboratory instructions, competitive events and other student organization activities. Also, CTSOs offer students opportunities to hold leadership positions at the local, state, and national level and organize leadership development conferences, in which students can network with other students as well as business and industry partners."

CTSOs in Iowa

Table 6.1 on the following page describes the participant outcomes, CTE program focus, and academic year 2018-2019 membership for the secondary CTSOs supported by the Iowa Department of Education with limited financial support through Carl D. Perkins funding. The Department holds the state charter for each CTSO established within the state and provides technical assistance as needed. Active secondary CTSOs in Iowa include:

- Business Professionals of America (BPA)
- DECA
- Family, Career, and Community Leaders of America (FCCLA)
- Future Business Leaders of America/Phi Beta Lambda (FBLA-PBL)
- National FFA Organization
- HOSA – Future Health Professionals
- SkillsUSA
- Technology Students Association (TSA)

Students who participate in CTSOs have the opportunity to develop and enhance their leadership and citizenship skills within the context of career and program interests, which also enhances their occupational skills and future employability. These organizations provide students opportunities to participate in leadership initiatives and enhance awareness of the role of community service and responsibility to governmental affairs.

The participant outcomes column in Table 6.1 describes activities designed to provide opportunities for student achievement in sound decision-making, positive professional appearances and skill attainment. These experiences are enhanced through the involvement of business, industry and labor in a climate of positive interaction and cooperation. For many CTE students, this is the only leadership opportunity they will experience during their educational careers. Communities, states, and the nation benefit, as well as individuals and their families.

TABLE 6.1: MEMBERSHIP FOR EACH CTSO AT THE SECONDARY LEVEL IN FY2019

Student Organization	Participant Outcomes	CTE Programs	AY18-19 Membership
	National FFA Organization (FFA) develops students' leadership, promote personal growth and career success, and encourage excellence in scholarship through agricultural education programs and services.	Agriculture, Food, and Natural Resources	15,512
	Technology Student Association (TSA) aims to enhance personal development, leadership, and career opportunities in STEM through intra-curricular activities, competitions, and related programs.	Manufacturing Science, Technology, Engineering, and Mathematics	5,876
	Family, Career and Community Leaders of America (FCCLA) promotes personal growth and leadership development through family and consumer sciences education. Members develop skills for life through character development, creative and critical thinking, interpersonal communication, practical knowledge, and career preparation.	Education and Training Hospitality and Tourism Human Services	2,825
	Future Business Leaders of America - Phi Beta Lambda (FBLA-PBL) brings business and education together in a positive working and career development programs which focus on leadership development, academic competitions, community service and etc.	Business, Management and Administration Finance Information Technology	1,349
	DECA prepares emerging leaders and entrepreneurs in marketing, finance, hospitality and management in high schools and colleges around the world.	Hospitality and Tourism Marketing	606
	Business Professionals of America (BPA) contributes to the preparation of global professionals through the advancement of leadership, citizenship, academic, and technological skills.	Business, Management and Administration Finance Information Technology	546
	HOSA – Future Health Professionals promotes career opportunities in the health care industry and enhances the delivery of quality health care to all people.	Health Science	228
	SkillsUSA empowers its members to become world-class workers, leaders, and responsible American citizens. It improves the quality of our nation's future skilled workforce through personal, workplace, and technical skills grounded in academics.	Architecture/Construction Arts, AV/Technology and Communications, Human Services, Law, Public Safety, Corrections and Security, Transportation, Distribution and Logistics	213

CTSO Membership in Iowa

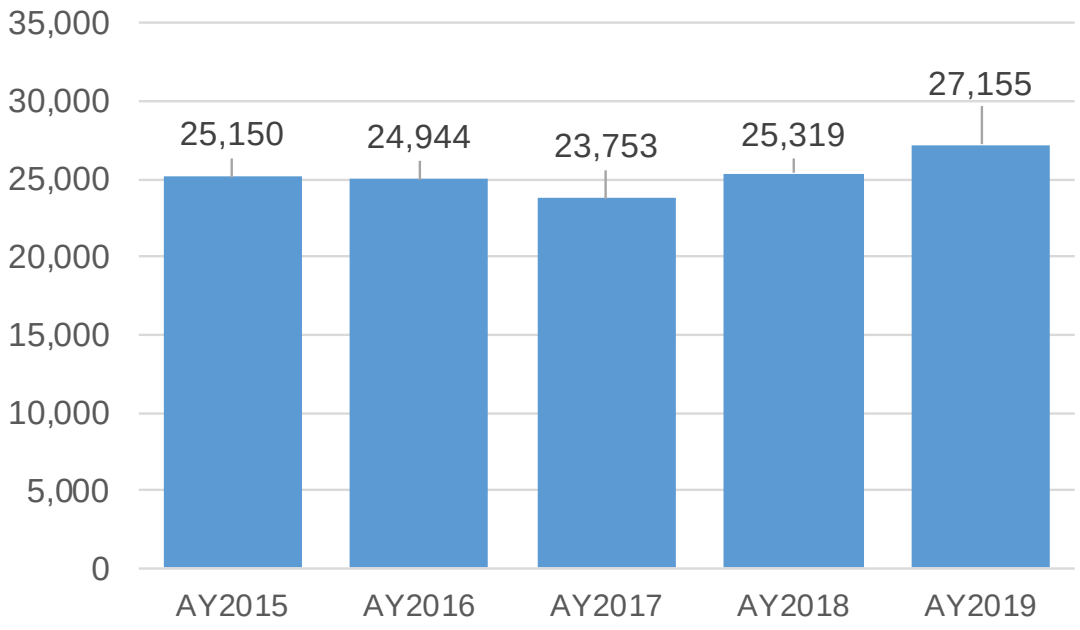
CTSOs in Iowa currently serve over 27,000 students at the secondary level. Figure 6.1 displays the total CTSO membership broken down by each CTSO for the past five academic years. Figure 6.2 shows the change in membership totals over the past five years. Total CTSO membership increased by 1,836 students (7.3 percent) from AY18 to AY19.

From AY15 to AY19, FFA had the largest increase in membership with a total of 2,054 additional student members. During the same period, DECA saw a 24.2 percent increase in membership, the largest percent increase of all CTSOs in Iowa. TSA decreased in membership by 696 members, or 10.6 percent from AY15 to AY19.

FIGURE 6.1: SECONDARY CTSO MEMBERSHIP IN IOWA: AY15 - AY19

	BPA	DECA	FBLA	FCCLA	FFA	HOSA	SkillsUSA	TSA	Total
AY2015	552	488	1,148	2,378	13,458	287	267	6,572	25,150
AY2016	703	535	1,247	1,739	14,346	273	248	5,853	24,944
AY2017	502	761	1,293	1,577	14,754	378	221	4,267	23,753
AY2018	528	745	1,337	1,579	15,462	240	248	5,180	25,319
AY2019	546	606	1,349	2,825	15,512	228	213	5,876	27,155
Trend									

FIGURE 6.2: SECONDARY CTSO MEMBERSHIP IN IOWA: AY15 - AY19



Chapter Highlights

Over a five-year time period:

- Secondary CTSO membership steadily increased, reaching a record high of 27,155 students. While overall membership increased, some CTSOs experienced declines in membership.
- FCCLA and FFA had record high memberships in AY19. FBLA and TSA had a steady rise in memberships. DECA's membership fluctuated over the past five years, while BPA, HOSA and SkillsUSA experienced membership declines over the last few years.

Chapter 7. Secondary Career and Academic Planning

A Redesigned Model: HF2392, Division I

HF2392, Division I established a redesigned career and academic planning process. The CTE redesign goes beyond traditional career planning assessments and inventories by integrating high quality, high-value career-related experiences designed to increase student engagement and align students' interests with local, regional, and state labor market needs. It also seeks high engagement from student, parent, district and external stakeholders to ensure information remains relevant and useful. The holistic nature ensures continuous feedback between internal and external stakeholders and ensures that students are prepared to successfully transition into higher education, training programs or directly into the workforce.

Iowa's career planning vision focuses on graduating students who are career and college ready with the academic, technical and employability skills to meet employer needs. In 2019, Iowa's 327 school districts continued to implement the redesigned career and academic planning process to over 186,000 students in grades 8-12. The graphic below describes Iowa's career planning vision and the redesigned career and academic planning process.

Career and Academic Planning Outcomes

Three hundred and four (N = 304*) school districts reported career-planning outcomes for 2019.

**Iowa has 327 school districts; 23 of which whole grade share with other districts who reported career planning outcomes for 2019.*

District teams include administrators, counselors, teachers, CTE teachers and worked-based learning coordinators. The team serves as a liaison between the internal district team and counselors, instructors and work-based learning coordinators outside of the district team.

Iowa's Vision of High-Quality Career and Academic Planning

District Plan	District Tool	Individual Career ad Academic Plan (ICAP
The district team writes the plan	The district team chooses the CIS	The District team ensures the completion of the ICAP

The District Team

The district team is tasked with writing and implementing the district plan, choosing the district career information system (CIS) tool and ensuring students complete the eleven individual career and academic plan (ICAP) elements. Convening a district team with the required school representatives is the critical first step to building and implementing effective career planning programs. Highly effective teams have defined roles and strong administrative support. Team members engage internally and externally to ensure feedback is relevant, timely, and used to update the district plan. Team members also work with school district colleagues in similar positions to keep internal district staff engaged.

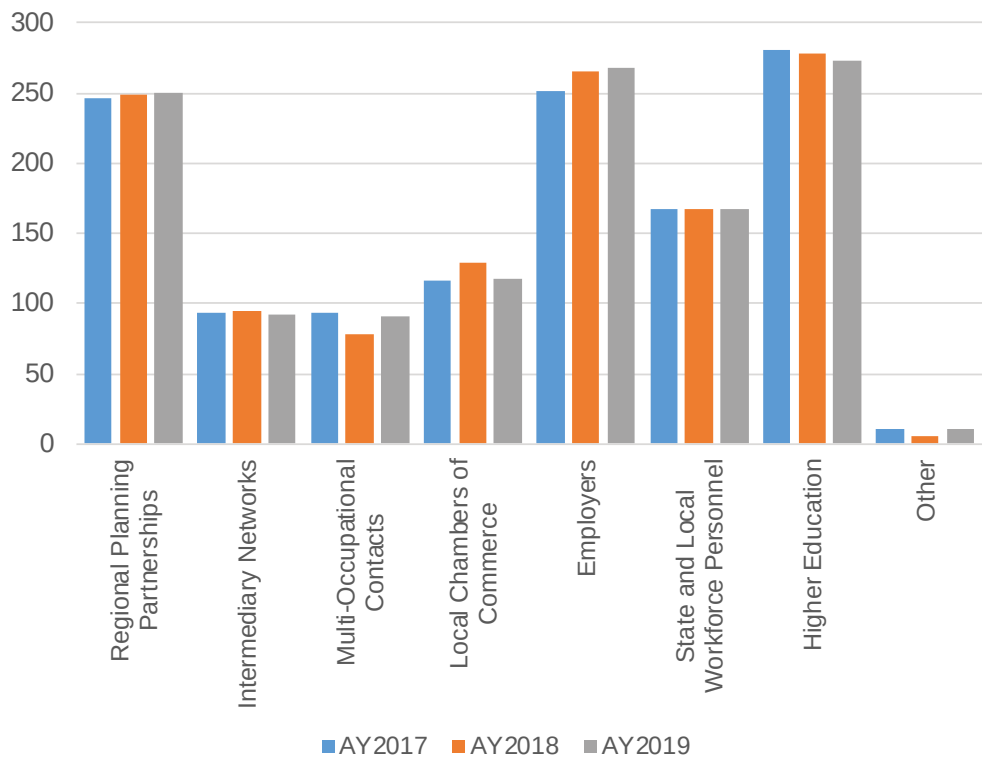
In AY19, all school districts reported that a district team, with the required membership, collaborated with internal and external stakeholders to write the district plan. Figure 7.1 displays the different stakeholders who were engaged in the district planning processes. Regional Planning Partnerships and the Intermediary Networks also had strong stakeholder engagement with districts reporting increases in engagement with educators who oversaw multi-occupational programs, like work-based learning.

District Plan

The district plan serves as a road map and provides context for high-quality career programming in grades 8-12. The plan is a dynamic document that describes who is expected to do what, when and how.

To meet the requirements established in HF2392 Division I, school districts will need to build and maintain strong relationships with external partners to increase high-quality career planning exposure to students.

FIGURE 7.1: EXTERNAL STAKEHOLDER ENGAGEMENT: AY17- AY19



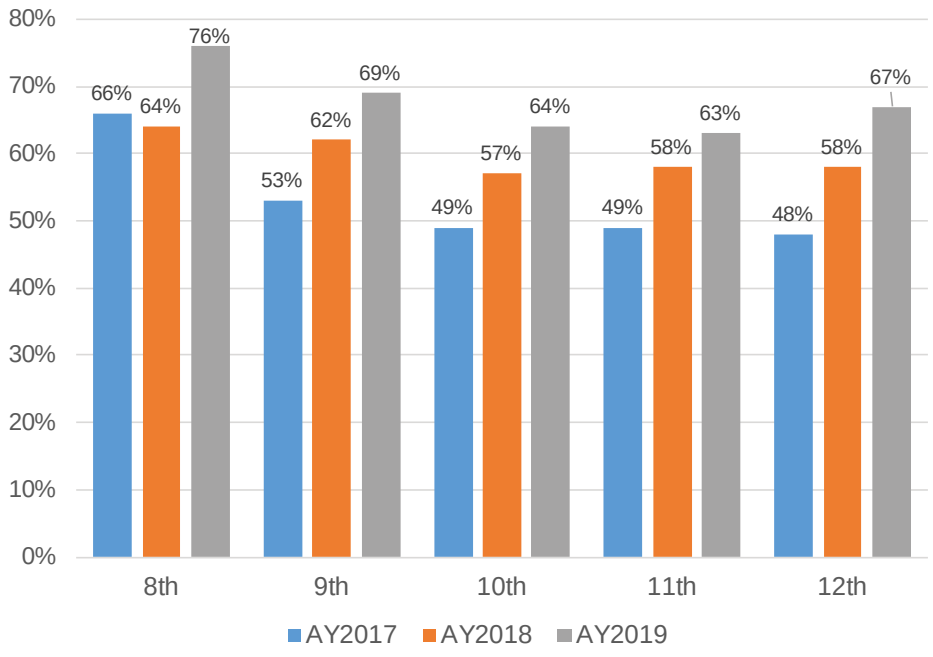
Career Information Systems (CIS)

It is the responsibility of the district team to select a CIS tool that best meets the needs of students, team members and the school district. State standards adopted by the Iowa Board of Education set minimum requirements for these tools. For the 2018-2019 school year, the Department identified nine CIS options that met these state standards. Three-hundred and twelve school districts reported using a CIS. While the CIS is an essential component of the career planning process, school districts are encouraged to continue using high-quality CTE curriculum and activities and to collaborate with external organizations that offer high-quality career planning opportunities.

The Individual Career and Academic Plan (ICAP)

The ICAP is a series of 11, high-quality, career-related activities that students complete in grades 8-12. Completed data elements establish students' progress through the ICAP experience. Activities include a four-year core curriculum plan, parent engagement, face-to-face meetings between students and team members, identification of career and postsecondary goals, alignment of coursework to career goals and annual completion of five essential components. ICAP completions increased by an average of 11 percent for students in grades 9-12. Grade 8 completions increased by 12 percent from AY18 to AY19 (Figure 7.2).

FIGURE 7.2: PERCENT OF ICAP COMPLETIONS: AY17 - AY19



High-Quality Career Programming in 2020 and Beyond

Based on feedback and annual district reporting, the Department will provide training to districts to assist in transitioning from a compliance reporting mindset to a holistic mindset that includes high-quality career activities. This transition includes substantial collaboration with CIS vendors to ensure that reporting of career planning activities that occur outside of the CIS are intuitive and easy. The transition also includes providing districts and vendors with definitions that clarify data elements and the data indicators used to determine activity completion.

The Department will work with districts, vendors and external representatives to report high-quality career activities delivered to students by external organizations. Deeper dives will include clarifying the roles and responsibilities of district team members, providing examples of quality district plans and strategies that increase engagement at all levels, including counselors, instructors, CTE instructors, work-based learning coordinators, students, parents and external stakeholders.

Chapter Highlights

Career and academic planning:

- In AY19, Iowa's 327 school districts implemented the redesigned career and academic planning process to over 186,469 students in grades 8-12.
- District CIS tool usage increased from 65 percent in 2016 to 94 percent in 2017 and 96 percent in 2018.
- One hundred percent of Iowa's 327 school districts reported career-planning outcomes for 2018.

Chapter 8. Work-Based Learning

This chapter reports the number of work-based learning courses offered and the characteristics of students who took these courses over the past five academic years. Work-based learning courses are identified by the last two digits of the five-digit SCED code. If the last two digits of a SCED code are "98", the course is usually a work-based learning course.

All SCED codes ending with digits "98" were selected and screened. Those that did not meet the criteria were deleted and not included in the counts. All courses with titles containing work experience, work-based learning, internship, OJT, MOC, on-the-job, and WBL were also selected. It should be noted that other CTE courses may have a work-based learning component, but these were not accounted for in the data presented in Figure 8.1.

Figure 8.1 shows the number of work-based learning courses offered since AY15. The number grew by 19.9 percent (compound annual growth rate) from 87 courses in AY15 to 180 courses in AY19. Figure 8.1 also shows the percentage of all work-based learning courses that were college-credit contracted courses. In AY15, only 17.2 percent were college-credit contracted work-based learning courses, but by AY19, it increased to 32.8 percent.

FIGURE 8.1: NUMBER OF WORK-BASED LEARNING COURSES AND PROPORTION OF COLLEGE-CREDIT CONTRACTED WORK-BASED LEARNING COURSES: AY15-AY19

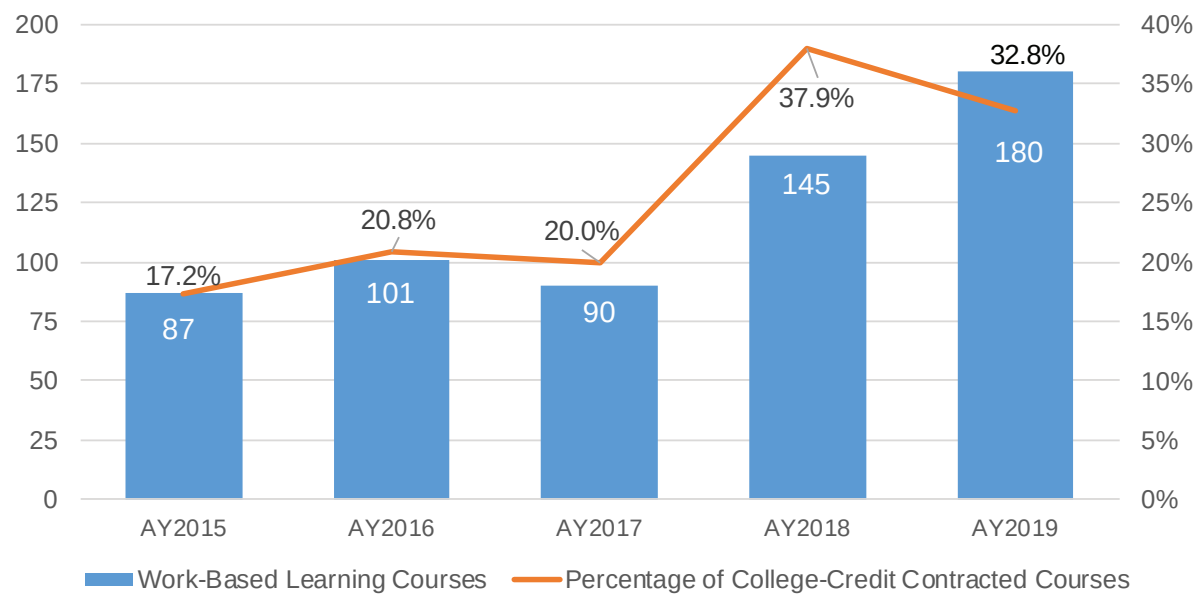


Table 8.1 displays the number of schools that offered work-based learning courses by district size. Approximately 40 percent of all work-based learning courses were offered in districts with high-school enrollments between 100-299 high students. Work-based learning courses offered at school districts with enrollments between 300-499 high school students and those between 500-1,249 high school students made up 18.8 percent and 17.2 percent of all work-based learning courses in AY19, respectively. Districts with high school enrollments between 100-299 had the highest compound annual growth rate at 32.1 percent. School districts with enrollments between 500-1,249 and those between 1,250-3,999 followed at 18.0 percent and 16.0 percent, respectively.

Table 8.2 shows the number of school districts that offered work-based learning courses from AY15 to AY19. The number of school districts offering work-based learning courses increased from 65 in AY15 to 114 in AY19, representing a 15.1 percent compound annual growth rate. School districts with enrollments between 100-299 students had the highest compound annual growth rate (21.0 percent), followed by school districts with enrollments of 1,250-3,999 (at 15.5 percent) and school districts with enrollments of 300-499 (at 12.9 percent).

TABLE 8.1: NUMBER OF WORK-BASED LEARNING COURSES BY SCHOOL DISTRICT SIZE: AY15 - AY19

High School Student Enrollment	AY15	AY16	AY17	AY18	AY19	CAGR*
<100	3	5	3	5	4	7.5%
100-299	24	28	27	49	73	32.1%
300-499	20	21	17	32	34	14.2%
500-1249	16	21	22	29	31	18.0%
1250-3999	16	19	17	23	29	16.0%
>4000	8	7	4	7	9	3.0%
Total	87	101	90	145	180	19.9%

TABLE 8.2: NUMBER OF SCHOOL DISTRICTS THAT OFFERED WORK-BASED LEARNING: AY15- AY19

High School Student Enrollment	AY15	AY16	AY17	AY18	AY19	CAGR*
<100	3	5	3	4	4	7.5%
100-299	21	21	20	38	45	21.0%
300-499	16	15	12	22	26	12.9%
500-1249	12	15	15	19	19	12.2%
1250-3999	9	10	9	14	16	15.5%
>4000	4	4	3	3	4	--
Total	65	70	62	100	114	15.1%

Note: Students can take CTE courses across different service areas and thus may be counted multiple times.
** CAGR=Compound Annual Growth Rate*

Table 8.3 shows the number of work-based learning courses by service area. Some work-based learning courses could not be identified by service area, as the course titles for these courses were too general and vague, such as "MOC", "OJT", "internship", etc. The Department designated these courses as "unassigned service area" for analysis purposes. As shown in Table 8.3, courses that could not be assigned to a service area made up the largest group in each of the last five years. For those courses that could be assigned to a service area, courses in Health Science made up the largest group. The number of courses in Health Sciences grew the fastest (77.8 percent compound annual growth rate), followed by Agriculture, Food and Natural Resources (62.7 percent) and Human Services (36.0 percent). The number of courses in Business, Finance, Marketing and Management decreased by 2.6 percent.

Demographic characteristics of students who participated in work-based learning courses from AY15 to AY19 were examined for this report. Based on grade level, upperclassman participated in work-based learning in larger numbers as compared to their younger counterparts. Over two-thirds of all students who took work-based learning courses were in 12th grade (Figure 8.2).

Students in 11th grade made up the second largest group. During AY19, only 10 students in 9th grade and 49 students 10th grade took at least one work-based learning course. When looking at the gender of students enrolled in at least one work-based learning course, more than half were female (Figure 8.3).

TABLE 8.3: NUMBER OF WORK-BASED LEARNING COURSES BY SERVICE AREA: AY15 - AY19

Service Area	AY15	AY16	AY17	AY18	AY19	CAGR*
Business, Finance, Marketing, and Management	30	28	26	29	27	-2.6%
Agriculture, Food & Natural Resources	3	5	5	9	21	62.7%
Information Solutions	4	4	1	1	7	15.0%
Applied Science, Technology, Engineering, and Manufacturing	2	9	6	8	4	18.9%
Health Sciences	3	4	4	24	30	77.8%
Human Services	12	12	11	29	41	36.0%
Unassigned Service Area	33	39	37	45	50	10.9%
Total	87	101	90	145	180	19.9%

Note: Students can take CTE courses across different service areas and thus may be counted multiple times.
** CAGR=Compound Annual Growth Rate*

FIGURE 8.2: WORK-BASED LEARNING STUDENTS BY GRADE LEVEL: AY15 - AY19

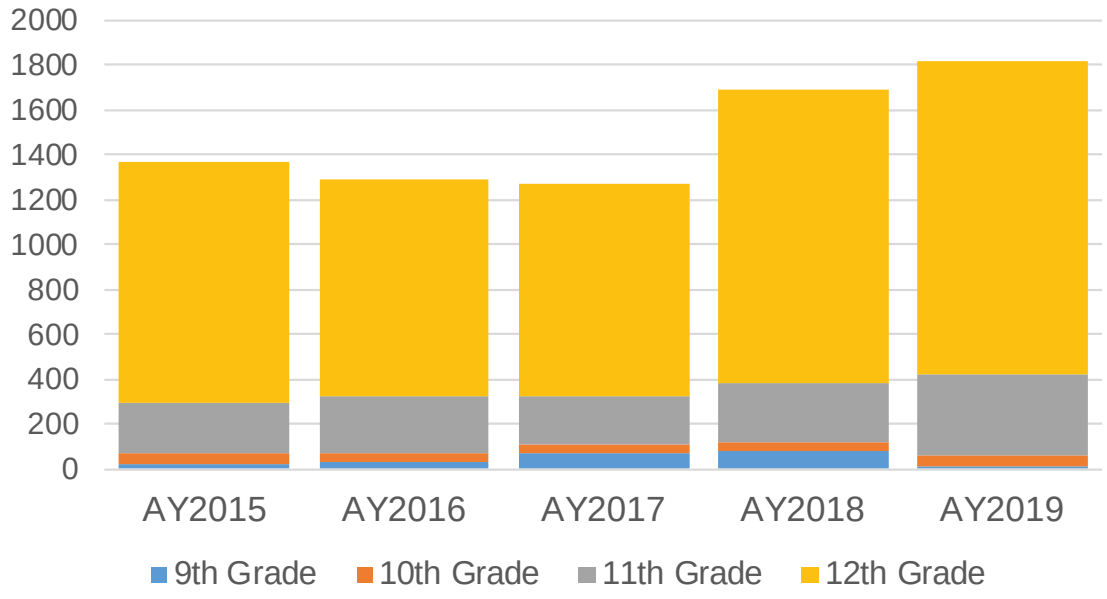
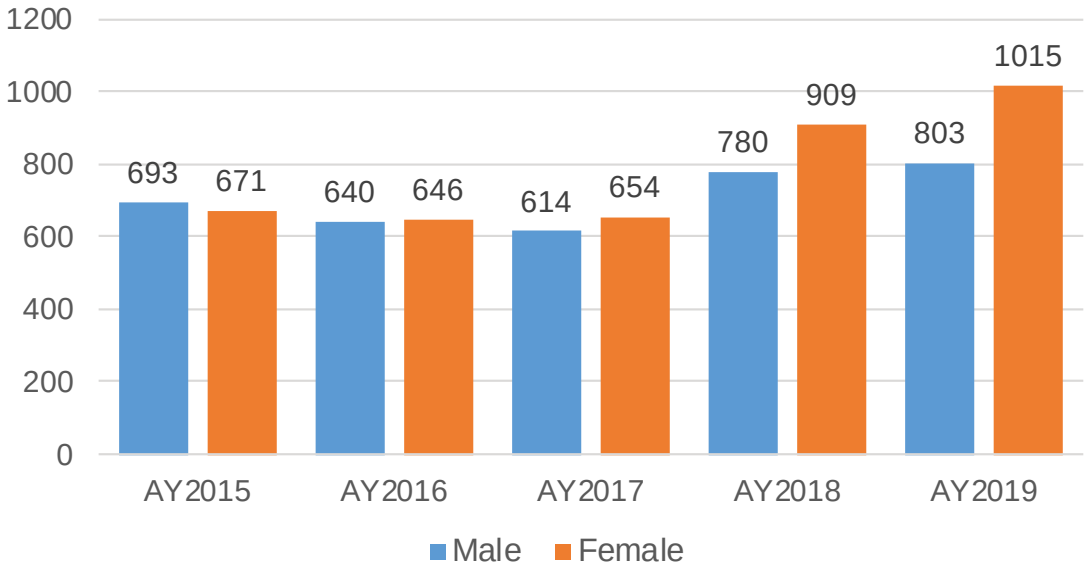


FIGURE 8.3: WORK-BASED LEARNING STUDENTS BY GENDER: AY15 - AY19



The race/ethnicity of students enrolled in work-based learning courses was predominantly white (over 80 percent), which was consistent with that of the general secondary CTE student population (Figure 8.4).

Figure 8.5 shows the proportion of work-based learning students who were eligible for free and reduced-price meals through the National Student Lunch Program. Over 35 percent of the general secondary CTE student population was eligible for free and reduced-price lunch (see chapter 4) as compared to fewer than one-third of the work-based learning student population (Figure 8.5). For more information about the comparison of work-based learning students and overall CTE students, please refer to Figures 8.6 through 8.8.

FIGURE 8.4: WORK-BASED LEARNING STUDENTS, WHITE VS MINORITY: AY15 - AY19

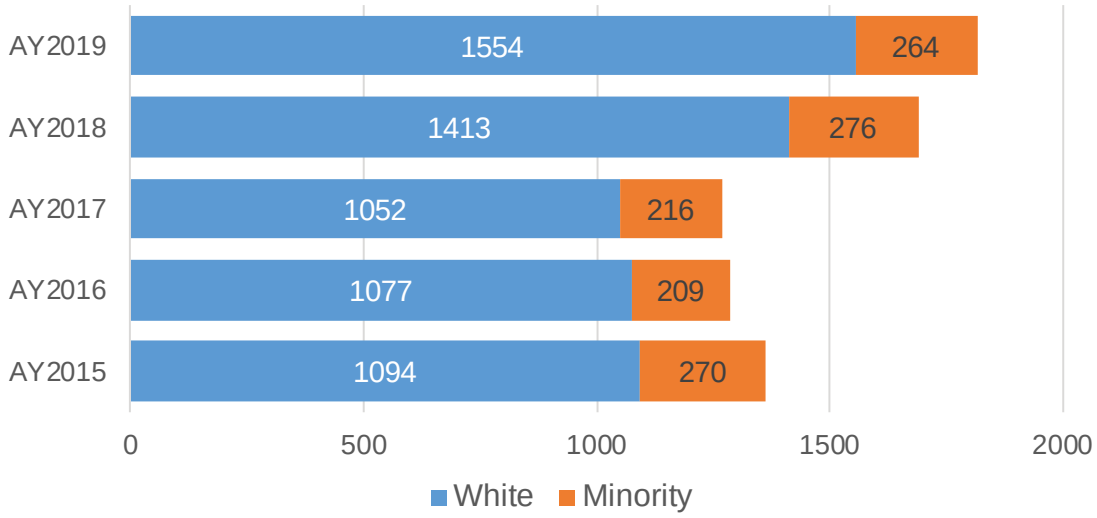


FIGURE 8.5: WORK-BASED LEARNING STUDENTS BY ELIGIBILITY FOR NATIONAL SCHOOL LUNCH PROGRAM: AY15 - AY19

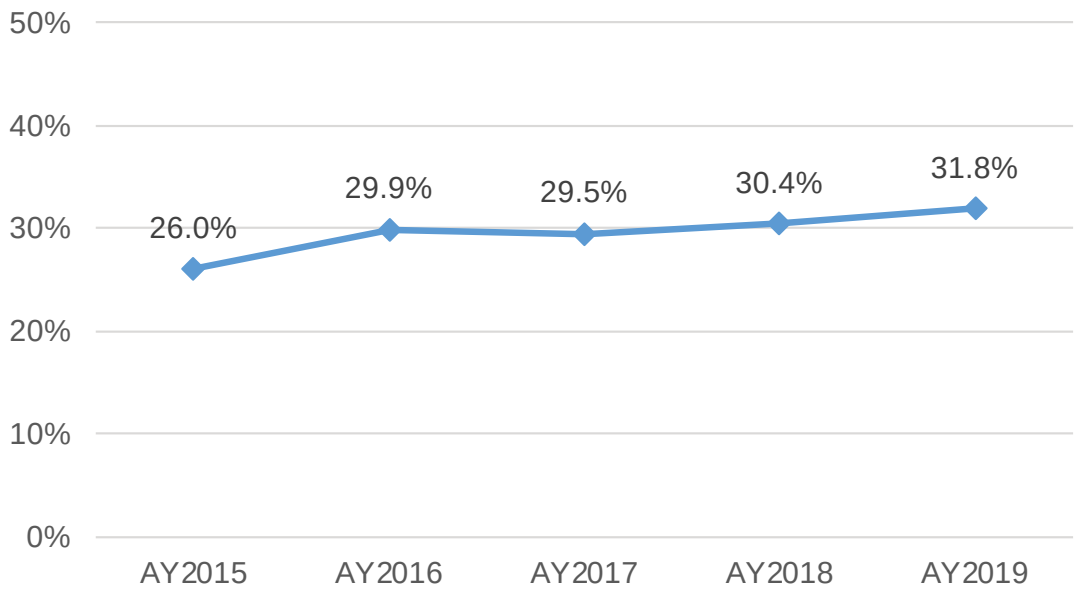


FIGURE 8.6: COMPARISON OF WORK-BASED LEARNING AND OVERALL CTE PARTICIPANTS GENDER DISTRIBUTION: AY15- AY19

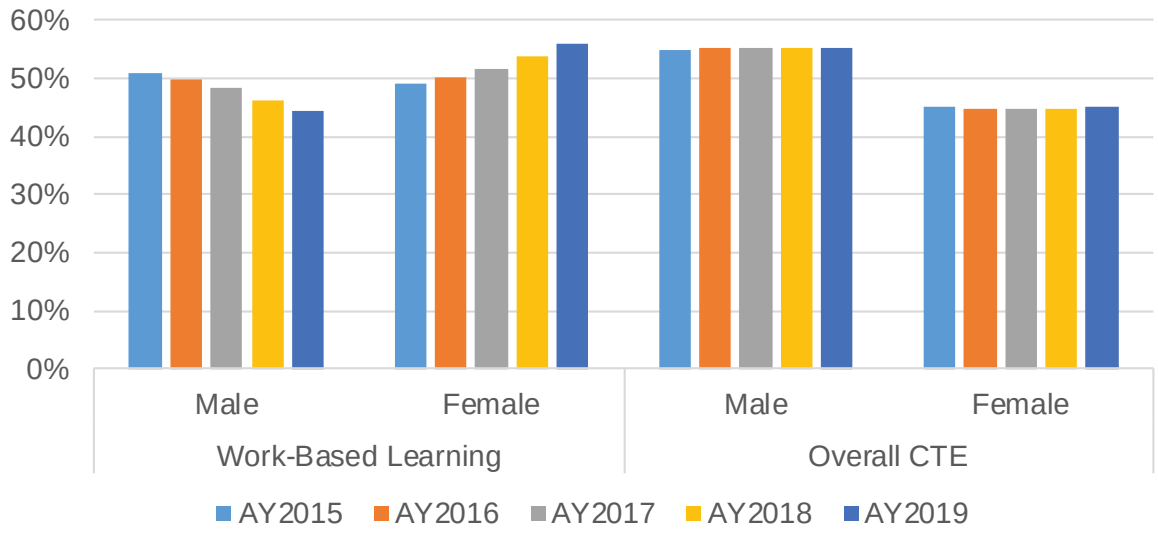


FIGURE 8.7: COMPARISON OF WORK-BASED LEARNING AND OVERALL CTE PARTICIPANTS: DISTRIBUTION OF WHITE AND MINORITY STUDENTS: AY15 - AY19

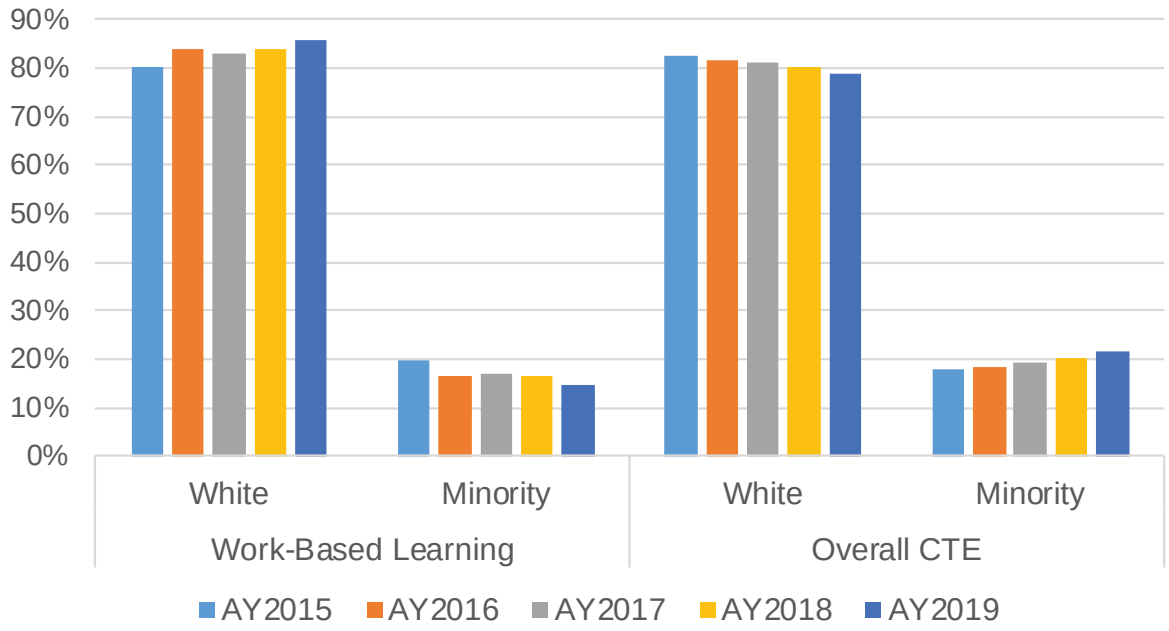
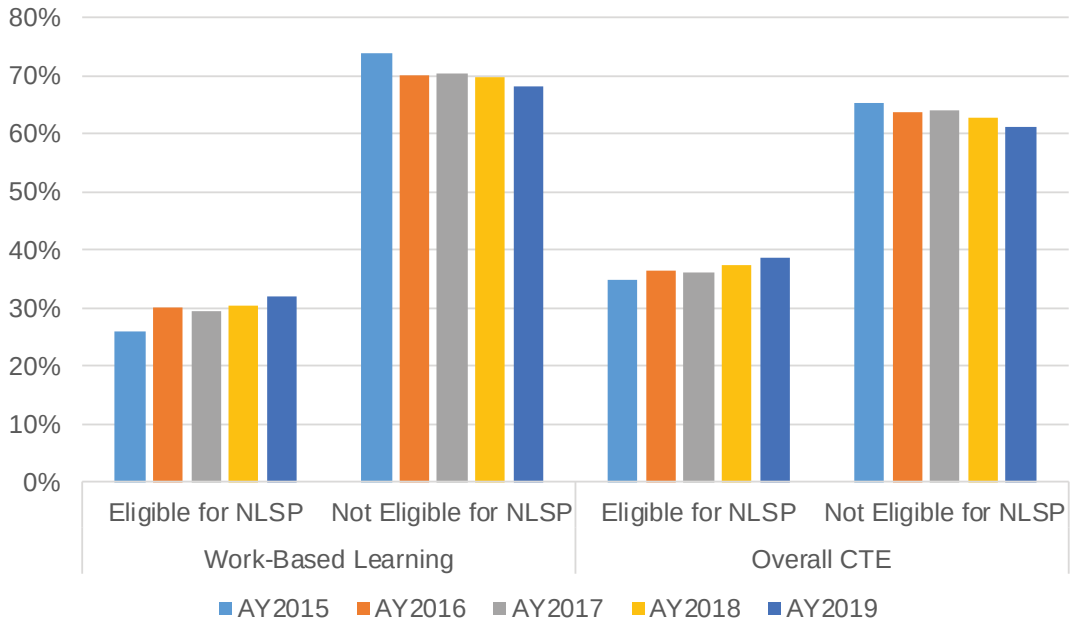


FIGURE 8.8: COMPARISON OF WORK-BASED LEARNING AND OVERALL CTE PARTICIPANTS: DISTRIBUTION OF STUDENTS' ELIGIBILITY FOR NATIONAL SCHOOL LUNCH PROGRAM (NLSP): AY15 - AY19



Chapter Highlights

Over a five-year time period:

- More school districts offered work-based learning courses in AY19 than in AY15. The number of work-based learning courses across school districts of all sizes increased.
- The number of work-based learning courses offered increased for all services areas, including the unassigned category, with the exception of the Business, Finance, Marketing and Management service area.
- Participation in work-based learning courses by grade level increased as students moved from 9th grade to 12th grade.
- Participation in work-based learning courses by gender, ethnicity and eligibility for free and reduce-price meals through the National School Lunch Program was consistent with the general secondary CTE student population, with the exception of gender. Male participation in general CTE coursework was higher, while female students participated at a higher rate in work-based learning courses.

Chapter 9 Regional Centers

The Secondary Career and Technical Education Task Force, which was established in 2013 to make recommendation to ensure all students have access to high-quality, globally competitive CTE programs, made the following recommendation:

> *Through collaboration and regional partnerships, provide for increased and equitable access to high-quality CTE through a statewide system of regional centers.*

Following up on the above recommendation, HF2392 included language to have the CTE Regional Planning Partnerships (RPPs) focus on exploring the ways to build, expand and sustain regional centers. As established in HF2392, regional centers must include at least four career academy programs and meet one of two participation requirements: 1) two school districts, with a combined total of 120 participating students, or 2) a total of four school districts, with no minimum enrollment expectation. In essence, a regional center becomes a physical location where high school students may access numerous high-quality CTE programs.

In Iowa, the regional center structure has its basis in the many partnerships that currently exist between school districts and community colleges when delivering high-quality CTE programs. These partnerships typically use the college-credit contracted course policy structure to put in place one or both of the above regional center conditions that are now in place within HF2392. It should be noted that not all such partnerships lead to the establishment of a regional center, but many have already done so.

The Department surveyed Iowa's 15 community colleges in early 2020 to gather information on the structure of regional centers, the CTE programs offered and student enrollment. In FY19, there were 19 regional centers that provided a total of 165 career academy programs to 6,045 high school students from 125 school districts across the state. Among the 19 regional centers, six were located on community college campuses.

Figure 9.1 displays a map of Iowa segmented by RPP, mirroring the 15 community college regions, and the location of each of the current regional centers. Figure 9.2 shows the distribution of career academy programs by service area. Applied Science, Technology, Engineering and Manufacturing was the largest service area with 66 career academy programs offered. Health Sciences followed with 28 career academy programs. The Information Solutions and Human Services services areas each offered 25 career academy programs. A total of 16 career academy programs were offered in the Business, Finance, Marketing and Management service area. Agriculture, Food and Natural Resources was the smallest service area with only five career academy programs offered. Table 9.1 provides more details on each of the 19 regional centers.

FIGURE 9.1: LOCATIONS OF REGIONAL CENTERS

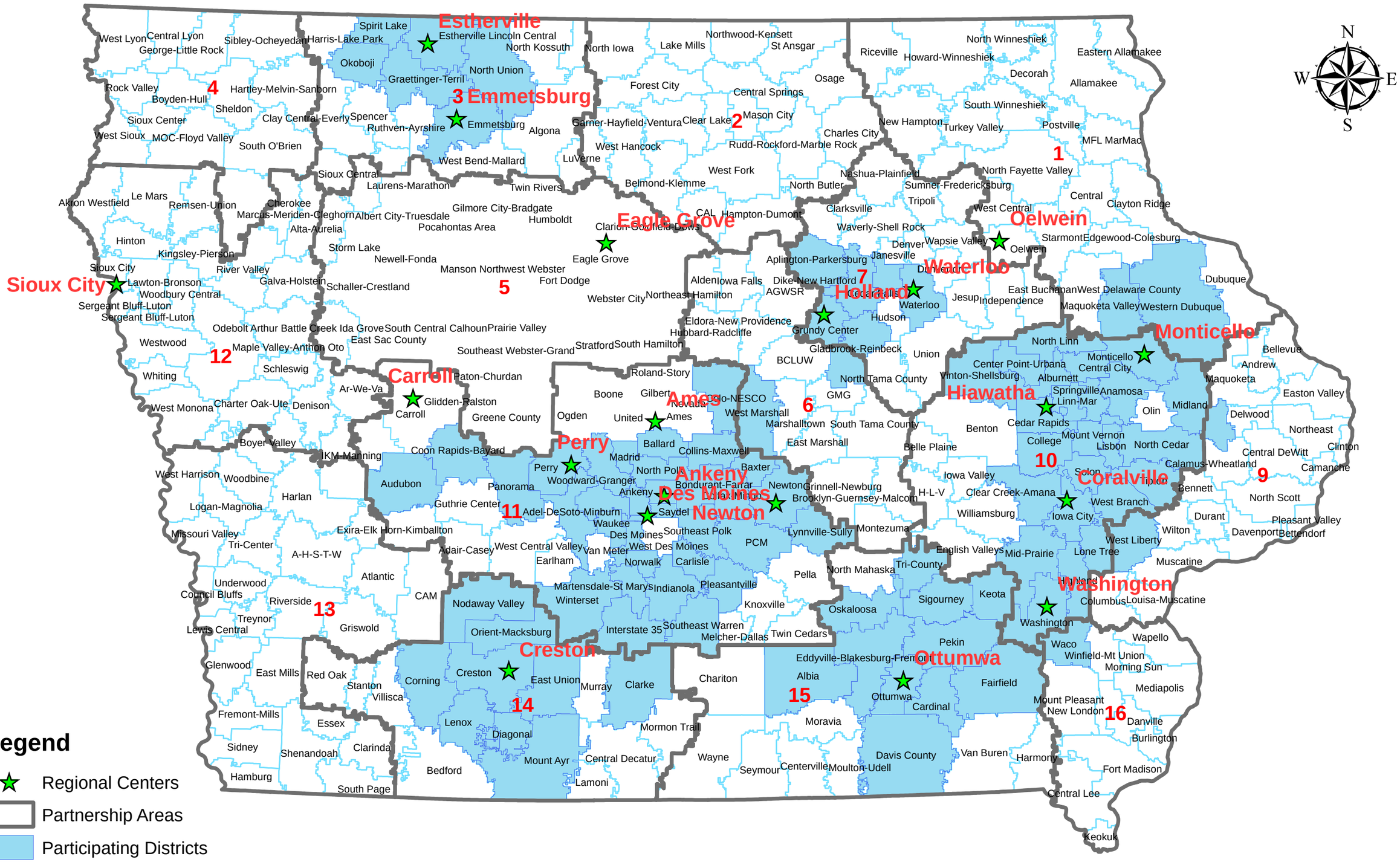


FIGURE 9.2: DISTRIBUTION OF CAREER ACADEMY PROGRAMS BY SERVICE AREA IN FY19

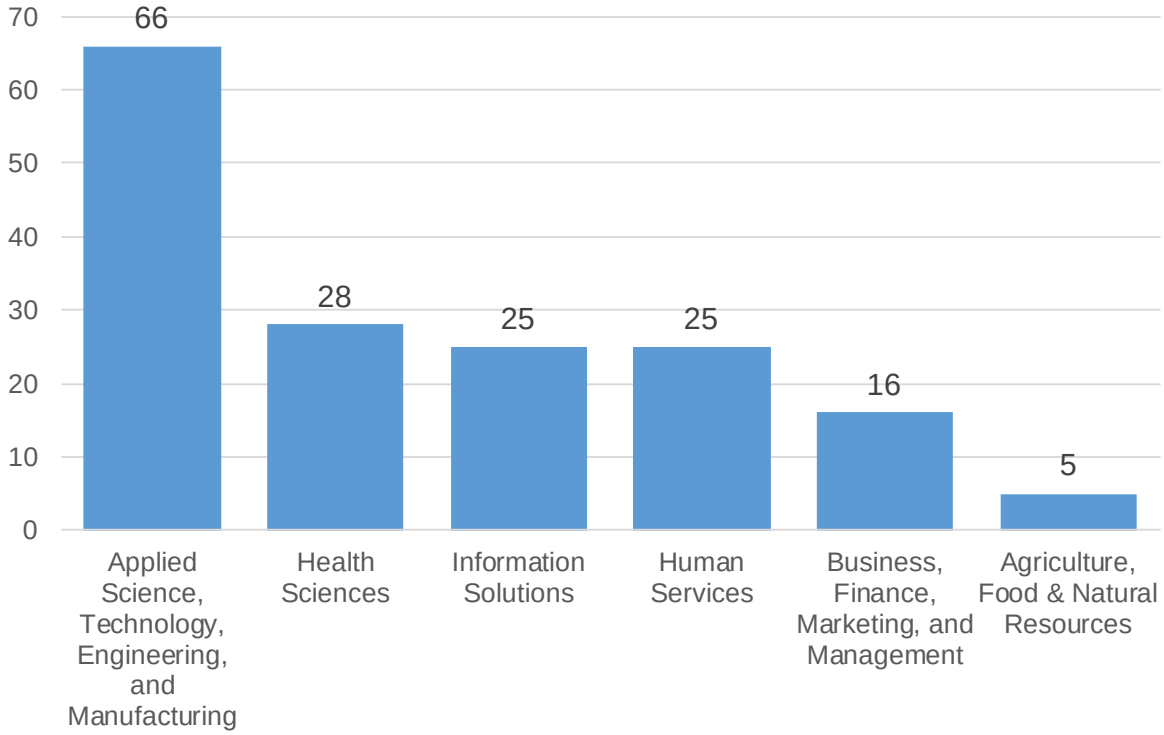


TABLE 9.1: SUMMARY OF REGIONAL CENTERS IN FY19

RPP Region	Location	Number of K-12 Partners	Career Academy Programs Offered	Student Enrollment
1	NICC-Oelwein	3	Advanced Manufacturing, Construction, Early Childhood Education, Health and PLTW	302
3	ILCC - Emmetsburg*	5	Ag Production, Auto Collision, Auto Tech, Construction, Farm Equipment, Welding, Hotel and Restaurant, Boat and Watercraft Tech, Powersports and Power Equipment Tech	26
	ILCC - Estherville*	6	Criminal Justice, Computer Technology, Electrical Technology, Environmental Studies, Engineering Technology, HVAC, Human Services and Disabilities, Graphic Design and Water Quality	11
5	ICCC - Eagle Grove	5	Business, Engineering Technology, Health Sciences, Manufacturing Technology, Teacher Academy	70
7	Waterloo Career Center	2	Advanced Manufacturing, Construction, Digital Graphics, Digital Interactive Media, Early Childhood Education, Health Sciences, Information Technology, Marketing, Management and Web Programming	340
	HCC - Western Outreach Center	4	Agriculture, Business, CNC Machining and Health	221
10	KCC - Monticello	8	Advanced Manufacturing/Welding, Architecture, Construction and Engineering, EMT, PLTW, Graphics/ Media Communications, Patient Care, Computer Programming and Web Development and Arts and Sciences	289
	KCC - Hiawatha	11	Advanced Manufacturing/Welding, Architecture, Construction and Engineering, EMT, Graphics/Media Communications, Patient Care, Computer Programming and Web Development, Dental, Pharmacy Technician, Automotive Tech, Pre-Professional Health Careers and Arts	339
	KCC - Washington	6	Advanced Manufacturing/Welding, Architecture, Construction and Engineering, Automotive Tech, EMT, PLTW, Patient Care, Network Security. Arts and Sciences: Liberal Arts and Pre-Business Administration	209
	KCC - Coralville	8	Advanced Manufacturing/Welding, Architecture, Construction and Engineering, EMT, Graphics/Media Communications, Patient Care, Computer Programming and Web Development, Energy/Electrical/Automation, Pharmacy Technician, Automotive Tech, Auto Collision, Pre-Professional Health Careers. Arts & Sciences: Liberal Arts, Pre-Business Administration, Pre-Criminal Justice, Pre-Education and Pre-Social Work	471

**Indicates community college main campus*

RPP Region	Location	Number of K-12 Partners	Career Academy Programs Offered	Student Enrollment
11	DMACC-Ames	13	Building Trades, Auto Collision Repair, Auto Mechanics, Culinary Arts, Health Occupations/CNA, Criminal Justice, Welding, Pre-Education, Engineering, Renewable Energy/ Bio-Science and Business Communications	255
	DMACC-Perry	7	Auto Mechanics, Health Occupations/CNA, Criminal Justice, Welding, Pre-Education, and Business	145
	DMACC-Ankeny*	8	Diesel Mechanic, Auto Collision Repair, Auto Mechanics, Culinary Arts, Health Occupations/CNA, Criminal Justice, Graphic Design, EMT/Fire Science, Accounting, Business Administration, Advanced Manufacturing, CAD Tech, Cybersecurity and Computer Programming	310
	DMACC-Southridge*	7	Welding, Auto Collision Repair, Auto Mechanics, Health Occupations/CNA, Criminal Justice and Computer Programming	160
	DMACC-Newton*	5	Welding, Auto Collision Repair, Building Trades, Health Occupations/CNA, Criminal Justice, Culinary Arts and Pre-Education	135
	DMACC-Carroll*	4	Applied Engineering, Auto Mechanics, Building Trades, Business Administration, Health Occupations/CNA and Welding	110
12	Sioux City Career Academy	3	Accounting, Agriculture, Auto Body, Auto Tech, Biomedical Science, Business Management, CNA, Computer Science, Construction, Culinary Arts, Early Childhood Education, Education, Engineering, Entrepreneurship, Fashion Design, Finance, Fire Science, Graphic Design, Home Building, IT/ Networking, Interior Design, Manufacturing, Marketing, Mass Communication, Mobile Game/Application Development, Pharmacy Tech, Police Science, Plumbing, Surgical Tech and Welding	2,500
14	SWCC-Creston*	10	Automotive Repair Technology, Carpentry and Building Trades, Electrical Technology, Health Science, and Information Technology Systems Networking	40
15	IHCC-Ottumwa *	10	Accounting Asst., Auto Tech, Bioprocessing, Business Specialist, Computer Software, Cybersecurity Systems, Diesel, Electronics Core, Interactive Media, Machine Tech, Pharmacy Tech and Phlebotomy	112

**Indicates community college main campus*

The information presented in this chapter shows that regional centers are located in both metropolitan areas that typically serve larger school districts with high school populations to make the regional center viable as well as in rural areas that serve smaller school districts. Despite there being 19 active regional centers, there are still several regions throughout the state that are not currently served by a regional center. With the implementation of HF2392 taking a foothold across Iowa, the expectation is for RPPs, through their strategic planning, to begin to explore the viability of regional centers as a means to expand options and ensure students have equitable access to a variety of high-quality CTE programs that meet regional workforce needs.

Chapter Highlights

Regional centers:

- In FY19, there were 19 regional centers providing 165 career academy programs to 6,045 high school students from 125 school districts. Among the 19 regional centers, six are located on community college campuses.
- Applied Science, Technology, Engineering and Manufacturing was the largest service area with 66 career academy programs being offered, followed by Health Sciences (28), Information Solutions (25), Human Services (25), and Business, Finance, Marketing and Management (16). Agriculture, Food and Natural Resources was the smallest service area with only five career academy programs being offered within a regional center.

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