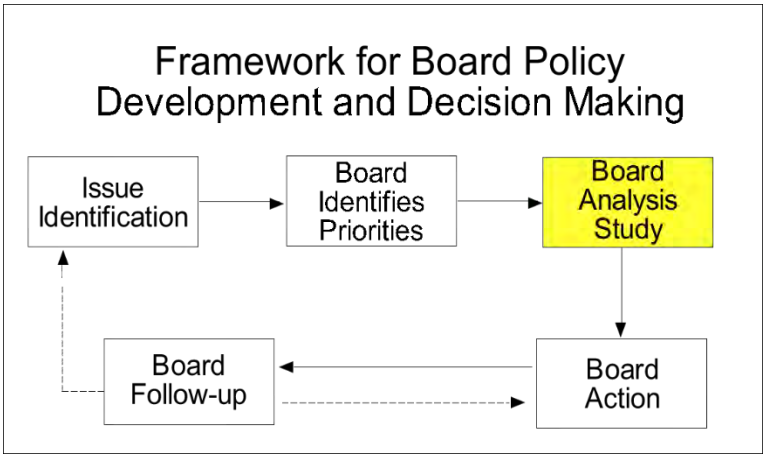
Iowa State Board of Education

Executive Summary

March 24, 2022



Agenda Item: The Annual Condition of Secondary Career and Technical Education Report

State Board Priority: Preparing Learners for Tomorrow's Workforce

State Board Role/Authority: This report is presented for information only as the State Board provides leadership and advocacy for the education system in Iowa.

Presenter(s): Dennis Harden, Chief
Bureau of Career and Technical Education

Attachment(s): One

Recommendation: It is recommended that the State Board hear and discuss this information.

Background: The Annual Condition of Secondary Career and Technical Education Report provides information on student enrollment in career and technical education courses and programs during academic years 2017 through 2021. Demographic characteristics of secondary career and technical education students and educators and information on career and technical student organizations, secondary career and academic planning, work-based learning and regional centers are also provided.

THE ANNUAL CONDITION OF

SECONDARY CAREER & TECHNICAL EDUCATION

Courses, Programs, Students and Faculty

2022

COMMUNITY COLLEGES & WORKFORCE PREPARATION

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Letter from the Director

Dear Education Stakeholders,

I am pleased to present the 2021 edition of the Annual Condition of Secondary Career and Technical Education. This report summarizes the latest data and information on secondary career and technical education (CTE) courses and programs offered in Iowa, enrollment trends and characteristics of students, secondary teachers and community college faculty for academic years (AY) 2017- 2021. Additionally, the report describes four areas of policy interest for implementing high-quality CTE throughout the state—career and technical student organizations, secondary career and academic planning, work-based learning and regional centers.

High-quality career and technical education (CTE) programs across the state are increasing student engagement through the integration of technical and academic skills in hands-on, real-world learning experiences. These programs align with workforce needs and offer clear pathways to industry certifications and postsecondary credentials. As emphasis on CTE grows, it is critically important that we continue to build on our strong foundation and further align education and the workforce and expand opportunities for students.

Ensuring all high school students have consistent and equitable access to globally competitive CTE, work-based learning and concurrent enrollment opportunities is top priority and aligns with the state's Future Ready Iowa initiative for 70 percent of Iowans in the workforce to have postsecondary education or training beyond high school by 2025. This work is growing Iowa's future workforce and preparing students for success in college and careers.

Thank you for taking the time to review this report and for your ongoing support of secondary CTE in Iowa.

Sincerely,

Ann Lebo
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 Act (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 that: 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, HF2392 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. If the state HF2392 requirements are placed against those under Perkins V, many similarities and commonalities are seen. 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 laid a strong foundation for development of the Perkins V State Plan and its subsequent implementation across school districts.

Report Highlights

This year's report covers a five year period of academic years (AY) 2017 through 2021, which includes the academic year most impacted by the COVID-19 pandemic (AY21). Based on the data from these years, the following information is especially notable for secondary CTE education in Iowa:

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.

- 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 the larger school districts had negative growth.
- There was significant growth in the use of college credit contracted courses in secondary CTE programs–nearly 33 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, CTE programs decreased in all but one service area (Human Services/ Family Consumer Sciences).

Secondary CTE Enrollment

Over a five-year time period:

- Overall enrollment in secondary CTE and overall secondary CTE participation rates went up and down during the five-year period. Students in smaller school districts were participating at relatively higher rates in secondary CTE.
- As to student participation in college credit contracted CTE courses, the participation rates were much lower for smaller school districts. The reverse relationship is true for larger school districts.
- CTE student enrollment by grade level declines after 9th grade, with lower enrollment seen in subsequent grades.
- Enrollment increased in Human Services/Family and Consumer Sciences, Business, Finance, Marketing, and Management and Agriculture, Food & Natural Resources, but decreased in the other three service areas, compared to the year before.

Characteristics of Secondary Students

Over a five-year time period:

- White students show a slight decline in secondary CTE participation, while there was a slight increase for minority students.
- Hispanic and black students make up about 70.0 percent of overall minority secondary student CTE participation; CTE participation for other student population groups has held steady.
- The participation of male students has been higher than female students, but the proportion of female students has increased steadily.
- The proportion of secondary CTE students who were eligible for the National School Lunch Program remained steady. Of note, there is 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.

Secondary CTE Human Resources

Over a five-year time period:

- Secondary CTE teacher characteristics have not changed significantly. The secondary CTE teacher is for the most part white and close to 43 years old.
- The service areas in which secondary CTE teachers have received the most CTE endorsements are more 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 get endorsements in multiple areas.
- Secondary CTE teachers have experienced salary increases, but in real terms there has been very little change in salaries.
- Community college CTE faculty teaching high school students are female, white, working as part-time or adjunct faculty and are close to 50 years old.

Career and Technical Student Organizations (CTSOs)

Over a five-year time period:

- Secondary CTSO membership experienced a slight decline in members in AY21.
- Membership has seen two years of decline, attributed to the COVID-19 pandemic, but has only lost 846 members from peak participation in AY19.
- All CTSOs, except FFA and TSA, saw a decrease in membership from AY17 to AY21, with DECA the only CTSO continuing a five-year decline trend in membership.
- While CTSO membership has seen a decline due to the COVID-19 pandemic, the number of chapters continues to see an increase due to the Perkins V requirement to have a CTSO chapter integrated into each CTE program at the secondary level by AY25.

Secondary Career and Academic Planning

- In AY21, Iowa's school districts helped 32,694 8th grade students create individual career and academic plans (ICAPs).
- In AY21, 301 school districts reported career planning outcomes.
- School districts continue to create partnerships with stakeholders outside of the school system, creating opportunities for students to have a holistic and authentic career learning experience.
- AY21 was the first year of the College and Career Transition Counselor (CCTC) start-up grant funding. Six positions were created between six community colleges and nine school districts.

Work-Based Learning

Over a five-year time period:

- Between AY17-AY21, the number of work-based learning courses rose steadily and peaked in AY2021. The proportion of college credit contracted work-based learning courses out of all work-based learning courses decreased in AY20 but went up again in AY21.
- More school districts are offering work-based learning courses in AY21 than they were in AY17. There has been an increase in the number of work-based learning courses, regardless of school district size.
- There was growth in the number of work-based learning courses in all service areas (including the unassigned category).
- Participation in work-based learning courses by grade level increases as students move from grade 9 to grade 12, and this has not changed over the five-year period.
- Categorizing participation in work-based learning courses by gender, ethnicity and eligibility for the National School Lunch Program, the figures are consistent with the general secondary CTE student population, except for gender. While male participation in general CTE coursework is higher, female students participated at a higher rate in work-based learning courses.

Regional Centers

- Regional centers are located throughout Iowa in both rural and urban school districts. Most of the new regional centers being built will serve rural school districts. There are still many regions of Iowa where regional centers have not yet been established.
- With the implementation of HF2392, regional planning partnerships (RPPs), through their strategic planning, have begun to explore the viability of regional centers in offering expanded options for students and ensuring equitable access to a variety of high-quality CTE programs which also meet the needs of the regional workforce.
- In FY21, there were 18 regional centers providing 170 career academy programs to 4,921 high school students from 105 school districts. Among the 18 regional centers, six are located on community college campuses.
- Applied Science, Technology, Engineering and Manufacturing was the largest service area with 63 career academy programs being offered, followed by Human Services/ Family & Consumer Sciences with 35 programs and Health Sciences with 30 programs. Agriculture, Food and Natural Resources was the smallest service area with only seven career academy programs being offered.

Table of Contents

Chapter 1. Introduction and Overview

On July 1, 2019, Iowa began implementing the Strengthening Career and Technical Education for the 21st Century Act (Perkins V) of the federal Carl D. Perkins Act. Iowa's state plan was submitted to and approved by the Office of Career, Technical, and Adult Education and covers academic years 2020-2021 through 2023-2024. The Bureau of Career and Technical Education worked with an advisory committee and several subcommittees to determine expectations for the four years covered by the state plan, thus meeting the Perkins V requirement for external input. In addition to developing a four-year plan, 2019-2020 was spent completing the Comprehensive Local Needs Assessment (CLNA) required for each Perkins recipient (secondary consortiums/districts and community colleges) and 2020-2021 was focused on CLNA work on a regional basis.

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, finance and accountability. 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 that are directly related to the preparation of individuals for 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, work attitudes, general employability skills and occupational-specific skills. With Perkins V, Iowa is expanding programming for middle school students (5-8); teacher preparation, retention and recruitment; and equity. Iowa is also reporting on a new program quality indicator of student participation in work-based learning.

At the secondary level, CTE programs are organized within six broad service areas: agriculture, food and natural resources; information solutions; applied sciences, technology, engineering and manufacturing, including transportation, distribution, logistics, architecture and construction; health sciences; human services and business, finance, marketing and management. Programs within these service areas are further aligned with the National Career Clusters™ Framework. This report focuses on secondary CTE courses, programs, students and faculty, drawing on five years of data (academic years 2017-2021).

Implementing State CTE Legislation in Iowa and Perkins V

One of the State Board of Education's priorities is that 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. Iowa CTE has its roots in the five broad directional recommendations of a legislatively mandated statewide secondary CTE task force. The task force recommendations include career guidance, high-quality CTE programming, work-based learning, teacher preparation and professional development and regional partnerships/regional centers. Implementation focuses on individual career and academic plans (ICAP), district-wide career guidance and development, Regional Planning Partnerships (RPPs), multi-year plans, program approvals, fiscal responsibility and budgeting.

1. Individual Career Academic Plan (ICAP) and Career Planning – Each district is required to have a team in place to work with students on career planning and submit a district plan to the appropriate RPP. Each district can choose state-approved career development software to use with students; reporting on the use of the chosen career development software is required. All eighth grade students are required to have an ICAP in place and have it reviewed yearly.
2. RPPs – The 15 RPPs around the state are closely aligned with the community college regions. These partnerships have state maintenance of effort funding to assist with expanding career and technical education programs at the secondary level to align with labor market needs, work with the districts on professional development, determine if a regional career center is needed to provide equitable career courses for all students and review program approvals for all districts.
3. Standards and Benchmarks – The State Board-approved standards and benchmarks for all service areas of CTE education and program approvals are now mandatory for all CTE programs at both the high school and middle school grade levels. The state is in the fourth year of program reviews, with 20.0 percent of programs reviewed each academic year. Once the RPPs have reviewed and worked with the districts to identify goals, they are forwarded to the Department of Education for review and approval by the Director.

With the implementation of Perkins V, a comprehensive local needs assessment is now completed once every two years by the federal funds' local recipients and a regional assessment is completed in the intervening years. 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. At the local level, the driving force is data-driven decision-making requiring school districts to review student performance, including those students who fall into the different special population categories. Using and analyzing enrollment and performance data, school districts engage a wide variety of stakeholders to develop their accountability framework under Perkins V, thus connecting the accountability framework to the local needs assessment. The results of this work are submitted as part of the local Perkins application for federal funds. In this regard, Perkins V strongly ties together planning, payment, program and performance–the four Ps. The current state effort around 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

Iowa receives over $13 million annually in Perkins funds. The Iowa Department of Education is the designated state eligible agency (SEA). It is responsible for distributing these funds to 89 local eligible agencies (LEAs), encompassing 15 community colleges, 44 Perkins consortia that each include multiple school districts and 30 individual school districts. Of the total funds received by Iowa, 85.0 percent is distributed to LEAs while 15.0 percent is used for state CTE leadership and administration. The basis for how these funds are allocated, distributed and expended is outlined in Iowa's state 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 were 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, academic year 2019-2020, it was not required to report data on performance indicators to the U.S. Department of Education. Table 1-1 shows how Iowa has performed relative to the annual targets since AY2016. In academic years 2016- 2019, Iowa had met or exceeded nearly all 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
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	80.0%	67.8%	85.0%	72.0%	92.5%	92.1%	93.5%	89.0%
2020	See Table 1.2							
2021	See Table 1.2							

	4S1		5S1		6S1		6S2	
Academic	Target	Actual	Target	Actual	Target	Actual	Target	Actual
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	93.0%	89.0%	89.0%	87.0%	38.5%	42.0%	29.5%	35.0%
2020	See Table 1.2							
2021	See Table 1.2							

In academic year 2020-2021, the Department began the collection of 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 to Perkins V)
- (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. Iowa's program quality indicator is:

- (5S3) Participation in work-based learning (new to Perkins V)

Table 1-2 displays Iowa's state-level targets and performance for the Perkins V secondary accountability indicators. The 2019-2020 academic year established the baselines for each performance indicator. Academic years 2020-2021, 2021-2022, 2022- 2023 and 2023-2024 each contain a column for the State Determined Levels of Performance (SDLP) and corresponding actual performance. For academic year 2020-2021, Iowa met or exceeded all of the performance indicator SDLPs. Actual performance measured against corresponding SDLP for academic years 2021-2022, 2022-2023 and 2023-2024 is to be determined.

TABLE 1-2: PERKINS V PERFORMANCE INDICATOR TARGETS

Performance Indicator Code	Performance Indicator	(Baseline) 2019-20	(Year 1, SDLPs*) 2020-2021(%)	Actual (%) 2020-2021	(Year 2, SDLPs) 2021-2022 (%)	Actual (%) 2021-2022
Secondary						
1S1	Four-Year Graduation Rate	92.5%	93.0%	96.2%	93.2%	TBD
2S1	Academic Proficiency in Reading/ Language Arts	65.7%	66.0%	74.6%	66.2%	TBD
2S2	Academic Proficiency in Mathematics	61.7%	62.0%	65.8%	62.2%	TBD
2S3	Academic Proficiency in Science	58.0%	58.2%	64.2%	58.5%	TBD
3S1	Post-Program Placement	89.0%	89.5%	87.4%	90.0%	TBD
4S1	Non-traditional Program Concentration	14.6%	14.6%	26.5%	15.0%	TBD
5S3	Program Quality - Participated in Work-Based Learning	6.0%	7.00%	10.2%	8.0%	TBD

Performance Indicator Code	Performance Indicator	(Baseline) 2019-20	(Year 3, SDLPs) 2022-2023 (%)	Actual (%) 2022-2023	(Year 4, SDLPs) 2023-2024 (%)	Actual (%) 2023-2024
Secondary						
1S1	Four-Year Graduation Rate	92.5%	93.5%	TBD	93.7%	TBD
2S1	Academic Proficiency in Reading/ Language Arts	65.7%	66.5%	TBD	66.7%	TBD
2S2	Academic Proficiency in Mathematics	61.7%	62.5%	TBD	62.7%	TBD
2S3	Academic Proficiency in Science	58.0%	58.7%	TBD	59.0%	TBD
3S1	Post-Program Placement	89.0%	90.5%	TBD	91.0%	TBD
4S1	Non-traditional Program Concentration	14.6%	15.2%	TBD	15.5%	TBD
5S3	Program Quality - Participated in Work-Based Learning	6.0%	9.0%	TBD	10.0%	TBD

Perkins V brings a greater focus on data and accountability and includes a few notable changes. It begins by explicitly defining who is included in the accountability system. It then outlines the process for setting performance targets, which includes broad consultation of stakeholders. Finally, a new initiative toward increasing opportunities for special populations is addressed, which emphasizes the disaggregation of data to identify the gaps and disparities in performance between groups of students and notes how to address them. If the state, or eligible grant subrecipient, fails to meet at least 90.0 percent of the state-determined level of performance for any of the core indicators of performance described in 113(b)(2) for all CTE concentrators, the eligible agency shall develop and implement a program improvement plan. Sec. 123. [20 U.S.C. 2343].

Accountability details under Perkins V, Sec. 113. [20 U.S.C. 2323], include the following: 1) a secondary CTE concentrator is explicitly defined; 2) except for the nontraditional and postsecondary placement indicators, all other indicators are based on the accountability framework laid out under the Every Students Succeeds Act (ESSA) state plan; 3) for every indicator, performance has to be measured for different sub-populations, and these are the same listed in ESSA, with a couple of exceptions; 4) states consulted with stakeholders to develop the state-level target levels of performance for each indicator for academic years 2020-2021, 2021-2022, 2022-2023 and 2023-2024, as submitted and approved in Iowa's Perkins V state plan and 5) states will need to address performance gaps for all indicators, as well as gaps among the different sub-populations for each indicator and target federal funds to develop strategies for addressing these gaps. The longitudinal data and 2020-2021 performance results shown in this report place 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 Secondary CTE Reporting Application (SCTERA), 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). SRI and SCTERA provide data on programs and the courses a student took or was taking in a given academic year, as well as student demographic data. Data from the BEDS, along with data from the BOEE database, provide information on K-12 CTE teachers. The MIS 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) that come from the Iowa Department of Education and the national CTSO offices. Chapter 7 uses career guidance data from the Consolidated Accountability and Support Application (CASA) and the Comprehensive School Improvement Plan. With SRI data, chapter 8 summarizes work-based learning courses and students who took these courses. Chapter 9 of this report also uses data gathered from a survey administered by the Division of Community Colleges and Workforce Preparation at the Iowa Department of Education for the purposes of obtaining information on regional centers.

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, this course is usually a work-based learning course. Similar to the SCED code, the CIP code indicates what instructional program a CTE course belongs to. In this report, a unique SCED code in a given school district was identified as a secondary CTE course instance. A similar approach was used to identify secondary CTE program instances. The number of unique state student IDs was employed to indicate unduplicated secondary CTE enrollment.

The Report Layout

The report is divided into two main sections: Section I presents five-year longitudinal data (2016-17 to 2020-21) 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.

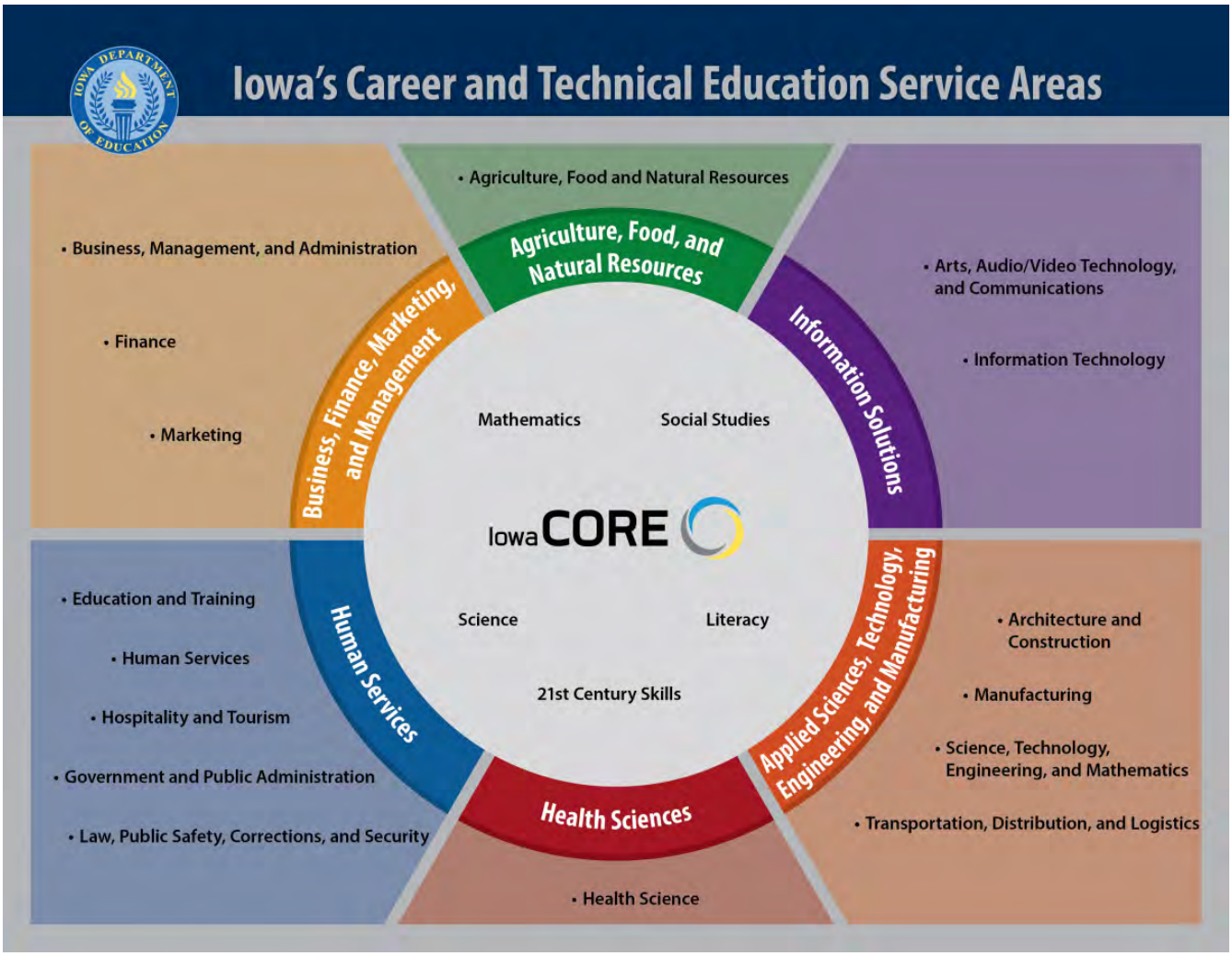
Section I: Trends in Secondary Career and Technical Education

Courses and Programs, Enrollment, Student Characteristics and Instructors

Chapter 2. Secondary CTE Courses and CTE Programs

Career and technical education's (CTE) 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 by business and industry. The National Career Clusters™ Framework provides a way for schools to organize instruction and student experiences around sixteen broad categories that 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 help parents, employers and educational system employees understand how curriculum relates to the career opportunities students will choose and which schools must prepare them.

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). As shown in the graphic below, Iowa has made a conscious effort to align these service areas to the National Career Clusters™ Framework.



Realigned in 2016, the six service areas broadly define the career pathway focus the student may have when determining in which courses and programs they should enroll. 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 regarding secondary CTE courses and programs (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, which comprises two 0.50 unit courses. Three consecutive "Carnegie" CTE units equals a basic CTE program. This report defines a course as a combination of a specific SCED code and a specific school district—a course instance. Similarly, a program is obtained by combining a specific CIP code and a specific school district—a program instance.

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. Reported throughout this document are the data for college credit CTE courses contracted through one (or more) of Iowa's community colleges. This section summarizes all of the CTE courses and CTE programs taught during AY2017-AY2021 for students in grades 9-12 in Iowa.

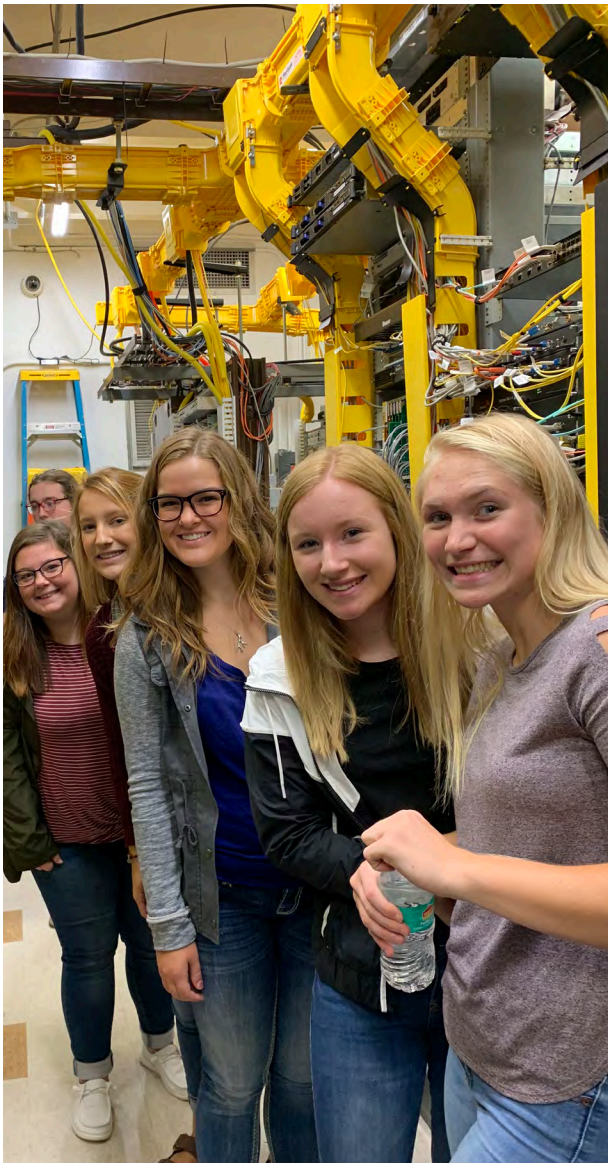


FIGURE 2-1: NUMBER OF CTE COURSES AND PROPORTION OF COLLEGE-CREDIT CONTRACTED CTE COURSES: AY17-AY21*

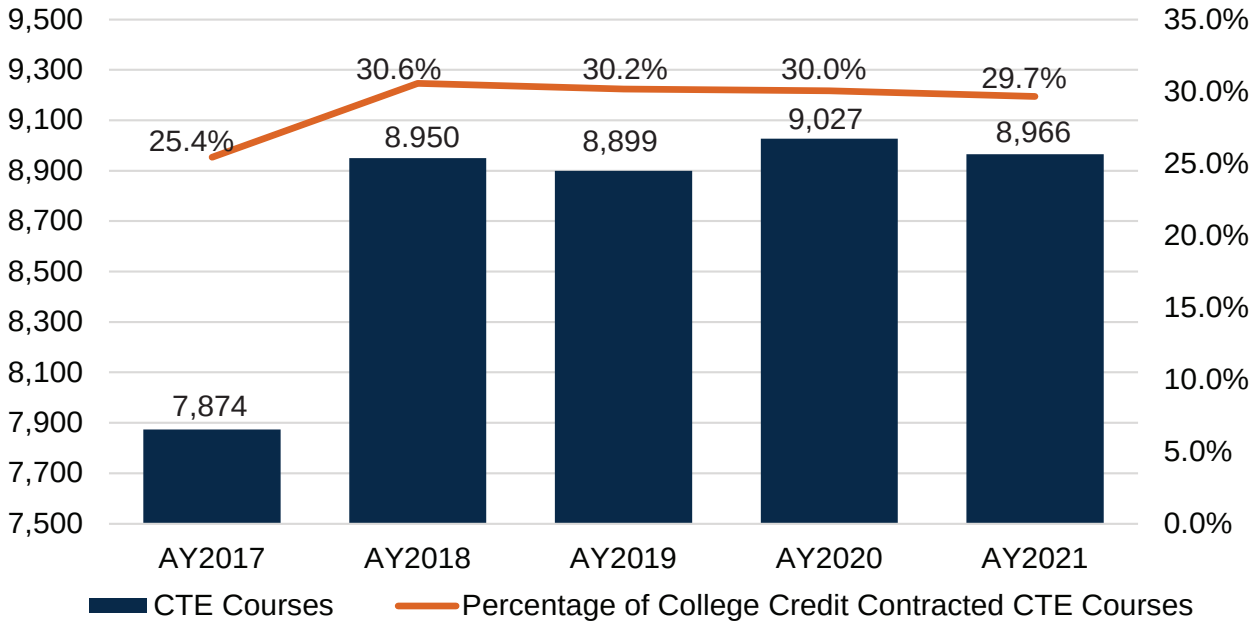


Figure 2-1 reports secondary CTE courses taught since AY2017. In AY2021, 8,966 secondary CTE courses were offered in Iowa, which is a 0.7 percent decrease from the year before, with a compound annual growth rate of 3.3 percent over a five-year period (AY2017-AY2021). Figure 2.1 also reports the change of college credit contracted CTE courses. The proportion of college credit contracted CTE courses increased steadily; in AY2017, these courses only accounted for 25.4 percent of the total secondary CTE courses, whereas in AY2021, 29.7 percent of all secondary CTE courses were college credit contracted courses, which is close to a 33.0 percent increase.

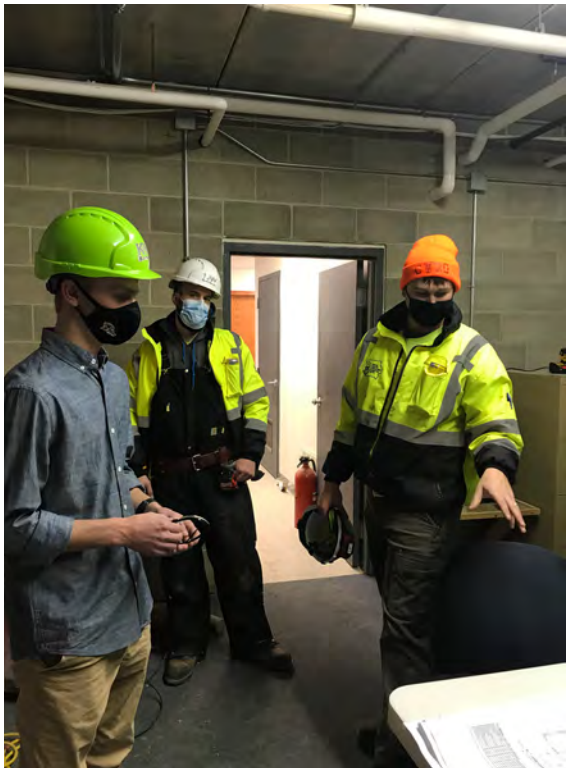


TABLE 2-1: AVERAGE NUMBER OF CTE COURSES BY SCHOOL DISTRICT SIZE: AY17-AY21

High School Student Enrollment	AY17	AY18	AY19	AY20	AY21	CAGR*
<100	16.2	19.0	17.5	18.7	18.8	3.8%
100-299	22.8	25.5	25.4	25.7	25.5	2.8%
300-499	28.3	33.6	33.2	33.5	34.3	4.9%
500-1249	30.8	35.2	35.3	37.7	34.5	2.9%
1250-3999	36.3	42.0	43.8	45.2	44.4	5.2%
>4000	65.8	62.8	64.0	62.8	58.8	-2.8%
Total	**25.7**	**29.4**	**29.4**	**30.1**	**29.7**	**3.7%**

*Note: * CAGR=Compound Annual Growth Rate*

Table 2-1 displays the average number of CTE courses offered by school district size; Table 2-2 shows the average number of college credit contracted CTE courses by school district size. In this report, school district size was indicated by high school student enrollment. More information on high school enrollment can be obtained at https://www.educateiowa.gov/education-statistics.

Compared to AY2020, the average number of CTE courses decreased in all school districts except for those with an enrollment of less than 100 high school students and those with an enrollment between 300-499 high school students. In terms of compound annual growth rate, school districts with a high school enrollment of 1,250-3,999 have grown by 5.2 percent. School districts with a high school enrollment of 4,000 or more have decreased by 2.8 percent. As to the average number of college credit contracted CTE courses, only school districts with an enrollment of more than 4,000 high school students experienced a decrease. The number of CTE courses and the number of college credit contracted CTE courses were positively correlated to school district size, as larger schools offered more of both 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: AY17-AY21

High School Student Enrollment	AY17	AY18	AY19	AY20	AY21	CAGR*
<100	2.5	4.6	3.7	4.6	4.6	16.5%
100-299	4.7	6.3	6.0	7.1	6.8	9.7%
300-499	7.2	11.7	11.4	11.4	12.8	15.5%
500-1249	9.4	11.6	12.0	13.8	11.5	5.2%
1250-3999	13.7	17.3	18.1	18.4	19.3	8.9%
>4000	34.3	32.2	32.6	25.6	29.6	-3.6%
Total	**6.1**	**6.5**	**9.0**	**9.9**	**9.9**	**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 AY2017. As shown in Figure 2-2, the number of CTE programs has decreased slightly since AY2017.

FIGURE 2-2: NUMBER OF SECONDARY CTE PROGRAMS: AY17-AY21

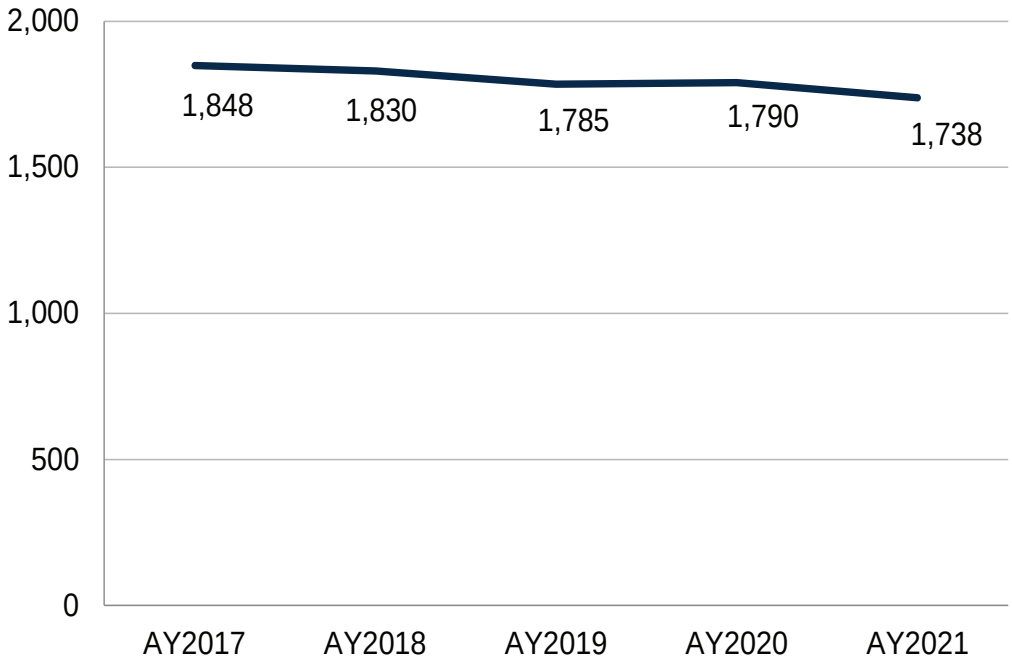


Table 2-3 presents the average number of CTE programs offered by school district size. In larger schools, more CTE programs were offered each academic year. For example, in AY2021, 14.2 secondary CTE programs were offered in school districts with more than 4,000 high school students, compared to 4.4 programs offered in districts with less than 100 high school students. Over the five-year period, the average number of CTE programs did not increase in school districts of any sizes. Statewide, the average number of secondary CTE programs has decreased less than one percent since AY2017.

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 559 programs taught in AY2021. By contrast, Information Solutions was the smallest service area, with 85 programs provided in the same year. On a CAGR basis, Information Solutions has grown by 17.2 percent. Human Services/Family Consumer Sciences increased 0.1 percent. Other service areas experienced 0.4 percent (Agriculture, Food & Natural Resources) to 4.7 percent (Business, Finance, Marketing and Management) decreases over the past five years.

TABLE 2-3: AVERAGE NUMBER OF CTE PROGRAMS BY SCHOOL DISTRICT SIZE: AY17 - AY21

High School Student Enrollment	AY17	AY18	AY19	AY20	AY21	CAGR*
<100	4.6	4.6	4.5	4.4	4.4	-1.2%
100-299	5.2	5.1	4.9	5.0	4.8	-1.9%
300-499	6.3	6.4	6.1	5.9	6.1	-1.0%
500-1249	7.4	7.3	7.5	7.8	7.1	-1.0%
1250-3999	9.7	9.4	9.1	9.4	9.4	-0.7%
>4000	15.0	14.2	13.8	14.0	14.2	-1.4%
Total	**6.0**	**6.0**	**5.9**	**5.9**	**5.8**	**-0.9%**

*Note: * CAGR=Compound Annual Growth Rate*

TABLE 2-4: NUMBER OF CTE PROGRAMS BY SERVICE AREAS: AY17 - AY21

Career Cluster	AY17	AY18	AY19	AY20	AY21	CAGR *
Business, Finance, Marketing and Management	391	327	323	324	323	-4.7%
Agriculture, Food & Natural Resources	263	252	255	259	259	-0.4%
Information Solutions	45	75	80	83	85	17.2%
Applied Science, Technology, Engineering and Manufacturing	630	672	620	595	559	-2.9%
Health Sciences	152	130	140	149	144	-1.3%
Human Services	367	374	367	380	368	0.1%
Total	**1,848**	**1,830**	**1,785**	**1,790**	**1,738**	**-1.5%**

*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 more or less 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 had negative growth.
- There was significant growth in the use of college credit contracted courses in secondary CTE programs—32.8 percent over a five-year period—and this growth is related to the size of the school districts, with larger districts offering and teaching more college credit contracted courses.
- At the service area level, CTE programs decreased in all but one service area.

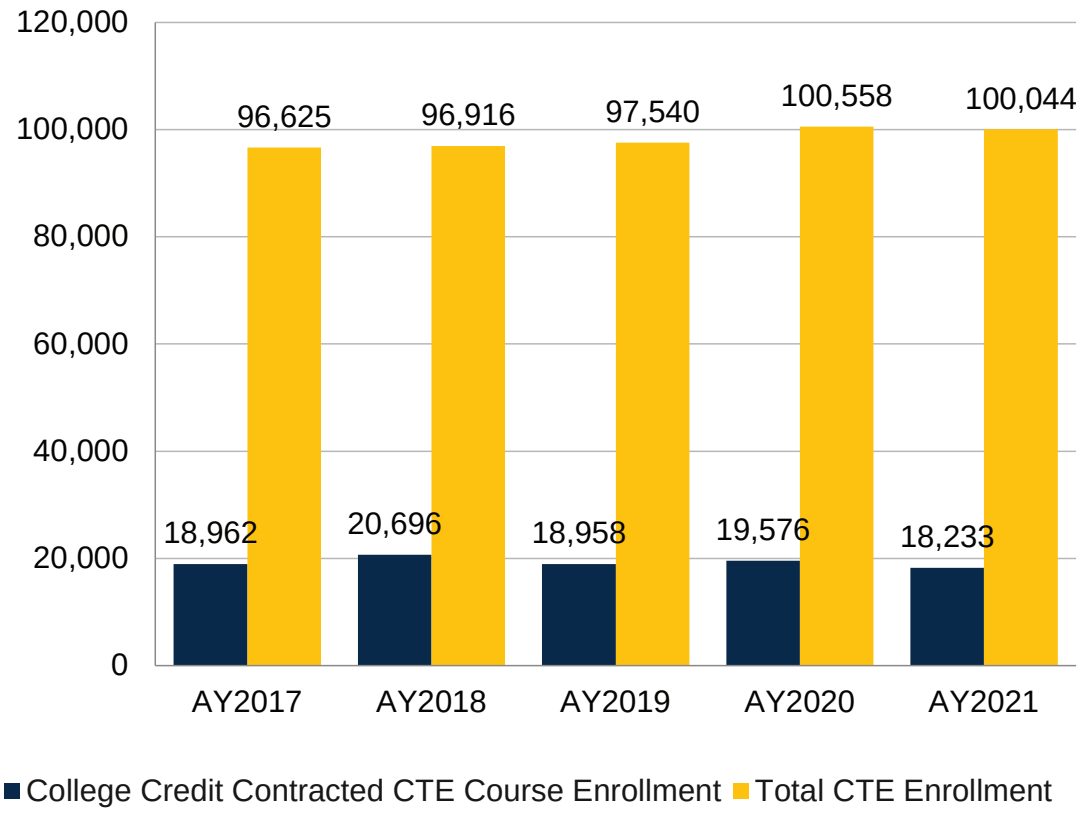
Chapter 3. Secondary CTE Enrollment

This chapter summarizes secondary CTE enrollment since AY2017. The high school students that took at least one CTE course in a given academic year (AY) 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 since AY2017. In AY2021, there were 100,044 students enrolled in at least one CTE course, which is the highest in the past five years. In addition, students who took at least one college credit contracted CTE course were identified as college credit CTE students. Figure 3-1 also presents the number of college credit contracted CTE students during the past five years. In AY2021, 18,233 students (18.2 percent of total CTE enrollment) took at least one college credit contracted CTE course, a 6.9 percent decrease from the previous year.

FIGURE 3-1 SECONDARY CTE AND COLLEGE-CREDIT CONTRACTED CTE ENROLLMENT: AY17 - AY21



Over the past five years, the secondary CTE participation rate in Iowa was approximately 68.0 percent. As shown in Figure 3-2, the proportion of CTE enrollment in grades 9-12 increased from 65.3 percent in AY2017 to 69.3 percent in AY2021. The change in the secondary CTE participation rate follows the change in total secondary CTE enrollment.

Figure 3-3 displays CTE enrollment by school district size. In this report, school district size is indicated by high school student enrollment. Before AY2020, school districts with an enrollment of 100-299 high school students had the largest secondary CTE enrollment. Since AY2020, school districts where the high school enrollment was 1,250-3,999 students had the highest CTE enrollment (23,511 in AY2020 and 22,970 in AY2021).

FIGURE 3-2 SECONDARY CTE PARTICIPATION RATE: AY17 - AY21

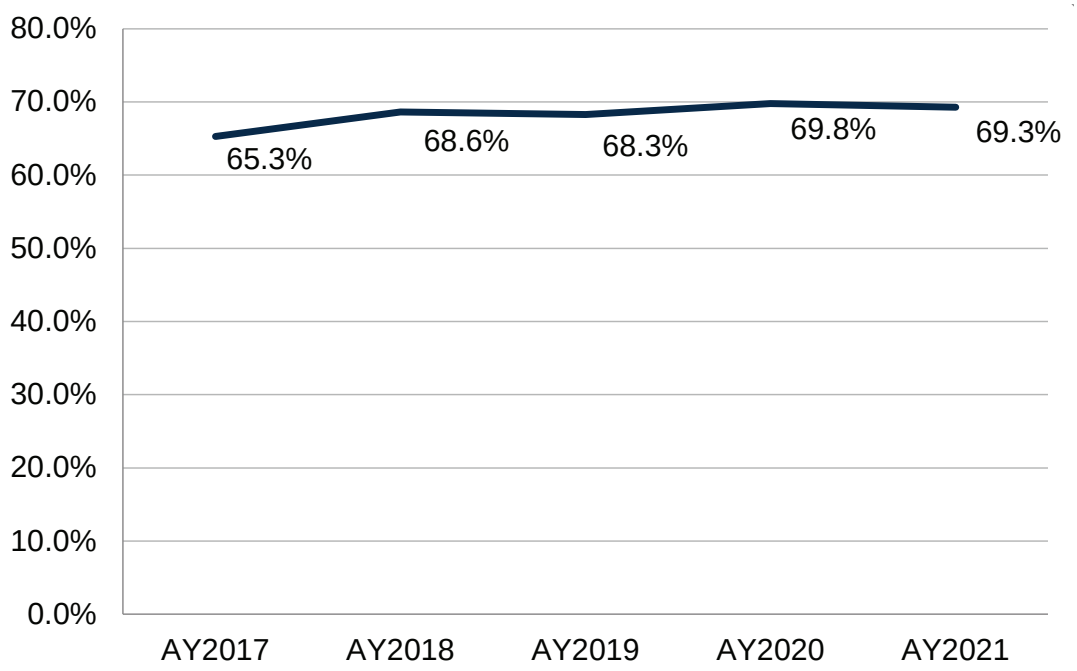


FIGURE 3-3: TOTAL COMBINED SECONDARY CTE ENROLLMENT BY SCHOOL DISTRICT SIZE: AY17 - AY21

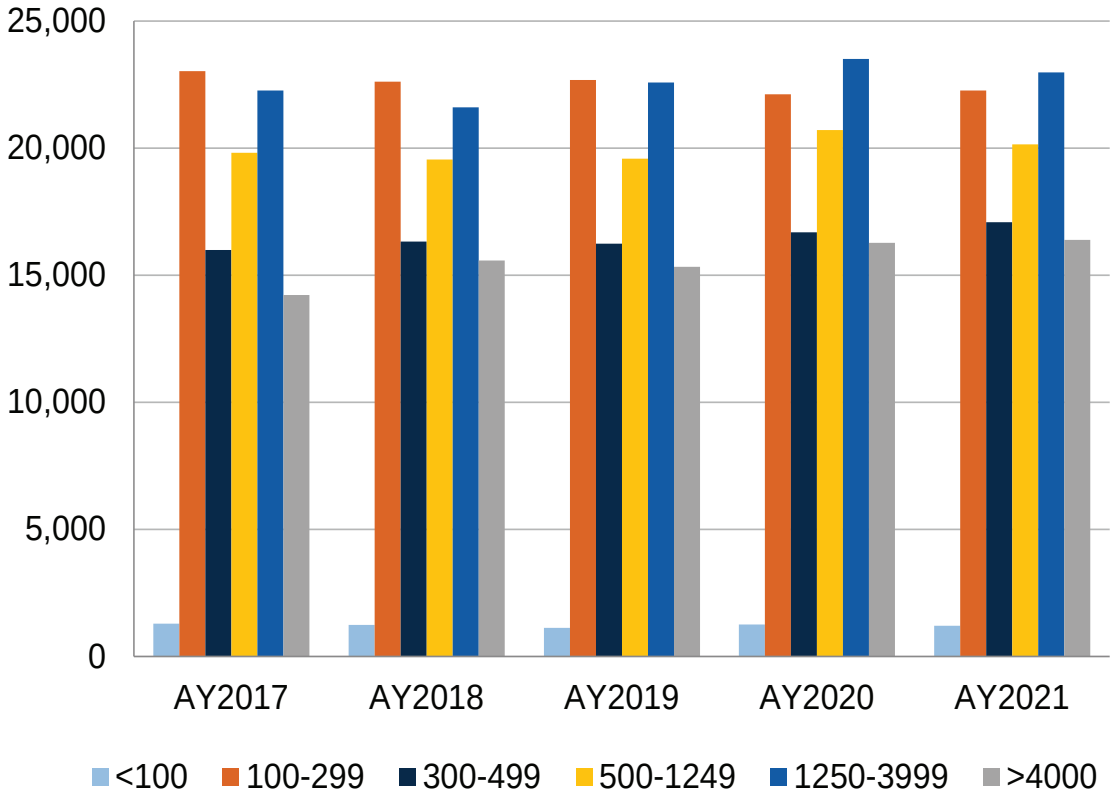


Figure 3-4 and Table 3-1 summarize CTE participation rate by school district size. When observing the year-to-year average over the five-year period, school districts with an enrollment of 100-299 high school students had the highest secondary CTE participation rate in all years except for AY2018 and AY2021. School districts with a high school enrollment of 1,250-3,999 and those with a high school enrollment of more than 4,000 had comparatively low CTE participation rates with a five-year average of 61.0 percent and 61.3 percent respectively, even though this group consisted of approximately 40.0 percent of total statewide secondary CTE enrollment. In AY2021, school districts with an enrollment between 1,250-3,999 high school students had the lowest participation rate at 61.5 percent.

FIGURE 3-4: SECONDARY PARTICIPATION RATE BY SCHOOL DISTRICT SIZE: AY17- AY21

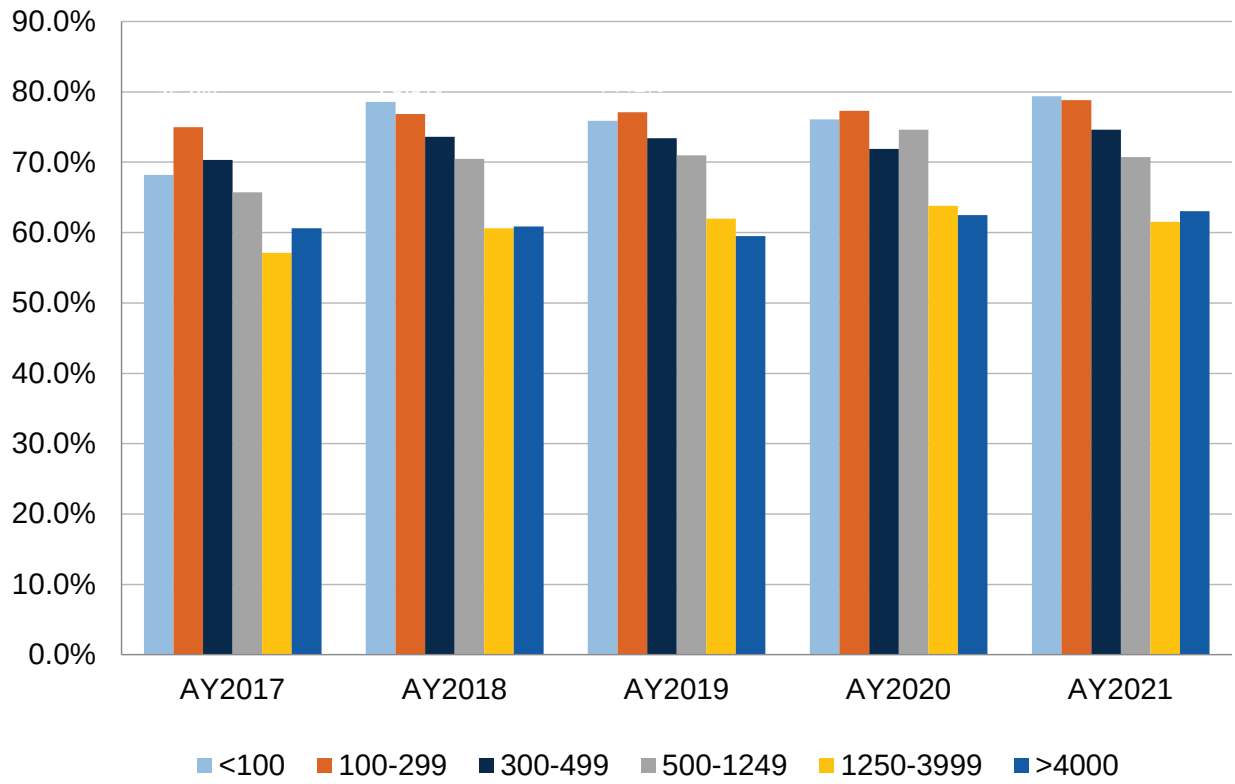


TABLE 3-1: SECONDARY CTE PARTICIPATION RATE BY SCHOOL DISTRICT SIZE: AY17-AY21

High School Student Enrollment	AY17	AY18	AY18	AY20	AY21	Five-Year Average
<100	68.2%	78.6%	75.9%	76.1%	79.4%	75.6%
100-299	75.0%	76.9%	77.1%	77.2%	78.8%	77.0%
300-499	70.3%	73.6%	73.4%	71.9%	74.6%	72.8%
500-1,249	65.7%	70.5%	71.0%	74.6%	70.7%	70.5%
1,250-3,999	57.1%	60.6%	62.0%	63.7%	61.5%	61.0%
>4,000	60.6%	60.9%	59.5%	62.5%	63.1%	61.3%
Total	**65.3%**	**68.2%**	**68.3%**	**69.7%**	**69.3%**	**68.2%**

Table 3-2 summarizes the percentage of college credit CTE students out of total secondary CTE enrollment by school district size. It appears that this percentage is positively correlated to school district size: students in larger school districts were more likely to have taken college credit contracted CTE courses. For example, in AY2021 school districts with less than 100 high school students saw only 14.8 percent of secondary CTE students enrolled in at least one college credit contracted CTE course, compared to 18.8 percent of CTE students in school districts with an enrollment of more than 4,000 high school students. It is also worth mentioning that, statewide, the percentage of college credit contracted CTE students stayed approximately at 19.0 percent; however, there is a slight decrease from 19.5 percent in AY2020 to 18.2 percent in AY2021.

TABLE 3-2: COLLEGE-CREDIT CTE STUDENTS AS A PERCENTAGE OF TOTAL SECONDARY CTE ENROLLMENT BY SCHOOL DISTRICT SIZE: AY17-AY21

High School Student Enrollment	AY17	AY18	AY19	AY20	AY21	Five-Year Average
<100	12.1%	11.7%	12.7%	13.6%	14.8%	13.0%
100-299	13.3%	15.5%	15.3%	15.0%	14.5%	14.7%
300-499	15.8%	19.2%	18.2%	19.2%	17.9%	18.1%
500-1,249	19.1%	20.7%	19.0%	20.3%	18.5%	19.5%
1,250-3,999	23.6%	24.2%	20.1%	20.4%	21.6%	22.0%
>4,000	29.4%	29.6%	26.9%	23.9%	18.8%	25.7%
State Total	**19.6%**	**21.4%**	**19.4%**	**19.5%**	**18.2%**	**19.6%**

Figure 3-5 presents secondary CTE enrollment by grade-level. The pattern of CTE enrollment by grade level held steady over the past five years: 9th graders were the largest group, averaging 29.0 percent, followed by 10th graders, averaging 25.7 percent, and students in grades 11 and 12 accounted for 23.9 percent and 21.3 percent of total secondary CTE enrollment, respectively.

Table 3-3 summarizes enrollment by service area and Figure 3-6 displays the change in enrollment by service area since AY2017. Over the past five years, more students enrolled in courses in the Human Services/Family Consumer Science service area than any other service area, and in AY2021, 57,170 students took at least one course in this service area. Students enrolling in courses in the Applied Science, Technology, Engineering and Manufacturing service area were also popular among high school students. In AY2021, 31,446 students took at least one course in this service area. The enrollment increased in Human Services/Family and Consumer Sciences; Business, Finance, Marketing and Management; and Agriculture, Food and Natural Resources, but decreased in the other three service areas from AY2020 to AY2021.

FIGURE 3-5: SECONDARY ENROLLMENT BY GRADE LEVEL: AY17 - AY21

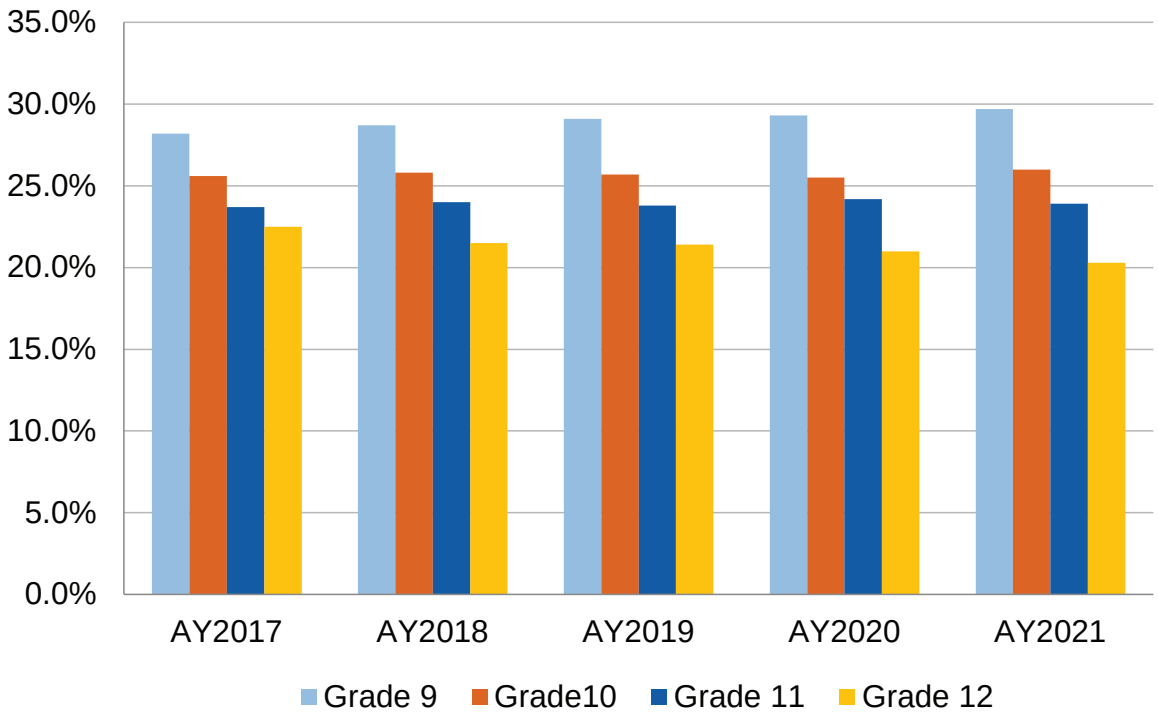
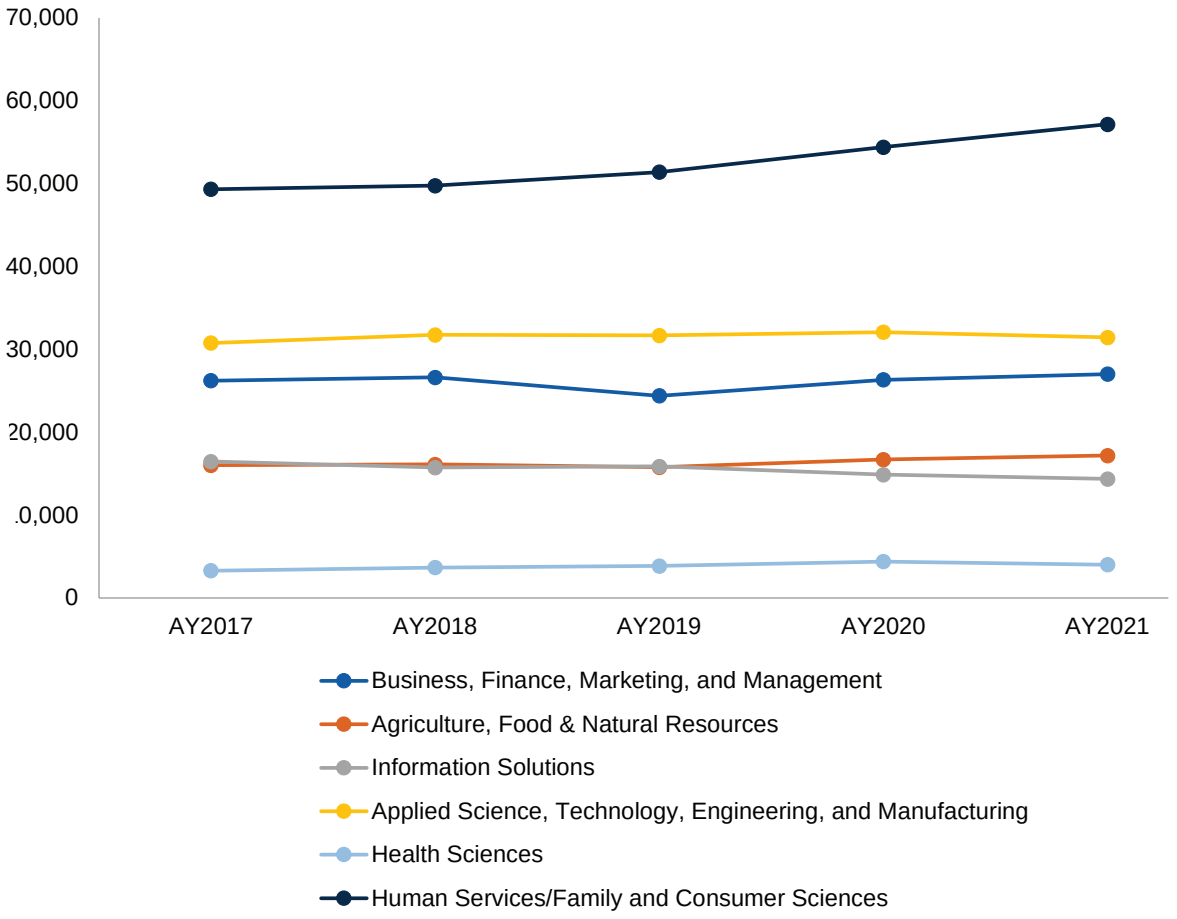


TABLE 3-3: SECONDARY CTE ENROLLMENT BY SERVICE AREA: AY17- AY21

Service Area	AY17	AY18	AY19	AY20	AY21	CAGR*
Business, Finance, Marketing and Management	26,239	26,632	24,416	26,336	27,036	0.8%
Agriculture, Food and Natural Resources	16,033	16,134	15,787	16,718	17,203	1.8%
Information Solutions	16,475	15,746	15,894	14,901	14,377	-3.3%
Applied Science, Technology, Engineering and Manufacturing	30,787	31,763	31,692	32,091	31,446	0.5%
Health Sciences	3,314	3,684	3,876	4,407	4,023	5.0%
Human Services	49,340	49,767	51,395	54,408	57,170	3.8%

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: AY17 - AY21



Chapter Highlights

Over a five-year period:

- Overall enrollment in secondary CTE and overall secondary CTE participation rates went up and down during the five-year period. Students in smaller school districts were participating at relatively higher rates in secondary CTE.
- As to student participation in college credit contracted CTE courses, the participation rates were much lower for smaller school districts. The reverse relationship is true for larger school districts.
- CTE student enrollment by grade level declines after 9th grade, with the lower enrollment seen in subsequent grades.
- In general, enrollment of students in three areas (Human Services/ Family and Consumer Sciences; Business, Finance, Marketing and Management; and Agriculture, Food and Natural Resources) showed an upward trend compared to the year before.

Chapter 4. Characteristics of Secondary CTE Students

Who are the students that take CTE coursework in Iowa's high schools? What are the demographics? How many are economically disadvantaged? This chapter describes the characteristics of secondary CTE students and covers the distributions and demographics of secondary CTE students across grades 9-12, as well as the number of CTE courses taken over the past five academic years.

Demographics of Secondary CTE Students

Among all secondary CTE students, white students made up 77.5 percent of the student body in AY2021. Figure 4-1 displays the proportion of white students and the proportion of minority students enrolled in secondary CTE programs. The percentage of minority secondary CTE students increased steadily from 20.0 percent in AY2017 to 22.5 percent in AY2021. Hispanic students comprised the largest minority group, averaging 47.7 percent, followed first by black students, averaging 24.3 percent, and then by students who reported two or more races, averaging 14.5 percent (see Table 4-1).

FIGURE 4-1: PROPORTION OF WHITE VS MINORITY SECONDARY CTE STUDENTS: AY17- AY21

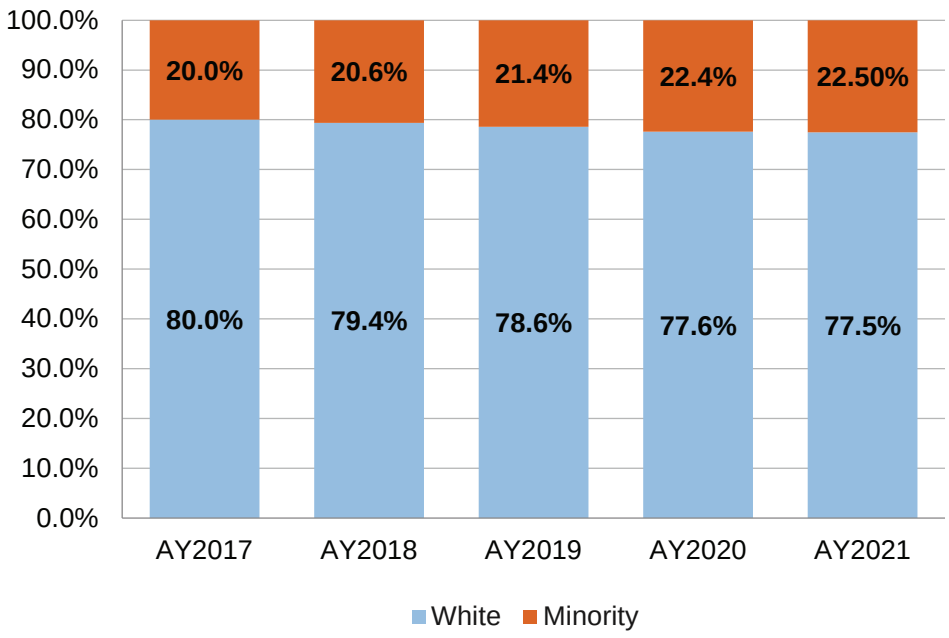


TABLE 4-1: DISTRIBUTION OF MINORITY SECONDARY CTE STUDENTS: AY17 - AY21

Race/ Ethnicity	AY17		AY18		AY19		AY20		AY21	
	N	%	N	%	N	%	N	%	N	%
Hispanic	9,157	47.4	9,531	47.7	9,973	47.8	10,732	47.7	10,732	47.8
Black	4,818	24.9	4,836	24.2	5,045	24.2	5,490	24.4	5,490	23.7
More than one	2,603	13.5	2,761	13.8	3,024	14.5	3,337	14.8	3,337	15.9
Asian	2,193	11.4	2,306	11.5	2,274	10.9	2,317	10.3	2,317	10.1
Native American	340	1.8	325	1.6	328	1.6	341	1.5	341	1.3
Pacific Islanders	201	1.0	224	1.1	232	1.1	261	1.2	261	1.2
State	**19,312**		**19,983**		**20,876**		**22,478**		**22,541**	

Figure 4-2 summarizes the enrollment of secondary CTE students by gender. Over the past five years, there were more male CTE students than female CTE students. The proportion of female students in secondary CTE enrollment slightly increased from 44.7 percent in AY2017 to 45.3 percent in AY2021.

The proportion of secondary CTE students who were eligible for the National School Lunch Program is shown in Figure 4-3. The percentage of eligible students fluctuated between 36.1 percent and 39.5 percent during the past five years and peaked in AY2020.

FIGURE 4-2: PROPORTION OF MALE AND FEMALE SECONDARY CTE STUDENTS: AY17 - AY21

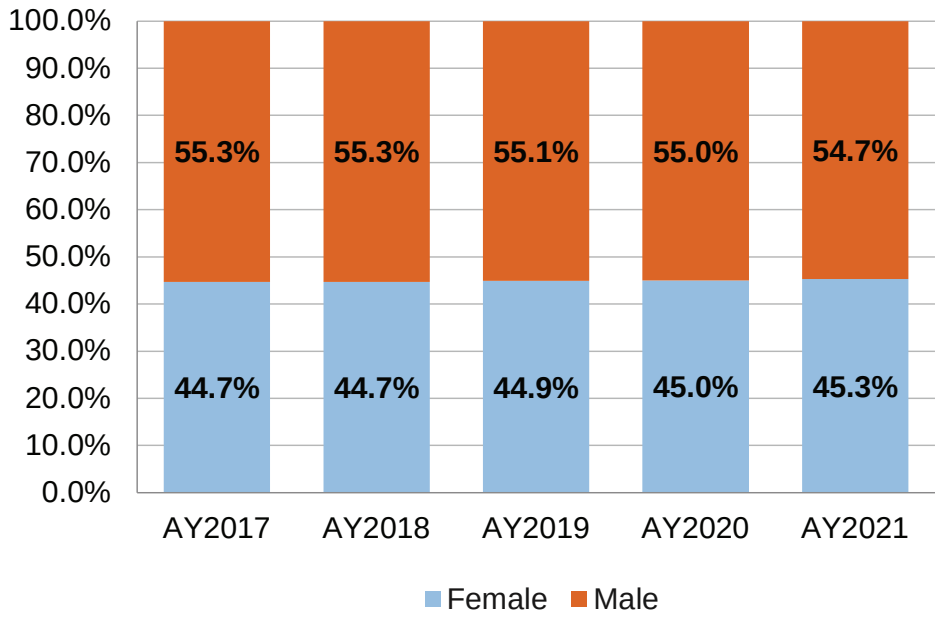
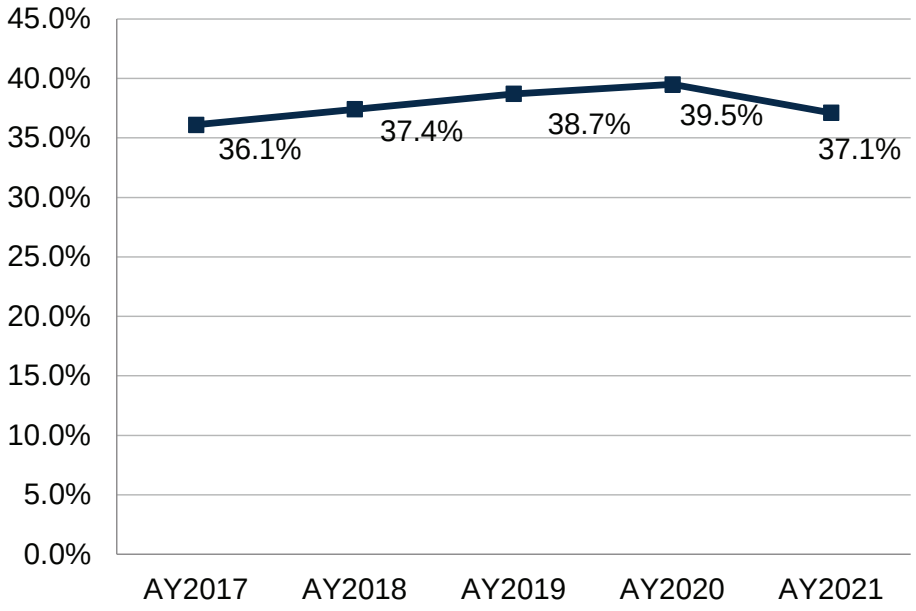


FIGURE 4-3: PROPORTION OF SECONDARY CTE STUDENTS WHO WERE ELIGIBLE FOR FREE AND REDUCED-PRICE MEALS THROUGH THE NATIONAL SCHOOL LUNCH PROGRAM: AY17 - AY21



Trends in CTE Courses Taken by Secondary Students

Figure 4-4 displays the distribution of CTE course taking (both secondary and college credit contracted) per student since AY2017. In AY2017, 45.0 percent of students who participated in a CTE program took one CTE course in an academic year. Between AY2018 and AY2020, this group of students dropped to less than 35.0 percent; however, this group increased to 41.8 percent in AY2021. The proportion of students who took two CTE courses in an academic year was steady in the past five years at approximately 30.0 percent.

The average number of CTE courses taken per student has grown by 1.0 percent (compound annual growth rate). In AY2021, on average, secondary students enrolled in 2.03 CTE courses per academic year, which is a 13.6 percent decrease from AY2020 (Figure 4-5).

FIGURE 4-4: DISTRIBUTION OF SECONDARY STUDENTS BY NUMBER OF CTE COURSES: AY17- AY21

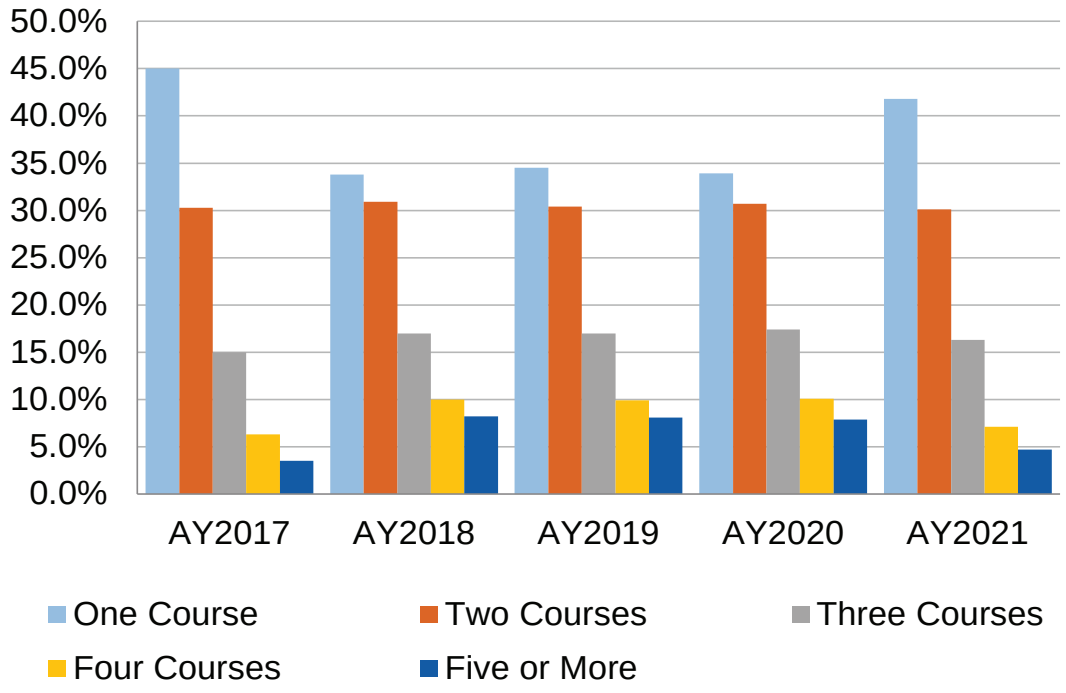
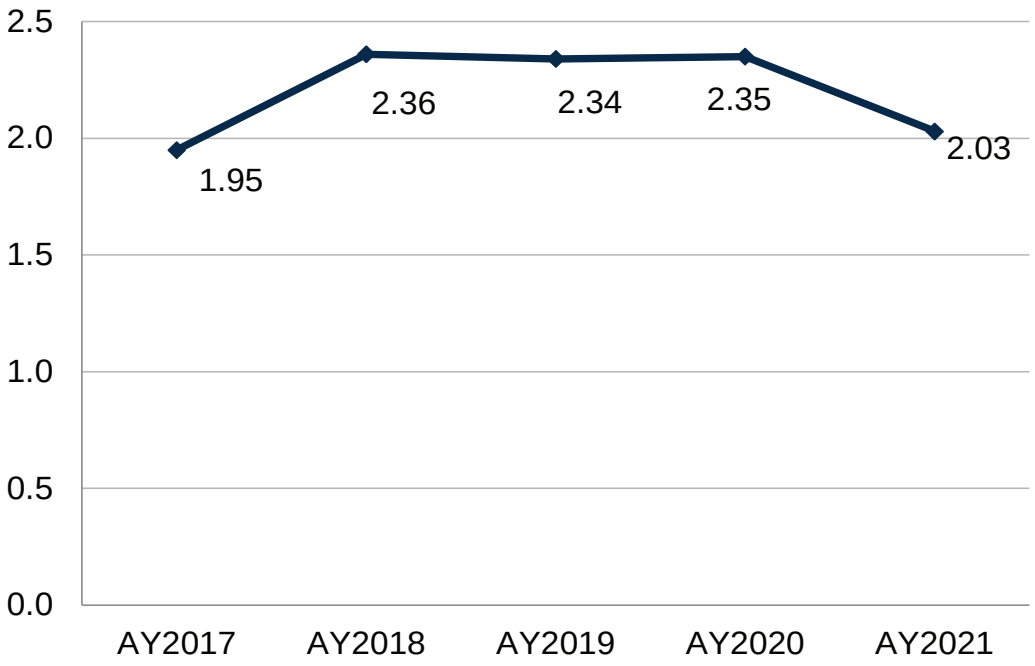


FIGURE 4-5: AVERAGE NUMBER OF CTE COURSES TAKEN BY SECONDARY STUDENTS: AY17 - AY21



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 demonstrate the following: Male secondary students took more CTE courses than female students; white secondary students took more CTE courses than minority students and the difference between secondary CTE students who were eligible for free and reduced-price meals and those who were not eligible was not salient.

FIGURE 4-6: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY GRADE LEVEL: AY17- AY21

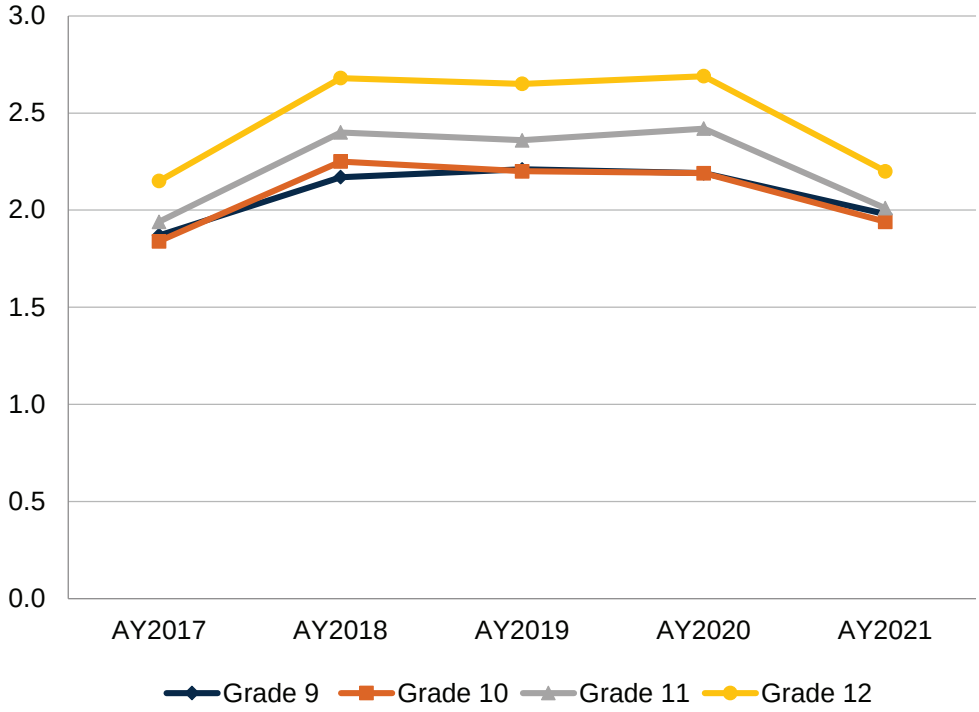


FIGURE 4-7: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY GENDER: AY17- AY21

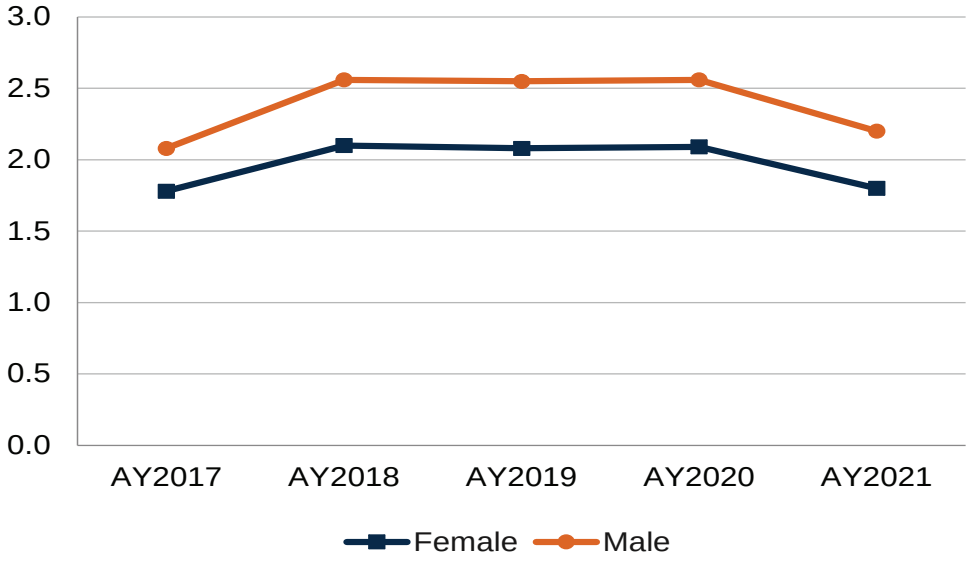


FIGURE 4-8: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY RACE/ETHNICITY: AY17 - AY21

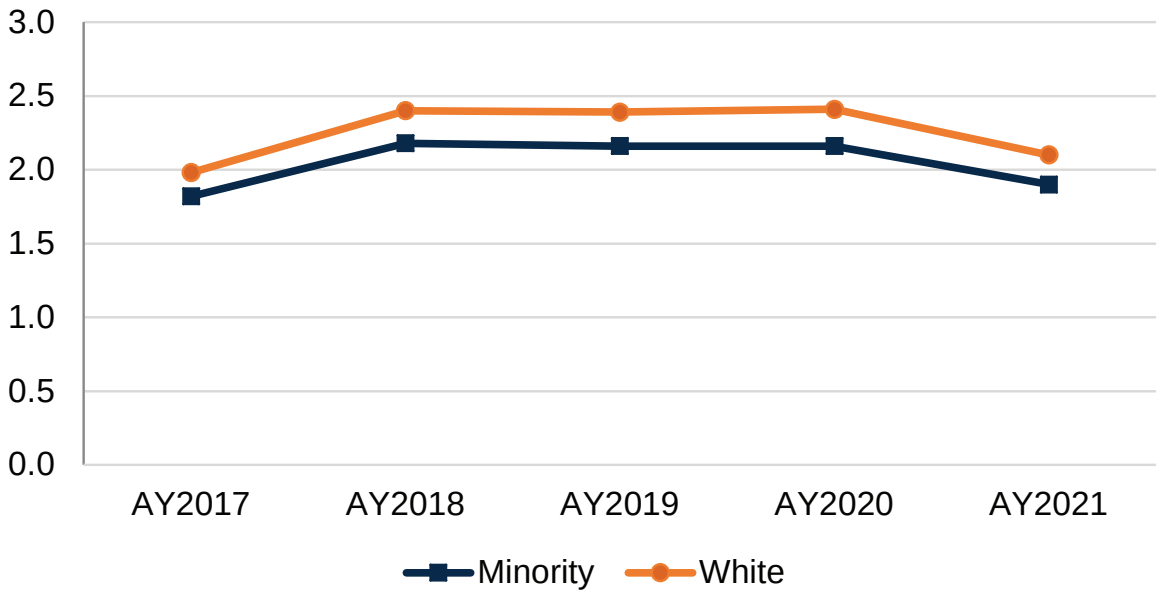
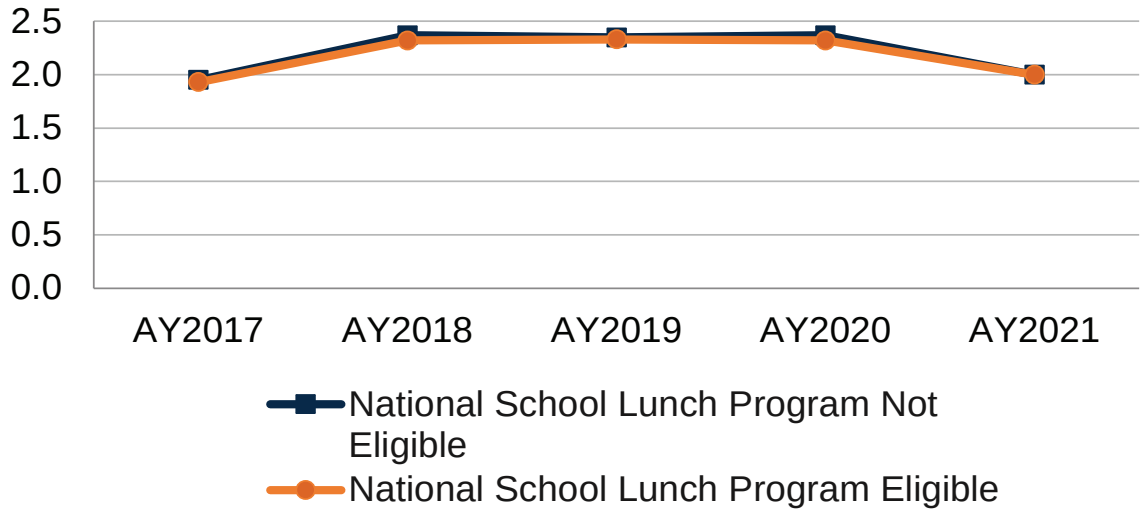


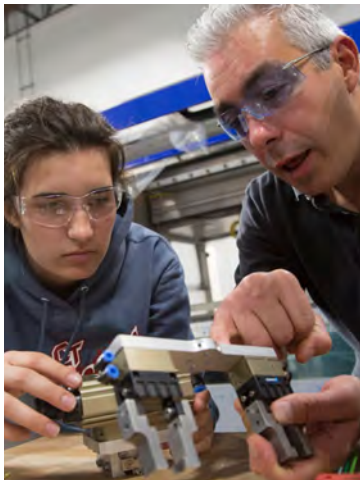
FIGURE 4-9: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY ELIGIBILITY FOR FREE AND REDUCED-PRICE MEALS THROUGH THE NATIONAL SCHOOL LUNCH PROGRAM ELIGIBILITY: AY17 - AY21



Chapter Highlights

Over a five-year time period:

- White students show a slight decline in secondary CTE participation, while there was a slight increase for minority students.
- Hispanic and black students make up about 70.0 percent of overall minority secondary student CTE participation; CTE participation for other student population groups has held steady.
- The participation of male students has been higher than female students, but the proportion of female students has increased steadily.
- The proportion of secondary CTE students who were eligible for the National School Lunch Program remained steady. Of note, there is 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.



Chapter 5. Secondary CTE Human Resources

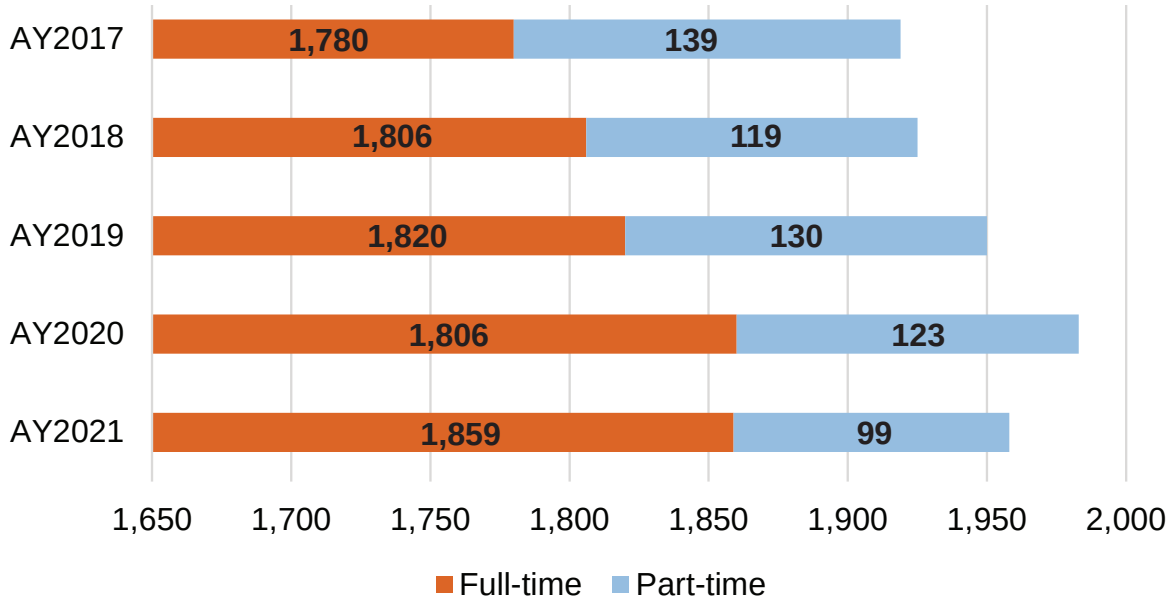
This chapter reports on secondary teachers and community college faculty responsible for teaching secondary CTE students. The first part of this chapter summarizes data available regarding secondary CTE teachers employed by school districts. Information on K–12 staff is collected from Iowa's public school 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 AY2017 to AY2021 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 reports information on CTE faculty employed by Iowa's community colleges who teach 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 courses in an academic year are identified as college credit contracted CTE teachers in this report. These instructors may be full-time, adjunct or part-time. 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 in this chapter.

Secondary CTE Teachers

Figure 5-1 displays the number of full-time and part-time CTE teachers employed by school districts since AY2017. The number of CTE teachers has grown by less than one percent (compound annual growth) from 1,919 in AY2017 to 1,958 in AY2021. The number of full-time CTE teachers increased from 1,780 to 1,859, a 1.1 percent compound annual growth. The number of part-time CTE teachers decreased

FIGURE 5-1: NUMBER OF SECONDARY CTE TEACHERS BY EMPLOYMENT TYPE: AY17 - AY21



from 139 in AY2017 to 99 in AY2021, a 8.1 percent compound annual decrease.percent compound annual decrease.

In terms of gender, female teachers have outnumbered male (Figure 5-2). The number of female CTE teachers increased by 1.3 percent (compound annual change) from AY2017 to AY2021, while the number of male CTE teachers dropped 0.3 percent (compound annual change). As to race/ethnicity, the proportion of minority teachers increased slightly, from 1.1 percent in AY2017 to 2.1 percent in AY2021 (Table 5-1). On average, secondary CTE teachers are younger and with less experience (Table 5-2). The average base salary of CTE teachers (including part-time teachers) has increased by 1.1 percent (compound annual growth) from $54,229 in AY2017 to $56,734 in AY2021.

FIGURE 5-2: NUMBER OF SECONDARY CTE TEACHERS BY GENDER: AY17 - AY21

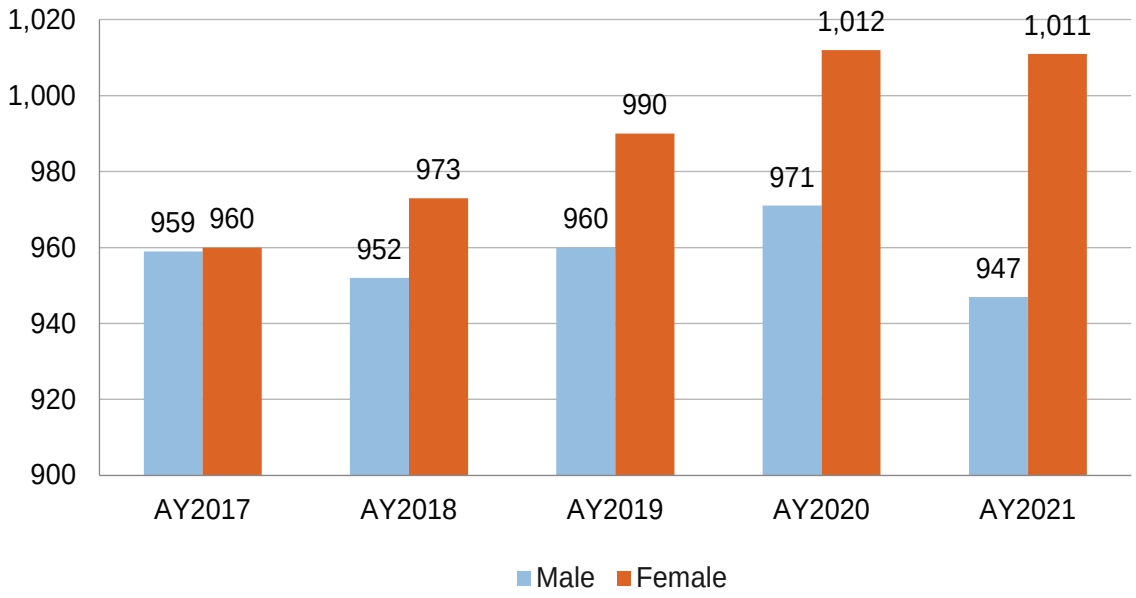


TABLE 5-1: SECONDARY CTE TEACHERS BY RACE/ETHNICITY: AY17- AY21

Race/Ethnicity	AY17	AY18	AY19	AY20	AY21
	%	%	%	%	%
Asian	0.2	0.2	0.2	0.3	0.3
Black	0.6	0.7	0.7	0.7	0.6
Hispanic	0.3	0.4	0.8	0.9	0.9
More than one	0.1	0.1	0.2	0.2	0.2
Native American	0.1	0.1	0.1	0.1	0.1
White	98.9	98.5	98.1	97.9	97.9
Total	**100**	**100**	**100**	**100**	**100**

TABLE 5-2: AGE, BASE SALARY, TOTAL EXPERIENCE AND DISTRICT EXPERIENCE OF SECONDARY CTE TEACHERS: AY17-AY21

Year	Age (Years)	Base Salary	Total Experience (Years)	District Experience (Years)
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
AY20	42.8	$55,925	14.1	10.3
AY21	42.6	$56,734	13.8	10.0

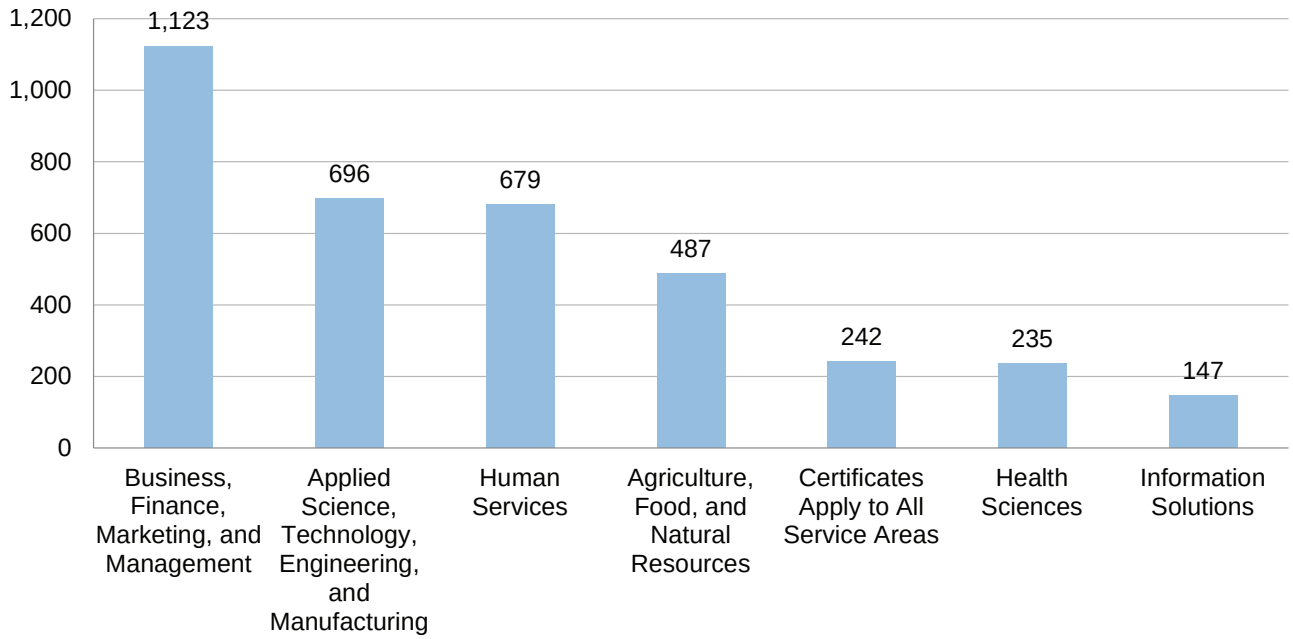
Secondary CTE Teachers in the Six Service Areas

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 are categorized based on six service areas. Teachers with 5-12 Multi-occupations, Work Experience Coordinator, PS Multi-occupation Preparatory or Vocational (9-12) endorsements can teach secondary courses applicable to all service areas (noted in Figure 5-3 as Applicable to All Service Areas).

As shown in Figure 5-3, in AY2021, teachers with endorsements in Business, Finance, Marketing and Management (1,123) was the largest group, followed by Applied Science Technology, Engineering and Manufacturing (696); Human Services/Family Consumer Sciences (679); Agriculture, Food, and Natural Resources (487) and Health Science (235).

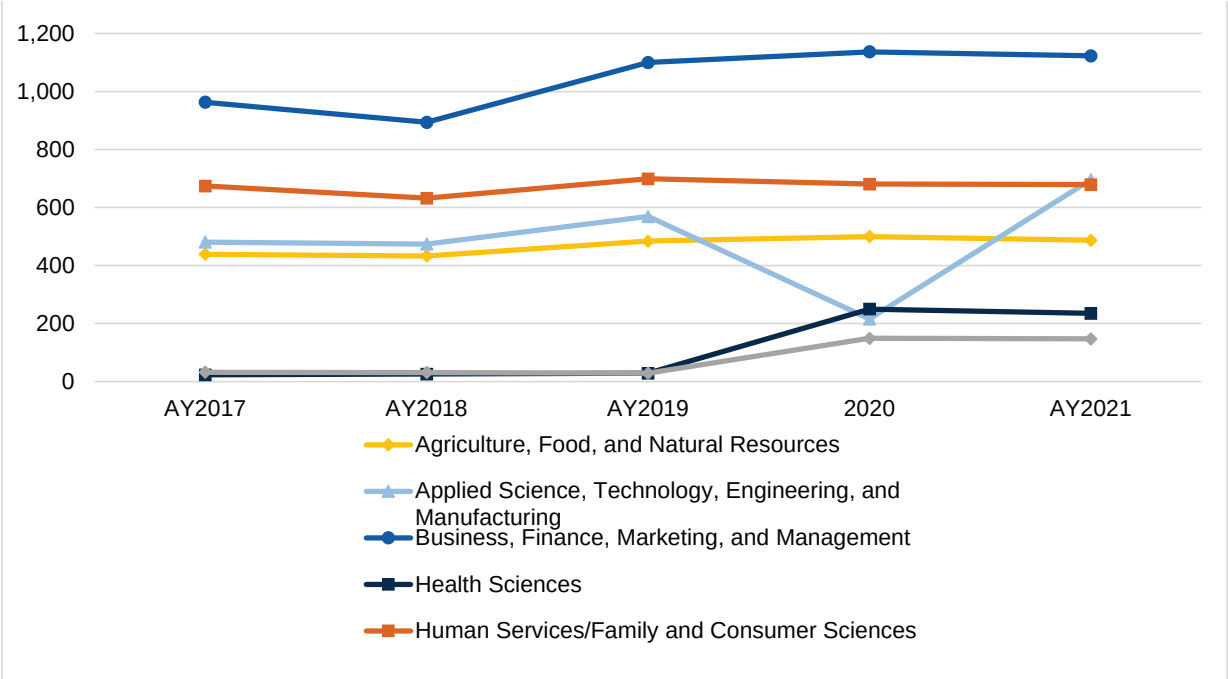
Figure 5-4 demonstrates the change in the number of endorsements in different service areas over the past five years. It seems that the number of CTE endorsements has decreased in all service areas in

FIGURE 5-3: NUMBER OF SECONDARY CTE TEACHERS BY ENDORSEMENT TYPE: AY21



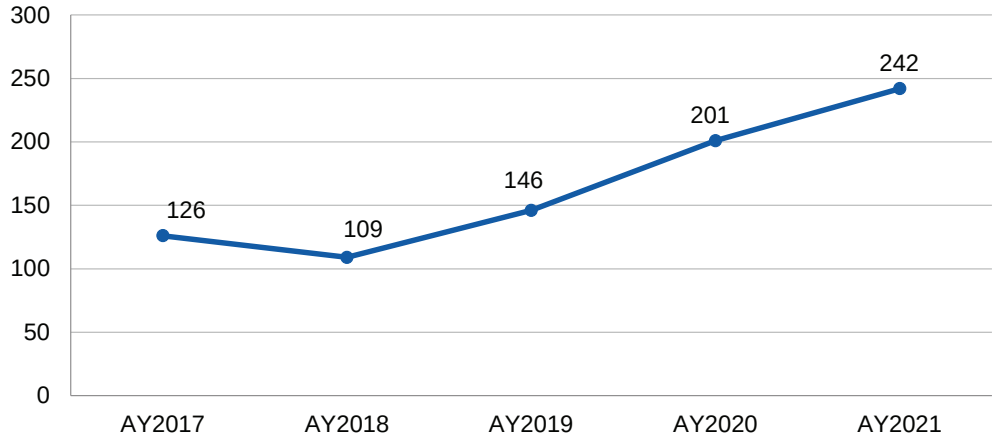
AY2021, except for Applied Science, Technology, Engineering and Manufacturing, and Human Services. In terms of compound annual growth rate, the number of teachers with an endorsement in Health Science and Information Solutions has increased by 78.8 percent and 46.4 percent, respectively. Figure 5-5 displays the change of the number of teachers with endorsements applicable to all service areas. It appears that this group has decreased in AY2018 but has increased since AY2019.

FIGURE 5-4: NUMBER OF TEACHERS WITH CTE ENDORSEMENTS BY SERVICE AREA: AY17-AY21



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

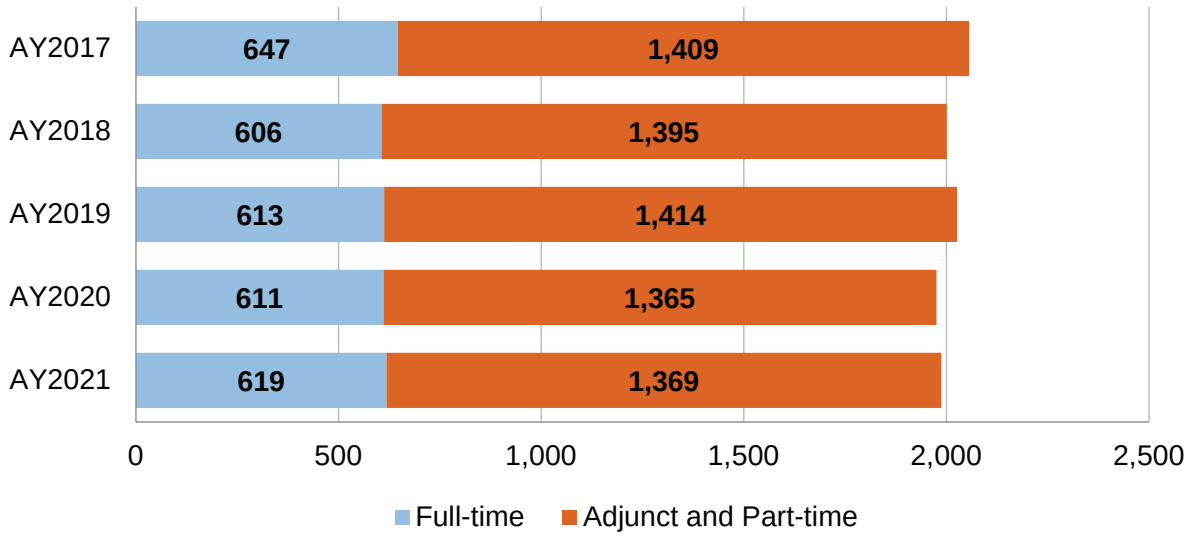
FIGURE 5-5: NUMBER OF TEACHERS WITH A MULTIOCCUPATION ENDORSEMENT APPLICABLE TO ALL SERVICE AREAS: AY17-AY21



Faculty Characteristics

Figure 5-6 displays the number of full-time, adjunct and part-time CTE faculty employed by community colleges and teaching college credit contracted CTE courses since AY2017. The number of community college CTE faculty teaching high school students decreased by less than one percent (annualized) from 2,056 in AY2017 to 1,988 in AY2021. Unlike secondary CTE teachers employed by school districts who were mainly full-time employees, approximately 70.0 percent of community college CTE faculty teaching high school students were adjunct or part-time. The proportion of full-time, community college CTE faculty was less than one-third, and the number of full-time CTE faculty decreased by 1.1 percent (annualized) from 647 in AY2017 to 619 in AY2021.

FIGURE 5-6: NUMBER OF COLLEGE-CREDIT CONTRACTED CTE FACULTY BY EMPLOYMENT TYPE: AY17-AY21



In terms of gender, female faculty outnumber male faculty (Figure 5-7). The number of female community college CTE faculty teaching high school students increased from AY2017 to AY2021 with compound annual growth rates of one percent, whereas the number of male community college CTE faculty decreased by 2.9 percent. While 2.6 percent did not report their race/ethnicity, white faculty were the largest group teaching college credit contracted CTE courses (see Table 5-3). There is little variation regarding age (averaging 49 years old) of community college CTE faculty teaching high school students. The average salary of these CTE faculty (including part-time instructors) increased with a compound annual growth rate of 0.4 percent from $29,236 in AY2017 to $29,685 in AY2021.

FIGURE 5-7: NUMBER OF COLLEGE CREDIT CONTRACTED CTE FAULTY BY GENDER: AY17- AY21

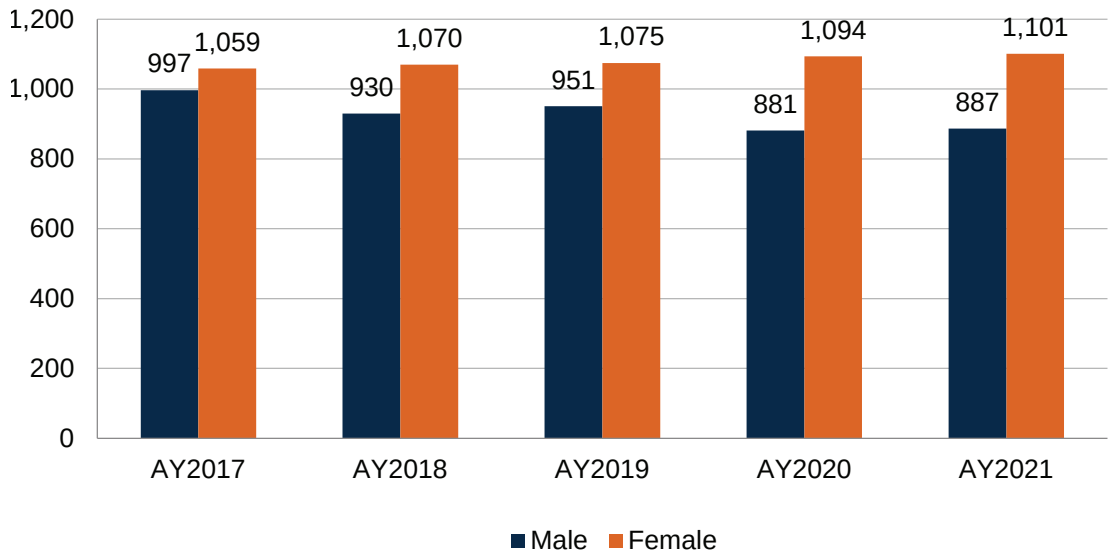


TABLE 5-3: COLLEGE-CREDIT CONTRACTED CTE FACULTY BY RACE/ETHNICITY: AY17-AY21

Race/Ethnicity	AY17	AY18	AY19	AY20	AY21
	%	%	%	%	%
Asian	2.0	1.5	1.7	1.8	2.0
Black	2.0	1.7	1.6	2.4	1.9
Hispanic	1.4	1.4	1.6	2.0	1.7
More than one	0.9	0.8	0.7	0.8	1.0
American Indian/ Alaskan Native	0.4	0.2	0.3	0.3	0.4
White	93.3	94.0	94.1	92.8	93.0
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 teaching high school students by service area. Community college faculty who taught courses in more than one service area are categorized under the heading "More than One," which was the largest community college faculty group teaching secondary students (797 instructors) in AY2021. The second largest community college CTE faculty group teaching high school students was Human Services/Family and Consumer Science (403), followed by Health Science (331). In contrast, only 63 CTE faculty taught courses solely in Agriculture, Food and Natural Resources, indicating the school districts relied more heavily on the community colleges for CTE instruction in other service areas.

Figure 5-9 demonstrates the change in the number of community college CTE faculty teaching secondary students in the six service areas over the past five years. Regarding compound annual change, the number of faculty increased in Agriculture, Food, and Natural Resources (5.4 percent), Health Science (4.7 percent), and Human Services/Family and Consumer Sciences (3.1 percent). The number of faculty in Applied Sciences, Technology, Engineering, and Manufacturing experienced the biggest decrease by 7.6 percent, followed by Business, Finance, Marketing and Management and Information Solutions, both around two percent. As to the number of faculty teaching high school students in multiple service areas, this decreased by 2.7 percent.

FIGURE 5-8: COLLEGE-CREDIT CONTRACTED CTE FACULTY BY SERVICE AREA IN AY21

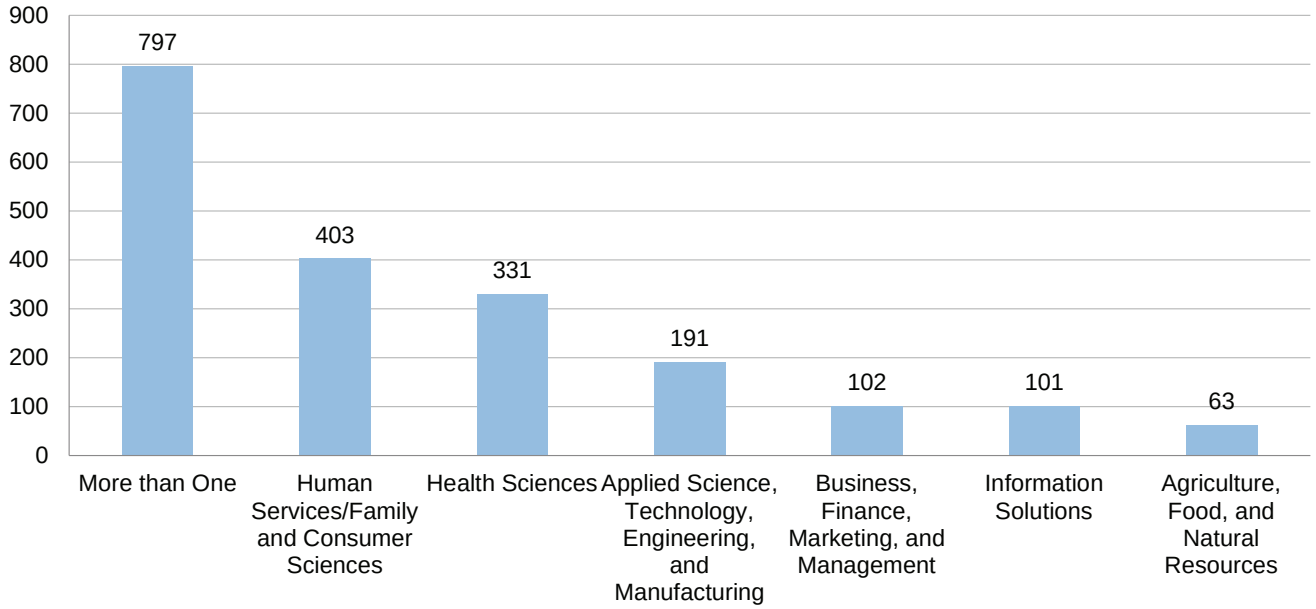


FIGURE 5-9: NUMBER OF COLLEGE-CREDIT CONTRACTED CTE FACULTY BY SERVICE AREA: AY17-AY21

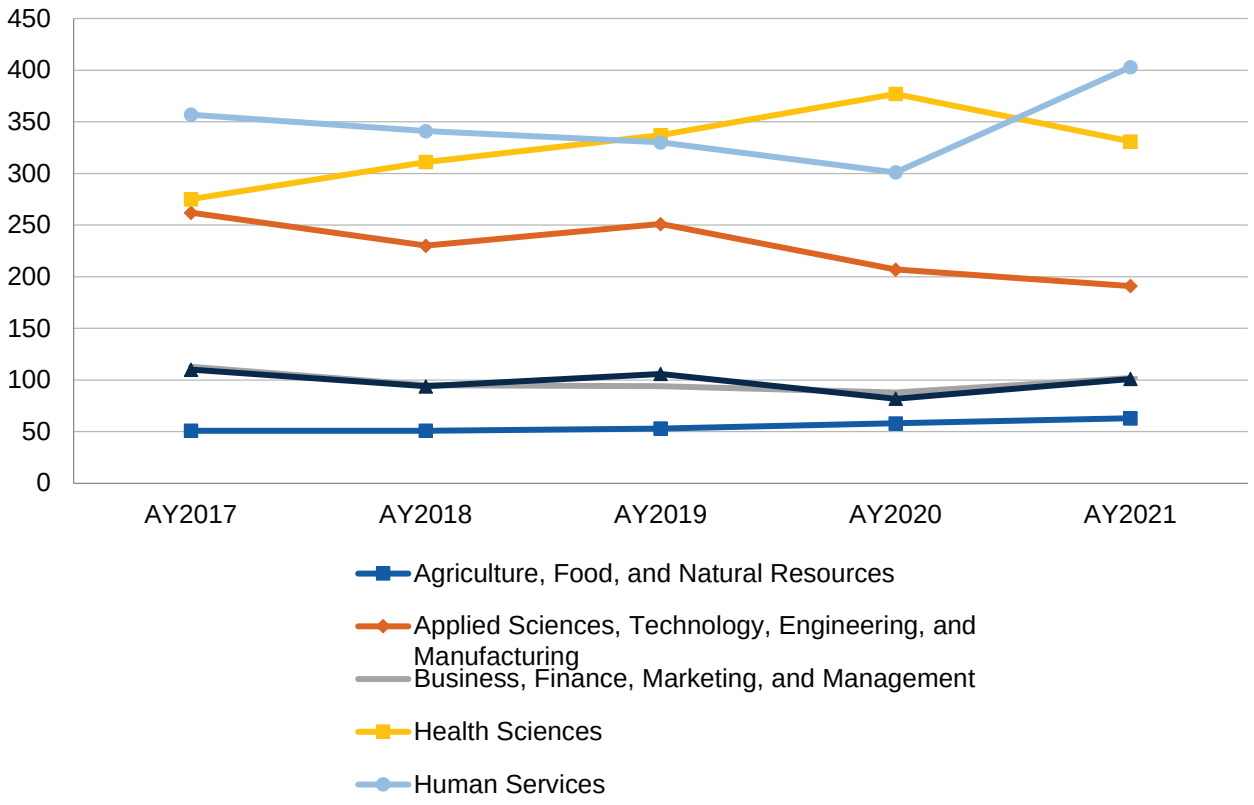
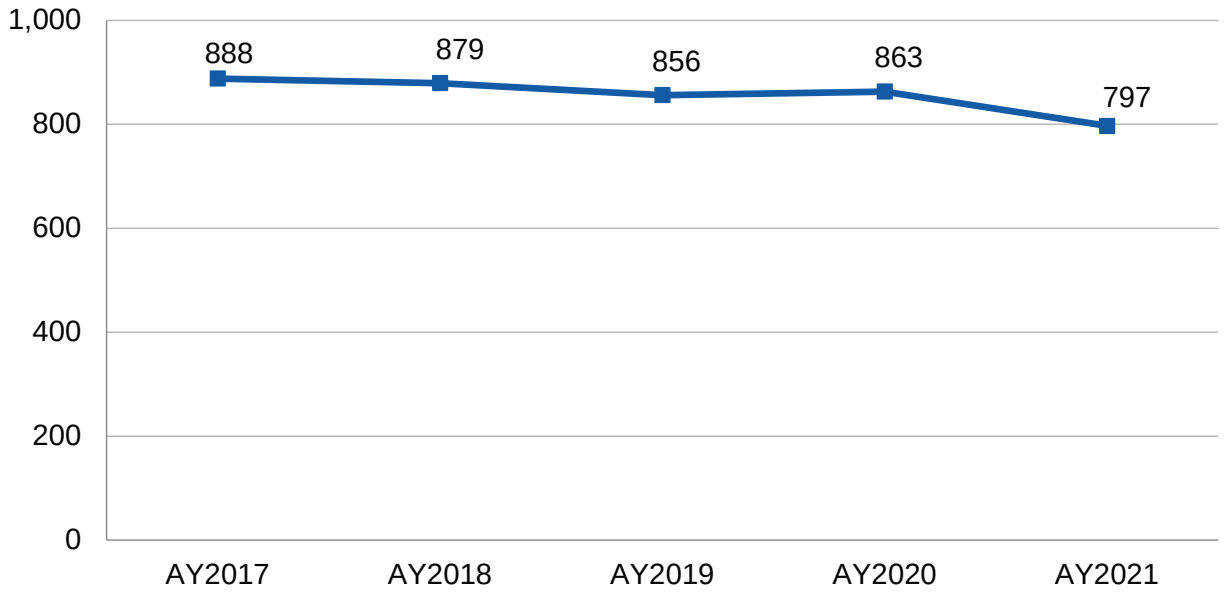


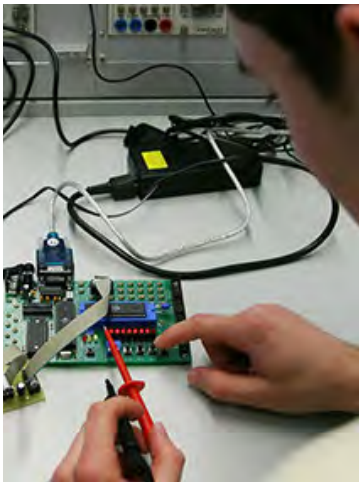
FIGURE 5-10: NUMBER OF COLLEGE-CREDIT CONTRACTED CTE FACULTY IN MORE THAN ONE SERVICE AREA: AY17-AY21



Chapter Highlights

Over a five-year time period:

- Secondary CTE teacher characteristics have not changed significantly. The secondary CTE teacher is for the most part white and close to 43 years old.
- The service areas in which secondary CTE teachers have received the most CTE endorsements are more 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 get endorsements in multiple areas.
- Secondary CTE teachers have experienced salary increases, but in real terms there has been very little change in salaries.
- Community college CTE faculty teaching high school students are female, white, working as part-time or adjunct faculty and are close to 50 years old.



Section II: Four Emerging Areas of Focus

Implementing High-Quality Career and Technical Education

Chapter 6. Career and Technical Student Organizations

A career and technical student organization (CTSO) is an integral element of CTE programs that enhances career and leadership development of secondary and postsecondary students through contextual instruction, applied learning and real-world application. CTSOs help students develop leadership, goal-setting, problem-solving, decision-making and communication skills through participation in CTSO events.

CTSOs are not "clubs", but rather an integral component of the CTE classroom curriculum and instruction. CTSOs are referred to as co- or intra-curricular activities, in which students apply their course instruction to hands-on demonstrations and competitions, as well as real life and work experiences related to individual career interests. The national CTSO website (CTSOs.org) states the following:

"As student organizations, CTSOs 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. CTSOs also 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 describes the participant outcomes, CTE program focus and academic year 2020-2021 membership for the secondary CTSOs supported by the Iowa Department of Education by providing limited financial support through Perkins V funding. The Department holds the state charter for each CTSO established within the state and provides technical assistance to CTSOs 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 participating in CTSOs are provided opportunities to develop and enhance their leadership and citizenship skills within the context of career and program interests while enhancing their occupational skills and future employability. These organizations provide students opportunities in a caring, secure environment to participate in leadership initiatives and to enhance their awareness of the role of community service and responsibility to governmental affairs.

As Table 6-1 describes in the participant outcomes column, activities are 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 the individual and their families.

TABLE 6-1: MEMBERSHIP FOR EACH CTSO AT THE SECONDARY LEVEL IN AY2021

Student Organization	Participant Outcomes	CTE Programs	AY20-21 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	16,597
	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	6,107
	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	1,511
	Future Business Leaders of America - Phi Beta Lambda (FBLA-PBL) inspires and prepares students to become community-minded business leaders in a global society through relevant career preparation and leadership experiences.	Business, Management and Administration Finance Information Technology	872
	DECA prepares emerging leaders and entrepreneurs in marketing, finance, hospitality and management in high schools and colleges around the world.	Hospitality and Tourism Marketing	379
	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	454
	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	221
	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	168

CTSO Membership in Iowa

CTSOs in Iowa currently serve just under 26,500 students at the secondary levels. Figure 6-1 displays the total number of CTSO memberships for the last five academic years. The total number of CTSO memberships decreased slightly by 434 (1.6 percent) during the AY2020 to AY2021 period.

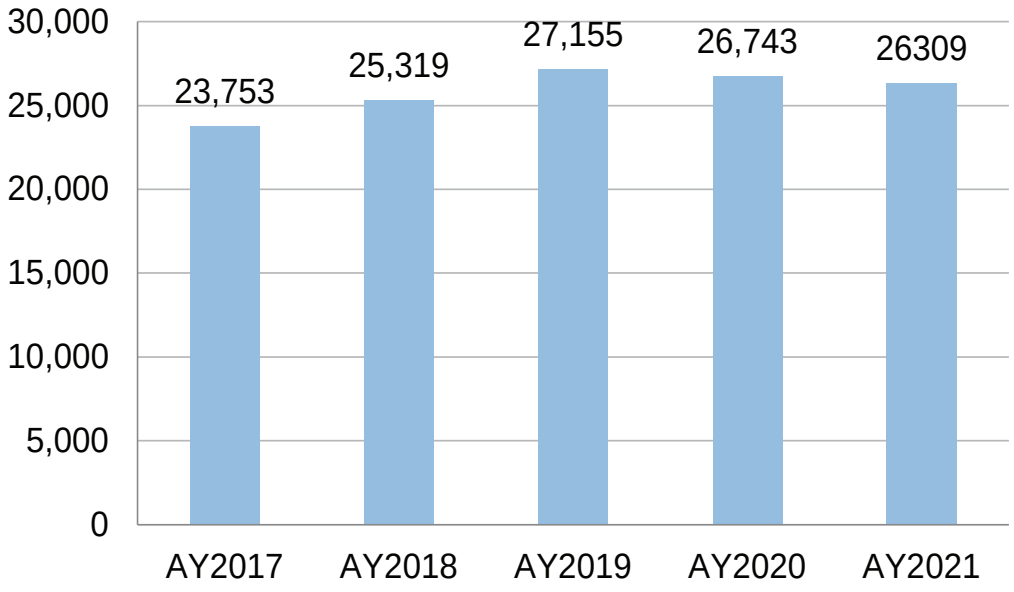
The COVID-19 pandemic had a large impact on CTSO membership, with AY2021 being the first year that pandemic impacts were fully realized. Nearly all programming shifted to virtual spaces for the year, with five of the eight CTSOs offering no in-person events for AY2021.

From AY2017 to AY2021, FFA had the largest increase in membership: a total of 1,843 additional student members, equal to 12.5% membership growth over five years. During the same period, TSA saw a 43.1% increase in membership. DECA saw the largest decrease over the five year period, dropping 50.2% (382 members).

FIGURE 6-1: SECONDARY CTSO MEMBERSHIP IN IOWA: AY17 - AY21

	BPA	DECA	FBLA	FCCLA	FFA	HOSA	SkillsUSA	TSA	Total
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
AY2020	630	504	1,330	1,987	16,607	343	421	5,451	26,743
AY2021	454	379	872	1,511	16,597	221	168	6,107	26,309

FIGURE 6-2: SECONDARY CTSO MEMBERSHIP IN IOWA: AY17- AY21



Chapter Highlights

Over a five-year time period:

- Secondary CTSO membership experienced a slight decline in members in AY2021.
- Memberships seen two years of decline, attributed to the COVID-19 pandemic, but has only lost 846 members from peak participation in AY2019.
- All CTSOs, except FFA and TSA, saw a decrease in membership from AY2017 to AY2021, with DECA the only CTSO continuing a five year decline trend in membership.
- While CTSO membership has seen a decline due to the COVID-19 pandemic, the number of chapters continues to see an increase due to the Perkins V requirement to have a CTSO chapter integrated into each CTE program at the secondary level by AY2025.

Chapter 7. Secondary Career and Academic Planning

Career and Academic Planning

In 2016, HF2392, Division I redesigned the career and academic planning process. The CTE redesign moved from the traditional career planning assessments and inventories to 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

After seven years, the career and academic planning process continues to seek student, parent, district and external stakeholder engagement to ensure information remains relevant and useful. The holistic nature of the ICAP process is intended to ensure continuous feedback between internal and external stakeholders and ensures that students exhibit highly marketable employability skills and are prepared to successfully transition into higher education, training programs or directly into the workforce.

Iowa's career and academic planning vision focuses on graduating students who are career and college ready with the academic, technical and employability skills to meet employer needs. In 2020, Iowa's school districts implemented the career and academic planning process for students in grades 8–12.

The District Plan

The district plan serves as a roadmap 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. Districts are encouraged to work to build and maintain strong relationships with external partners such as business and industry, the Iowa Intermediary Network and postsecondary institutions to increase high-quality career planning exposure to students.

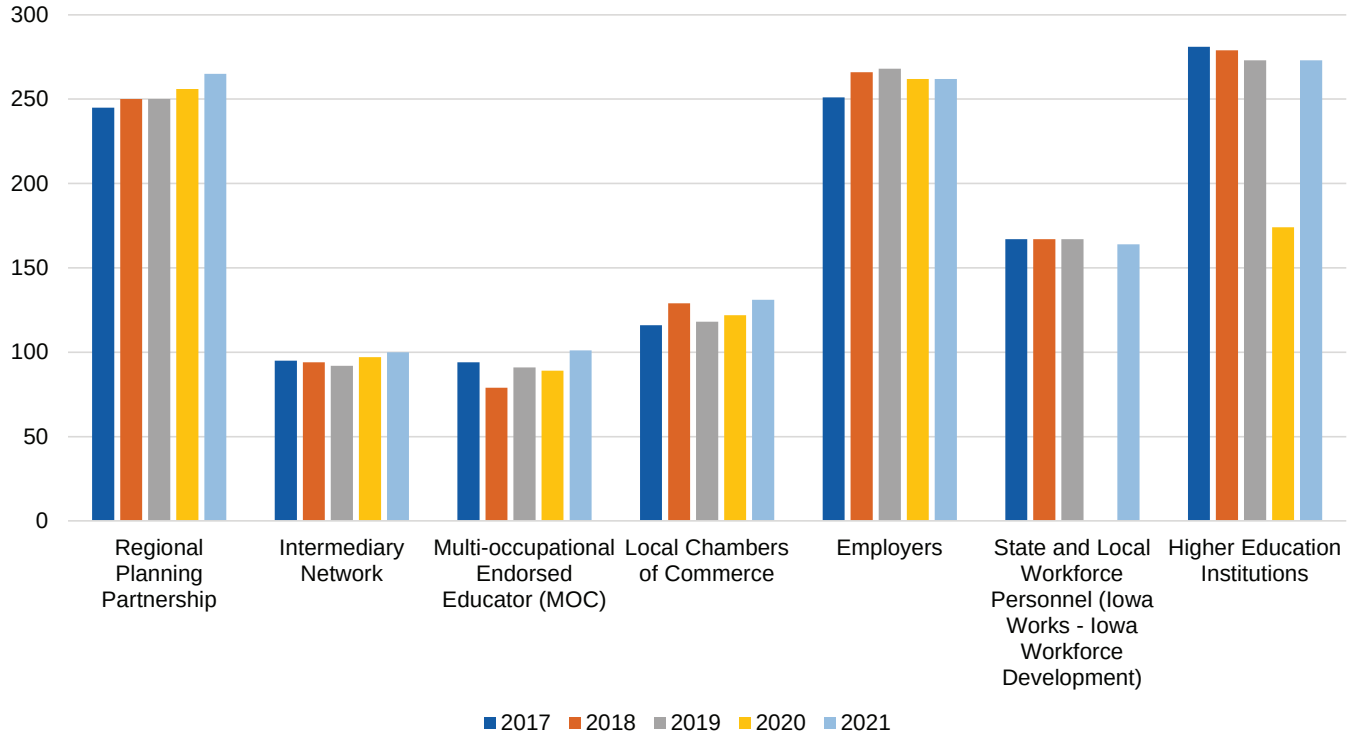
At a minimum, the district plan shall include the following essential components:

- The activities to be undertaken in each grade level (8-12) which allow students the opportunity to explore each of the following:
  - Self-understanding;
  - Career information;
  - Career exploration experiences;
  - Postsecondary exploration; and
  - Career and Postsecondary Decision.
- Integration of the career guidance plan with the district's comprehensive school improvement plan and school guidance counseling program.
- Designates a team of educational practitioners to establish, implement, review, coordinate activities and regularly consults with representatives of employers, state and local workforce agencies, higher education institutions and postsecondary training programs to ensure activities are relevant and aligned with the labor and workforce needs of the region and state.

The District Team

Each school district in Iowa should have an established district team that has developed a written career guidance plan. This plan should be reviewed annually and updated as needed. The teams typically include, but are not limited to, a school administrator, a school counselor, teachers, including career and technical education teachers, special education educators and individuals responsible for coordinating

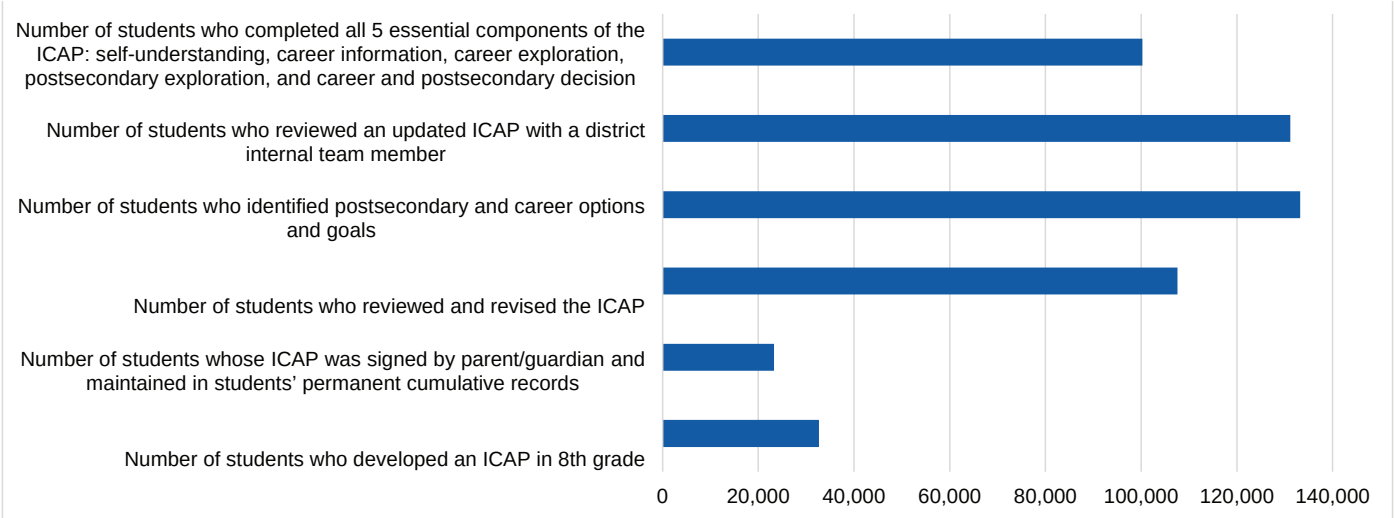
FIGURE 7-1: EXTERNAL STAKEHOLDER ENGAGEMENT: AY17- AY21



work-based learning activities. The team ensures that the district is using an approved career information system (CIS) and helps to determine what ICAP activities will be completed in each grade level to achieve the requirements of rule 281—49.3(279).

All school districts that instruct students in grades 8-12 are required to submit their district plan to the Regional Planning Partnership (RPP) in their service area each year. Each RPP will collect and review the district plans. From the collection and review, RPPs can help identify needs for additional professional development and training for school district staff.

FIGURE 7.2: PERCENT OF ICAP COMPLETIONS: AY21



The District Tool: Career Information Systems (CIS)

The district team selects one of the state approved career information systems (CIS) that best meets the needs of students, team members and the school district. During the 2020-2021 school year, districts had nine CIS options that met state standards. Three hundred and one (N-301) school districts reported using an approved CIS. While the CIS is an essential component of the career planning process and has the capability of delivering all components, school districts are encouraged to continue using high-quality career and technical education (CTE) curriculum, additional resources and to collaborate with external organizations that offer high-quality career planning and exposure opportunities.

The Individual Career and Academic Plan (ICAP)

The ICAP is a series of 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 counselors, identification of career and postsecondary goals, alignment of coursework to career goals and annual completion of the five essential components.

Continued Progress

As school districts continue to implement Division I of HF 2392, it is crucial to create partnerships that allow students to have a holistic and authentic career learning experience. Districts are encouraged to work to build and maintain strong relationships with external partners to increase high-quality career planning exposure to students to a variety of career interests and options.

In AY2021, three hundred and one (N-301) school district's* reported career planning outcomes. Stakeholder engagement continues to be a priority for school districts across the state and all are working with a variety of entities to increase relationships with business and industry.

Iowa has 327 school districts; 23 of which whole grade share with other districts who reported career planning outcomes for 2020.*

*** A procedure used by school districts whereby all or a substantial portion of the pupils in any grade in two or more school districts share an educational program for all or a substantial portion of a school day under a writeen agreement pursuant to Iowa Code 256.13.*

Unique Career Exposure Opportunities

In 2021, the Department of Education, Bureau of Career and Technical Education, offered grant funding to start college and career transition counselor positions across the state. Each grant was for three years and is a total of $50,000 per grant. Grant funding was used from Perkins reserve funds for specialized projects that have great impact on career and technical education.

College and career transition counselors (CCTCs) work as a liaison between the community college and secondary schools to ensure students are supported in their career exploration and receive proper assistance to transition into additional training. These positions are created as an additive to counseling departments within high schools' existing comprehensive school

counseling programs. CCTCs work directly through the community college and secondary schools to support college transition and career exploration through targeted connections with students and families during crucial time frames, including preparation, transition to enrollment and persistence through their postsecondary program. The CCTCs work closely with students in grades 11 and 12 in partner high schools, throughout the summer after high school graduation and as the first-year advisor for students coming out of this program at the coordinating community college.

During the first year of implementation, there were 21 CCTC positions established with six of these positions being funded by the three-year grants. Six community colleges and 22 school districts were impacted by the CCTC start-up grants.

High-Quality Career Programming in 2020 and Beyond

Beginning in the fall of 2020, the Bureau of Career and Technical Education, Career and Academic Planning began sponsoring in-depth professional development opportunities for counselors and other stakeholders across the state. A two-part workshop series on re-imagining ICAP and creating best practices served to train over 100 educators. Smaller workshops have been offered through state and national conferences, the Area Education Agencies (AEAs) and Regional Planning Partnerships (RPPs). Continued and sustained professional development provides the opportunity to take deeper dives into clarifying the roles and responsibilities of district team members, provides examples of quality district plans and outlines strategies that increase engagement at all levels from counselors, instructors, CTE instructors and work-based learning coordinators to students, parents and external stakeholders.

Chapter Highlights

Career and academic planning:

- In 2021, Iowa's school districts helped 32,694 8th grade students create ICAPs.
- In the AY2021, three hundred and one (N-301) school districts reported career planning outcomes.
- School districts continue to create partnerships with stakeholders outside of the school system creating opportunities for students to have a holistic and authentic career learning experience.
- AY2021 was the first year of the CCTC start-up grant funding. Six positions were created between six community colleges and 9 school districts.

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 is 98, this course is usually a work-based learning course. All SCED codes ending with digits "98" were selected and screened; any that did not meet the criteria were deleted and not included in the counts. Courses were also selected with titles containing work experience, work-based learning, internship, OJT, MOC, On the Job and WBL. It should be noted that other CTE courses may have a work-based learning component, but these are not accounted for in the data presented below. In that sense, the data below should be considered the baseline of work-based learning activity within Iowa school districts.

Figure 8-1 presents the number of work-based learning courses since AY2017. The number of work-based learning courses has grown by 23.0 percent (compound annual growth rate) from 90 courses in AY2017 to 206 courses in AY2021. Figure 8-1 also shows the percentage of college credit contracted work-based learning courses out of all work-based learning courses. The percentage of college credit contracted work-based learning courses peaked in AY2018 at 37.9 percent, decreased to 19.9 percent in AY2020, and went up to 27.2 percent in AY2021.

FIGURE 8-1: NUMBER OF WORK-BASED LEARNING COURSES AND PROPORTION OF COLLEGE CREDIT CONTRACTED WORK-BASED LEARNING COURSES: AY17-21

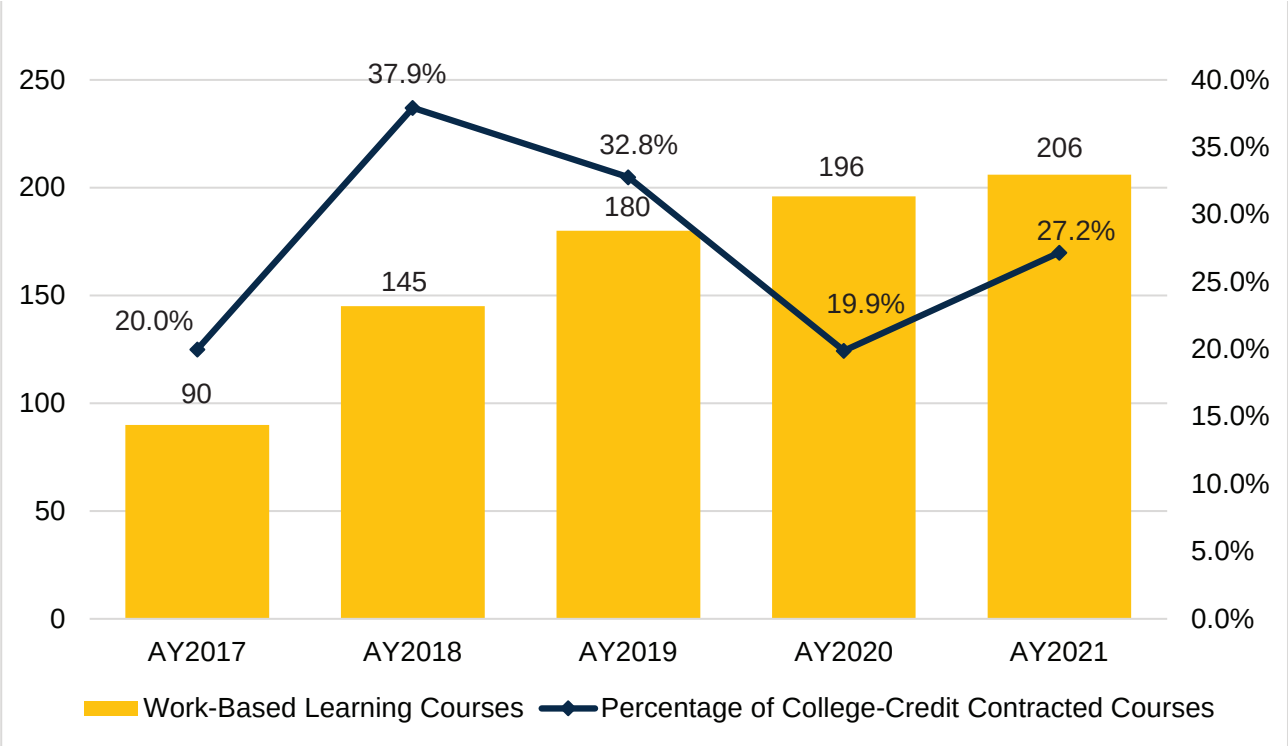


Table 8-1 displays the number of schools that offered work-based learning courses offered by district size. Approximately one-third of the work- based learning courses were offered in districts with a high school enrollment between 100-299 high students. Districts with enrollments between 300-499 high school students and districts with enrollments between 500-1,249 also offered a large portion of work-based learning courses. In terms of compound annual growth rate, districts with a high school enrollment less than 100 have the highest growth rate at 31.6 percent, followed by school districts with an enrollment between 300-499 at 29.6 percent and school districts with an enrollment greater than 4,000 at 28.8 percent.

Table 8-2 summarizes the number of school districts that have offered work-based learning courses since AY2017. In AY2017, only 62 school districts in Iowa offered work-based learning courses, and by AY2021, this number had increased to 134— a compound annual growth of 21.2 percent. Specifically, school districts with an enrollment of 300-499 have the highest compound annual growth rate at 30.7 percent, followed by school districts with an enrollment less than 100 at 27.8 percent.

TABLE 8-1: NUMBER OF WORK-BASED LEARNING COURSES BY SCHOOL DISTRICT SIZE: AY17-21

High School Student Enrollment	AY17	AY18	AY19	AY20	AY21	CAGR*
<100	3	5	4	11	9	31.6%
100-299	27	49	73	64	69	26.4%
300-499	17	32	34	40	48	29.6%
500-1249	22	29	31	32	39	15.4%
1250-3999	17	23	29	37	30	15.3%
>4000	4	7	9	12	11	28.8%
Total	**90**	**145**	**180**	**196**	**206**	**23.0%**

TABLE 8-2: NUMBER OF SCHOOL DISTRICTS THAT OFFERED WORK-BASED LEARNING: AY17-21

High School Student Enrollment	AY17	AY18	AY19	AY20	AY21	CAGR*
<100	3	4	4	9	8	27.8%
100-299	20	38	45	44	48	24.5%
300-499	12	22	26	27	35	30.7%
500-1249	15	19	19	21	24	12.5%
1250-3999	9	14	16	15	14	11.7%
>4000	3	3	4	4	5	13.6%
Total	**62**	**100**	**114**	**120**	**134**	**21.2%**

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 summarizes a number of work-based learning courses by service area. In the course file, some work-based learning courses cannot be determined by service area, as the course titles for these were the largest group over the past five years. For courses that can be assigned to a service area, courses in Human Services/Family and Consumer Sciences was the largest group. In terms of compound annual growth rate, the number of courses in Information Solutions has grown the fastest at 56.5 percent, followed by Human Services/Family and Consumer Sciences at 52.2 percent and Health Science at 39.2 percent.

Grade level, gender, race/ethnicity, and eligibility for the national school lunch program for work-based learning students were all investigated from AY2017 to AY2021. Each year, over two-thirds of all students who have taken work-based learning courses were 12th graders (Figure 8-2). Students in 11th grade were the second largest group. Not many 9th and 10th graders participated in work-based learning; in AY2021 only 18 9th graders and 121 10th graders took at least one work-based learning course. Though male students traditionally outnumbered female students in general CTE courses, it was interesting to discover that among all students who took work-based learning courses, more than half were female (Figure 8-3).

TABLE 8-3: NUMBER OF WORK-BASED LEARNING COURSES BY SERVICE AREA: AY17-21

Service Area	AY17	AY18	AY19	AY20	AY21	CAGR*
Business, Finance, Marketing and Management	26	29	27	37	31	4.5%
Agriculture, Food & Natural Resources	5	9	21	15	13	27.0%
Information Solutions	1	1	7	9	6	56.5%
Applied Science, Technology, Engineering and Manufacturing	6	8	4	8	7	3.9%
Health Sciences	4	24	30	13	15	39.2%
Human Services	11	29	41	54	59	52.2%
Unassigned Service Area	37	45	50	60	75	19.3%
Total	**90**	**145**	**180**	**196**	**206**	**23.0%**

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: AY17-21

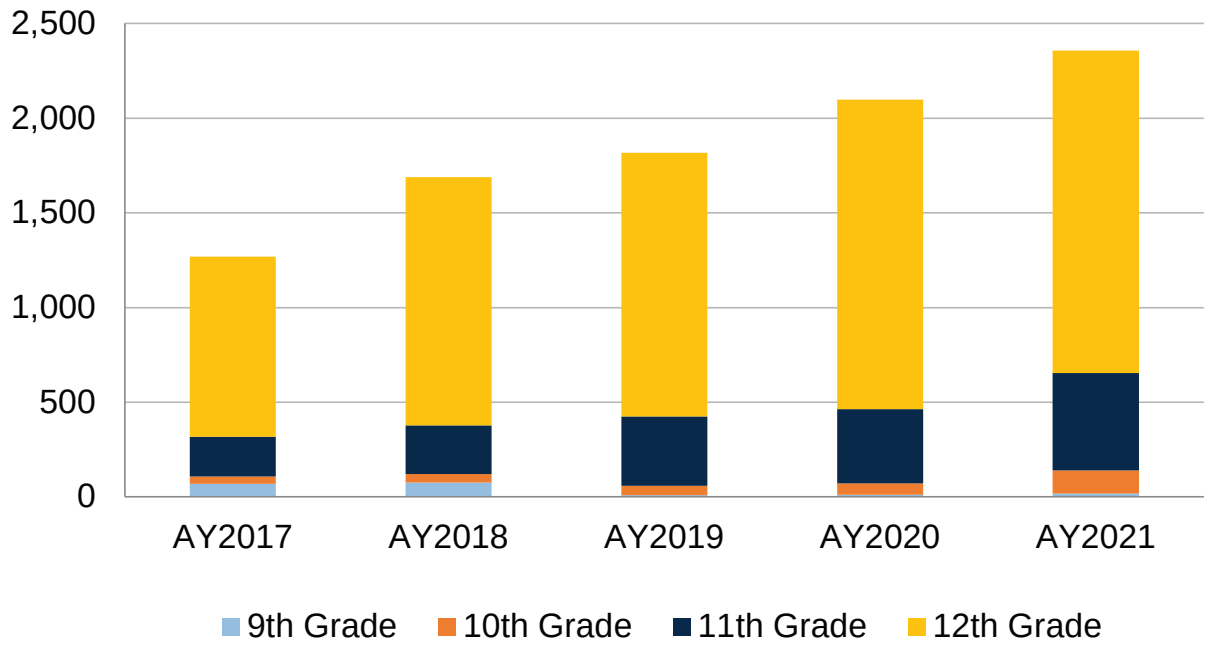
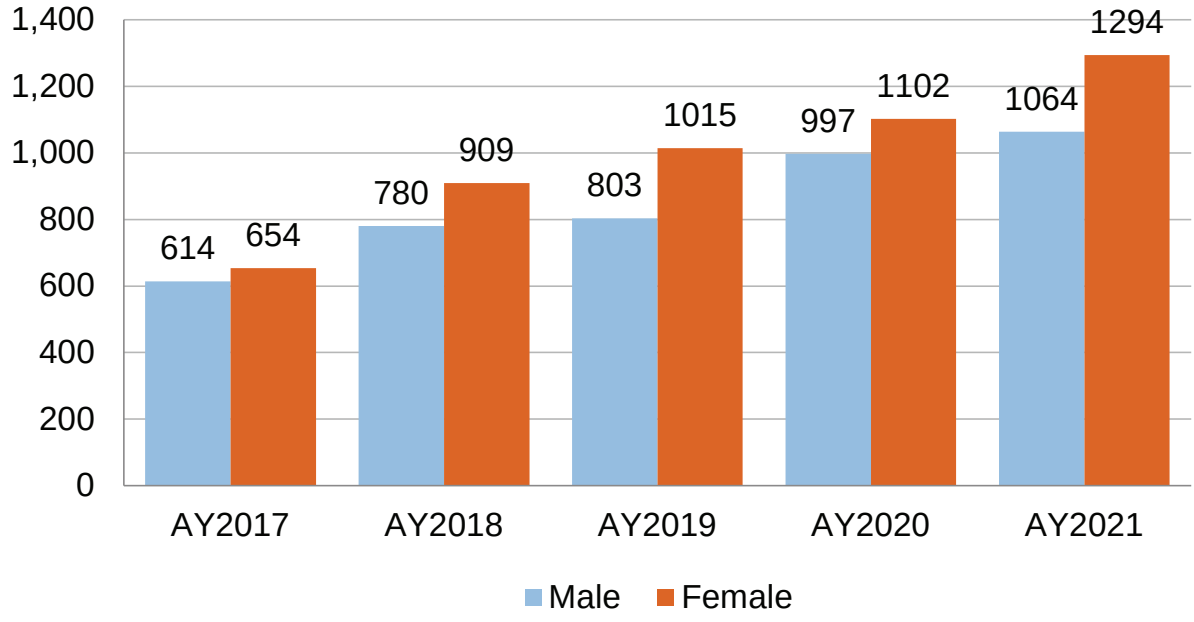


FIGURE 8-3: WORK-BASED LEARNING STUDENTS BY GENDER: AY17-21



Regarding race and ethnicity, findings were consistent with the general secondary CTE student population, with close to 80.0 percent being white students (Figure 8-4). For the general secondary CTE population, close to 40.0 percent were eligible for the National School Lunch Program (see chapter 4); however, this group accounted for less 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 Figure 8-6 to Figure 8-8..

FIGURE 8-4: WORK-BASED LEARNING STUDENTS, WHITE VS MINORITY: AY17-21

FIGURE 8-5: WORK-BASED LEARNING STUDENTS BY ELIGIBILITY FOR NATIONAL SCHOOL LUNCH PROGRAM: AY17-21

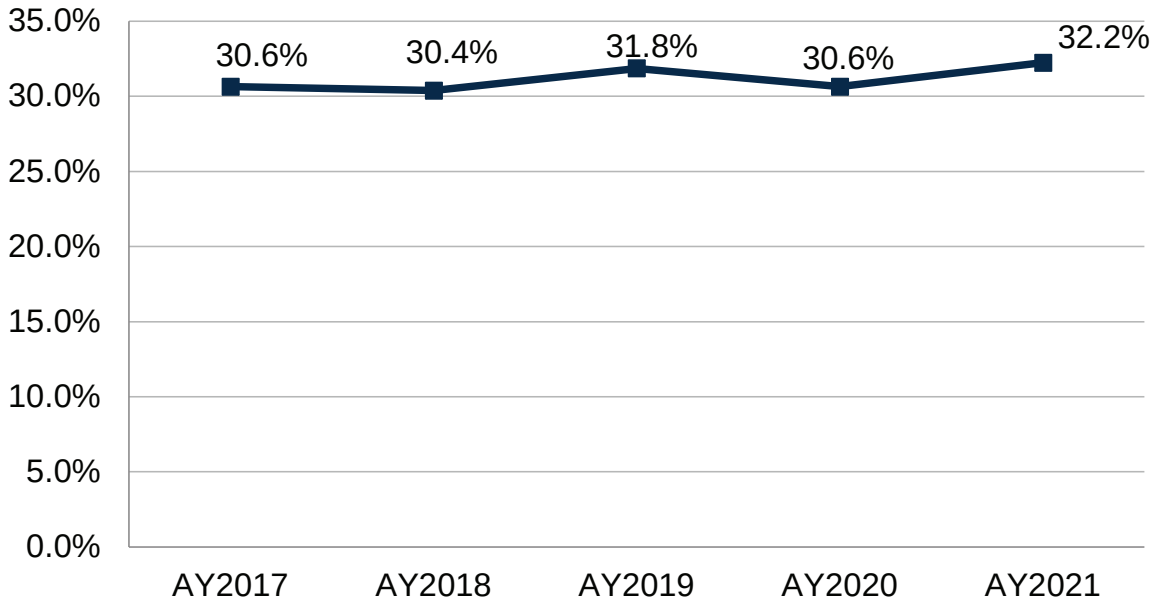


FIGURE 8-6: COMPARISON OF WORK-BASED LEARNING AND OVERALL CTE PARTICIPANTS GENDER DISTRIBUTION: AY17- AY21

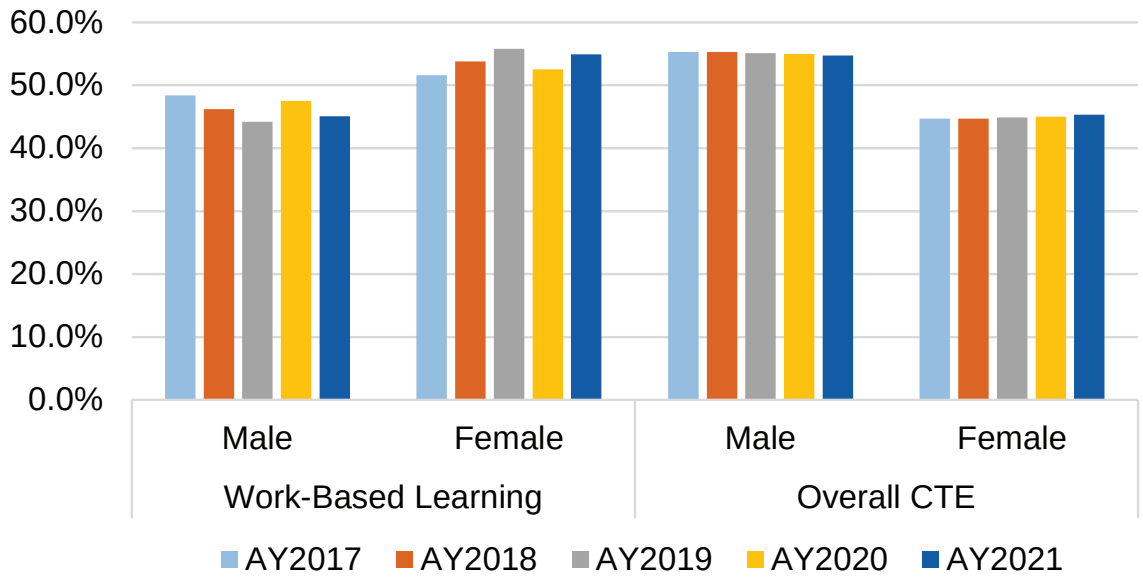


FIGURE 8-7: COMPARISON OF WORK-BASED LEARNING AND OVERALL CTE PARTICIPANTS: DISTRIBUTION OF WHITE AND MINORITY STUDENTS: AY17- AY21

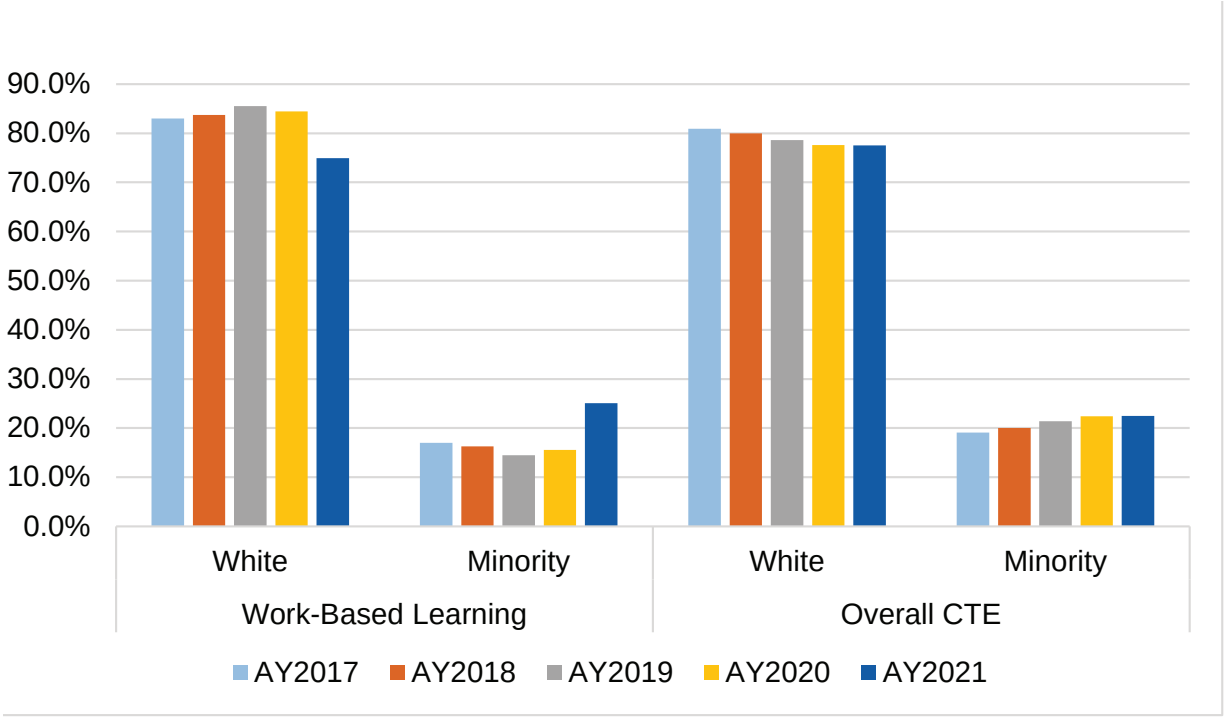
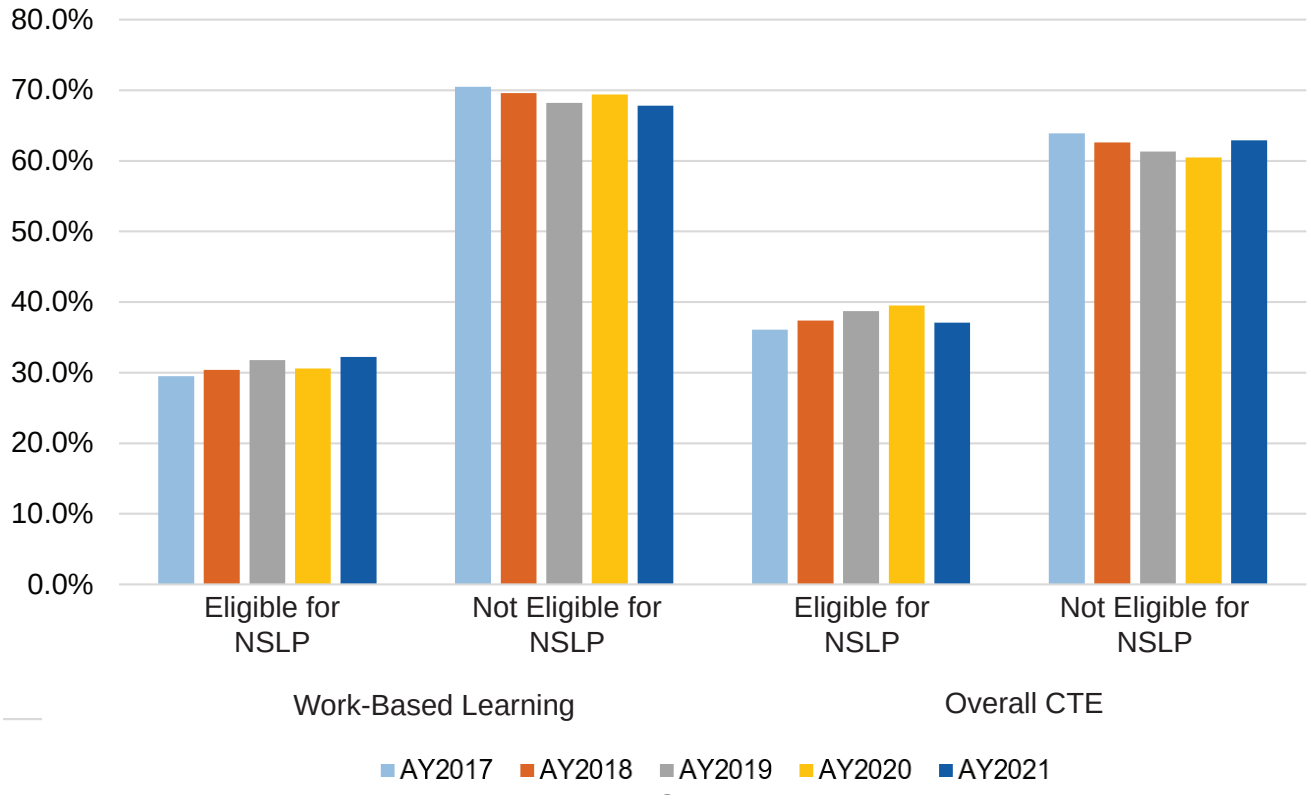


FIGURE 8-8: COMPARISON OF WORK-BASED LEARNING AND OVERALL CTE PARTICIPANTS: DISTRIBUTION OF STUDENTS' ELIGIBILITY FOR NATIONAL SCHOOL LUNCH PROGRAM (NSLP): AY17- AY21



Chapter Highlights

Over a five-year time period:

- Between AY2017-AY2021, the number of work-based learning courses rose steadily and peaked in AY2021. The proportion of college credit contracted work-based learning courses out of all work-based learning courses decreased in AY2020 but went up again in AY2021
- More school districts are offering work-based learning courses in AY2021 than they were in AY2017. There has been an increase in the number of work-based learning courses, regardless of school district size.
- There was growth in the number of work-based courses in all service areas (including the unassigned category).
- Participation in work-based learning courses by grade level increases as students move from grade 9 to grade 12 and this has not changed over the five-year period.
- Categorizing participation in work-based learning courses by gender, ethnicity and eligibility for the National School Lunch Program, the figures are consistent with the general secondary CTE student population, except for gender. While male participation in general CTE coursework is higher, female students participated at a higher rate in work-based learning courses.

Chapter 9. Regional Centers

In HF2392, the Secondary Career and Technical Education Task Force, 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 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.

To gauge the current state of how regional centers are distributed across Iowa, in early 2022, a survey was administered by the Department to the 15 community colleges which gathered data regarding current regional center structure, the CTE programs offered and student enrollment. In fiscal year (FY) 2021, there were 18 regional centers providing 170 career academy programs to 4,921 high school students from 105 school districts. Among the 18 regional centers, six are located on community college campuses.

Figure 9-1 displays a map of Iowa's current regional centers coded by RPP, with each mirroring the 15 community college regions. Figure 9-2 shows the distribution of career academy programs by service area. Applied Science, Technology, Engineering and Manufacturing was the most significant service area with 63 career academy programs being offered, followed by Human Services/ Family & Consumer Sciences with 35 programs and Health Sciences with 30 programs. Agriculture, Food and Natural Resources was the smallest service area with only seven career academy programs being offered. Table 9-1 provides more details on each of the regional centers.

FIGURE 9-1: LOCATIONS OF REGIONAL CENTERS

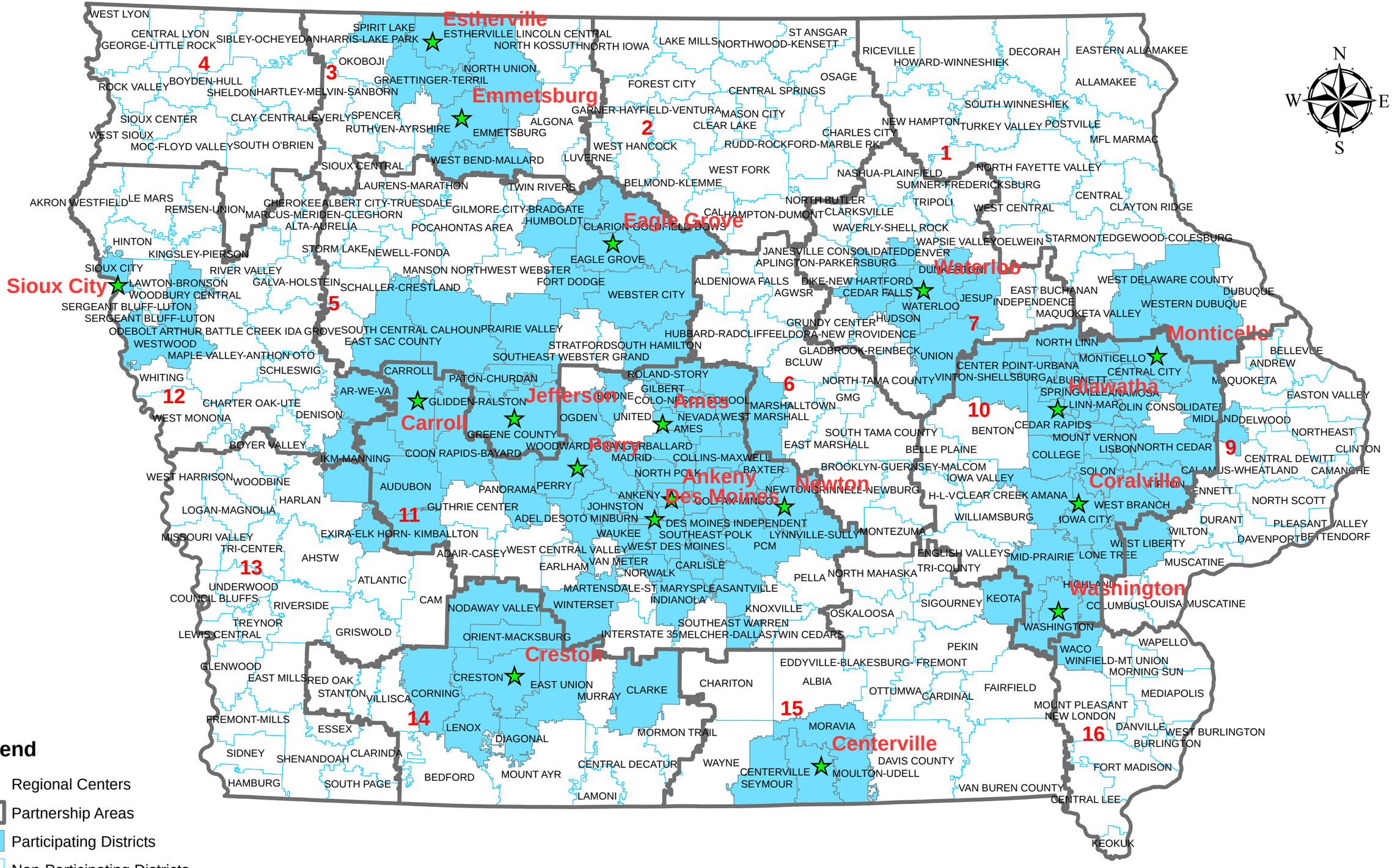


FIGURE 9-2: DISTRIBUTION OF CAREER ACADEMY PROGRAMS BY SERVICE AREA IN FY21

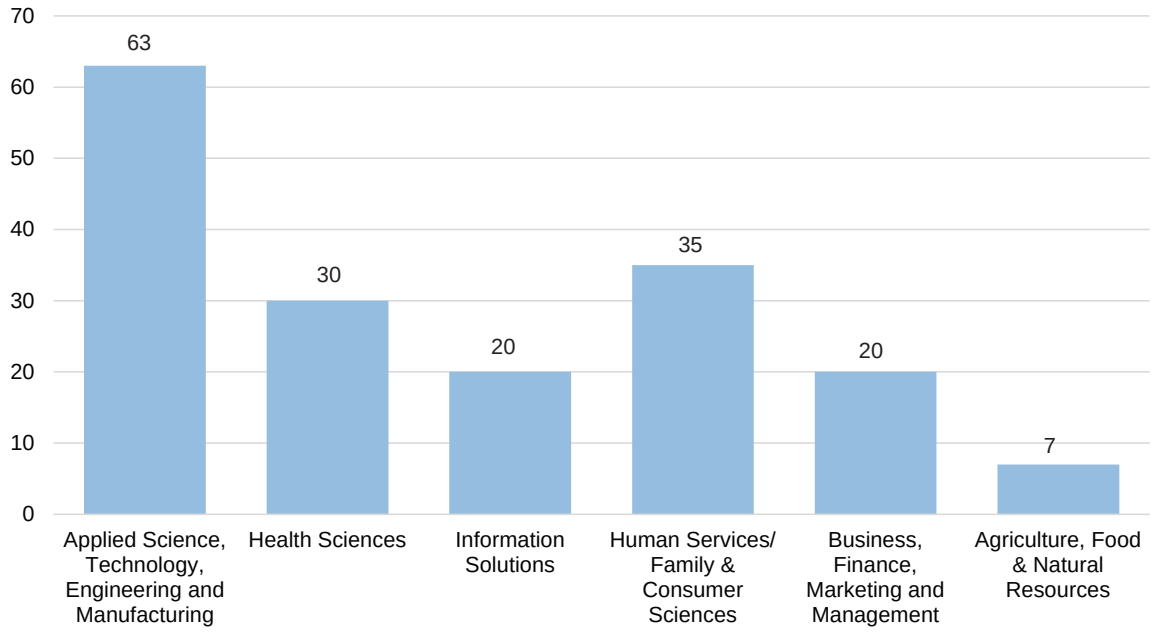


TABLE 9-1: SUMMARY OF REGIONAL CENTERS IN FY21

RPP Region	Location	Number of K-12 Partners	Career Academy Programs Offered	Student Enrollment
3	ILCC - Emmetsburg*	5	Ag Production, Automotive Tech, Constructrion Tech, Powersports & Power Equipment Tech, Boat & Watercraft Tech, Farm equipment & Diesel Tech, Hotel & Restaurant Management	12
	ILCC - Estherville*	5	Aviation & Airport Management, Criminal Justice, Game Design & Development, Electrical Tech, Graphic Design, HVAC, Engineering Tech, Human Services	13
5	ICCC - Eagle Grove - North Central	5	Engineering, Computer Science, Manufacturing, Business, Heath	52
	ICCC- Jefferson - Greene County	4	Carpentry, Culinary Arts, Computer Science, Agriculture, Welding, Health Science	25
7	Waterloo	8	Early Childhood Education, PK12 Teacher Preparation, Culinary, Hospitality, Nurse Exploration (CNA), Advanced Manufacturing, Plumbing, Electrical, Sustainable Construction	648
10	KCC - Monticello	9	Advanced Manufacturing with Robotics and Welding, Architecture, Construction & Engineering (ACE), Automotive Technology, Computer Network & Cyber Security, Dental, EMT, Graphic Communication Tech, Patient Care	321
	KCC - Hiawatha	12	Advanced Manufacturing with Robotics and Welding, Agriculture, Architecture, Construction & Engineering (ACE), Automotive Technology, Business Administration, Computer Programming & Software Development, Criminal Justice, Dental, Education, EMT, Graphics Communication Tech, Patient Care, Pre-Nursing, Pre-Professional Health Careers, Social Work	297
	KCC - Washington	6	Advanced Manufacturing with Robotics and Welding, Agriculture, Architecture, Construction & Engineering (ACE), Criminal Justice, Liberal Arts, Patient Care	165
	KCC - Coralville	7	Advanced Manufacturing with Robotics and Welding, Agriculture, Architecture, Construction & Engineering (ACE), Business Administration, Criminal Justice, Education, Social Work, Liberal Arts, Automotive Collision, Repair and Restoration, Automotive Technology, Computer Programming & Software Development, Dental, EMT, Graphics Communication Technology, Patient Care, Pre-Professional Health Careers	354

**Indicates community college main campus*

TABLE 9-1: SUMMARY OF REGIONAL CENTERS IN FY21 (CONT.)

RPP Region	Location	Number of K-12 Partners	Career Academy Programs Offered	Student Enrollment
11	DMACC-Ankeny*	15	Auto Tech, Auto Collision, Business, Computer Programming, CAD Tech, Crim Justice, Culinary Arts, Fashion and Design, Diesel Tech, EMT, Health Occupations, Tool and Die, Visual Communication	303
	DMACC-Newton	5	Building Trades, Business Administration, Baking, C.N.A., Health Occupations, Teacher Academy, Welding	136
	DMACC-Carroll	24	Computer Programming, Auto Technology, Welding, Applied Engineering, Work-based Learning, Health Occ, Industrial Maintenance	184
	DMACC-Perry	8	Auto Technology, Business, Computer Programming, Criminal Justice, Education, EMT, Health Occupations, Human Services, Education, Welding	79
	DMACC-Southridge*	11	Auto Collision, Auto Technology, Business and Marketing, Criminal Justice, Health Occupations, Human Services, Teacher Academy, Welding	169
	DMACC-Ames	13	Auto Collision Repair, Automotive Technology, Building Trades, Business Academy, Criminal Justice, Culinary Arts, Health Occupations, Teacher Academy and Welding	176
12	Sioux City		Accounting, AFJROTC, Agriculture, Autobody Repair, Auto Technology, Biomedical Science, Business Mgmt/ Admin, Certified Nurses Assistant, Computer Science, Construction, Culinary, Early Childhood/CDA, Education, Engineering, Entrepreneurship, Fashion Design, Finance, Fire Science, Graphic Design, IT/Network Systems, Interior Design, Manufacturing, Marketing, Mobile Game /App Dev, Pharmacy Tech, Police Science, Plumbing, Surgical Tech, Welding	1,836
14	SWCC-Creston*	9	Automotive Repair Technology, Carpentry & Building Trades, Electrical Technology, Health Science, and Information Technology Systems Networking.	81
15	IHCC-Centerville *	4	Health Science, Ag, Industrial Maintenance, and Construction	70

**Indicates community college main campus*

The information presented in this chapter yielded the following findings: 1) Regional centers are clustered around the major metropolitan areas in Iowa, which typically have the larger school districts and the higher high school populations to make the regional center viable; 2) regional centers are also established where school district sizes are small and located in the rural areas of Iowa; 3) there are many regions of Iowa where regional centers have not yet been established. With the implementation of HF2392 beginning to take a foothold across Iowa, the expectation is that the RPPs, through their strategic planning, will begin to explore the viability of regional centers in offering expanded options for students and ensuring equitable access to a variety of high quality CTE programs which also meet the needs of the regional workforce.

Chapter Highlights

- In FY21, there were 18 regional centers providing 170 career academy programs to 4,921 high school students from 105 school districts. Among the 18 regional centers, six are located on community college campuses.
- Applied Science, Technology, Engineering and Manufacturing was the largest service area with 63 career academy programs being offered, followed by Human Services/ Family & Consumer Sciences with 35 programs and Health Sciences with 30 programs. Agriculture, Food and Natural Resources was the smallest service area with only seven career academy programs being offered.

COMMUNITY COLLEGES & WORKFORCE PREPARATION

PROSPERITY THROUGH EDUCATION

The Division of Community Colleges and Workforce Preparation within the Iowa Department of Education administers a variety of diverse programs that enhance Iowa's educational system and help to prepare a skilled and knowledgeable workforce. Divided between two bureaus — the Bureau of Community Colleges and the Bureau of Career and Technical Education — the Division is committed to providing and supporting opportunities for lifelong learning. In addition to working with Iowa's 15 public community colleges on state accreditation, program approval, equity review, and data reporting, guidance is also provided in the areas of career and technical education, workforce training and economic development, adult education and literacy, military education, the state mandated OWI education program, the GAP Tuition and PACE programs, Senior Year Plus, and the Statewide Intermediary Network program.