



Research Report

Career and Technical Education in Arkansas's K-12 Schools

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Prepared for

THE HOUSE INTERIM COMMITTEE ON EDUCATION
AND THE SENATE INTERIM COMMITTEE ON EDUCATION



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INTRODUCTION

Arkansas law asserts that “A rigorous career and technical education program of study that links secondary education and postsecondary education and combines academic and technical education in a structured sequence of courses that progresses from broad foundation skills to occupationally specific courses shall be made available” (§ 6-5-1002(b)(1)).

The statute defines a “career and technical education program of study” as “a planned program of courses and learning experiences that:

- 1.) Begins with the exploration of career options;
- 2.) Supports basic academic and life skills; and
- 3.) Enables achievement of:
 - A) High academic standards;
 - B) Leadership;
 - C) High-skill, high-wage employment preparation; and
 - D) Advanced continuing education” (§ 6-5-1002(a)).

The statute identifying what must be examined in the adequacy study (§ 10-3-2102) does not specifically require analysis of career and technical education. However, a report on career and technical education was requested by Education Committee members. Additionally, the final report of the 2016 educational adequacy study enhanced the definition of “adequacy” to include opportunities for career readiness. The first component of the House and Senate Education Committees’ current definition of educational adequacy was amended to include the italicized language below:

“The standards included in the state’s curriculum frameworks, which define what all Arkansas students are to be taught, including specific grade level curriculum, a mandatory thirty-eight (38) Carnegie units defined by the Arkansas Standards of Accreditation to be taught at the high school level, *and opportunities for students to develop career readiness skills.*”¹

This report examines career and technical education (CTE) in the state’s public K-12 schools as part of the 2018 adequacy study. It examines the state CTE requirements for students and districts, the governance of CTE, the courses available through CTE and how CTE is funded and delivered in Arkansas.

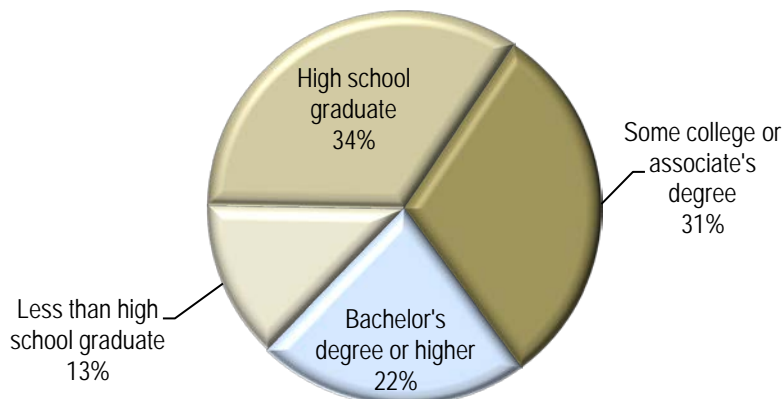
WORKFORCE PROJECTIONS

K-12 education is intended to prepare students for future employment and the next level of education necessary for their chosen careers. Secondary career and technical education, in particular, helps high school students sort through career options and exposes them to a variety of occupations and industries. It is also meant to help students begin building the skills they need for the work world, regardless of their post-secondary education plans. In addition to helping students, CTE education also can serve the needs of communities and industries by developing the local workforce.

Because career and technical education is so rooted in the mission of preparing today’s youth for future careers, it’s important to understand Arkansas’s current levels of educational attainment and the projected array of employment opportunities.

¹ Final Report on the Legislative Hearings for the 2016 Educational Adequacy Study, http://www.arkleg.state.ar.us/education/K12/AdequacyReportYears/2016HouseEducationalAdequacyReportVolume1_Feb2017_Revision.pdf and http://www.arkleg.state.ar.us/education/K12/AdequacyReportYears/2016_Adequacy-Report_Volume-I_2017-11-01%20SENATE%20Revision.pdf, p. 105.

In Arkansas, just 22% of adults 25 to 64 years old have a bachelor's degree or higher. For nearly half of the state's adult population, high school is the highest level of education attained. Another 31% of adults have either an associate's degree or have had some college education but have not completed a degree. Only about half of the state's high school graduates in 2016 went on to college (either a two-year or four-year school).²



Arkansas Population, Ages 25-64

The following lists, developed by the Arkansas Department of Workforce Services, provide 30 of the most in-demand occupations in Arkansas based on “the projected number of annual job openings.” The top 10 occupations are provided for each level of education typically needed.

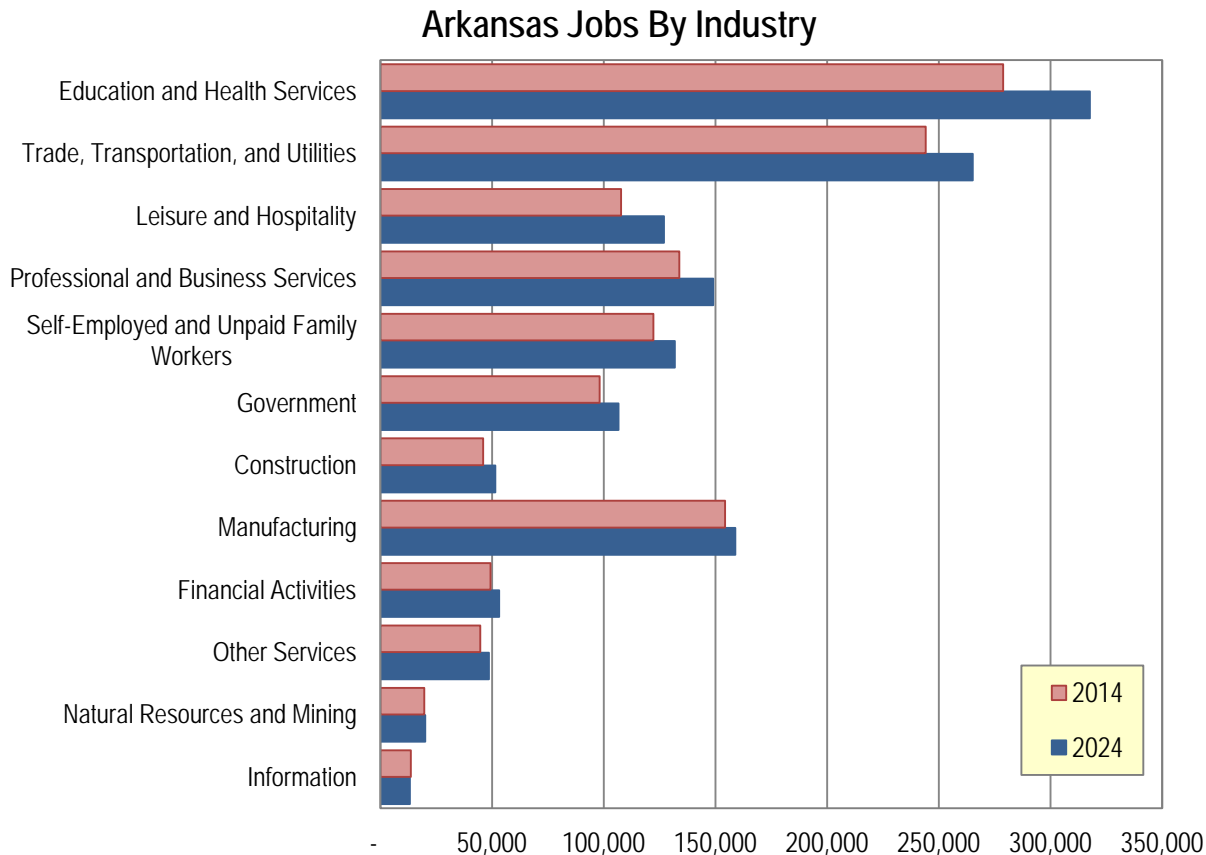
| | High School Diploma or Less | Associate’s Degree/ Post Secondary Training | Bachelor’s Degree or Higher |
|----|--|---|--|
| 1 | Combined Food Prep. & Serving Workers | Heavy & Tractor-Trailer Truck Driver | Registered Nurses |
| 2 | Retail Salespersons | Nursing Assistants | General & Operations Managers |
| 3 | Farmers, Ranchers & Other Agri Mgrs | Teacher Assistants | Clergy |
| 4 | Cashiers | Licensed Practical & Licensed Vocational Nurses | Elementary School Teachers |
| 5 | Laborers & Freight, Stock, & Material Movers | Automotive Service Techs & Mechanics | Secondary School Teachers |
| 6 | Personal Care Aides | Heating, AC, & Refrig. Mechanics & Installers | Accountants & Auditors |
| 7 | Waiters & Waitresses | Medical Assistants | Middle School Teachers |
| 8 | Office Clerks, General | Computer User Support Specialists | Computer Systems Analysts |
| 9 | Janitors & Cleaners | Emergency Medical Techs & Paramedics | Mgmt. Analysts |
| 10 | Secretaries & Admin. Assistants | Hairdressers, Hairstylists, & Cosmetologists | Market Research Analysts & Marketing Specialists |

The following charts show the job projections over the next six years or so, as estimated by the Arkansas Department of Workforce Services. The education and health services sector provides the largest number of jobs currently and is the sector expected to add the most jobs by 2024. The vast majority of those new jobs will be in the area of health care and social assistance, adding nearly 30,600 new jobs. Nearly half of the new jobs in the health care and social assistance category are expected to come from the ambulatory health care services sector, including physician and dental offices and outpatient care centers.

² Arkansas Department of Higher Education, <https://static.ark.org/eeuploads/adhe/08 - College Going Rate of Public School Grads with Cover.pdf>

The information industry grouping is the only category expected to lose jobs by 2024. The largest job losses in the information group include newspaper, periodical, book and directory publishers (149 jobs expected to be lost) and wired telecommunications carriers (571 jobs expected to be lost).

The industries in the chart below are ordered by the number of jobs expected to be added by 2024.

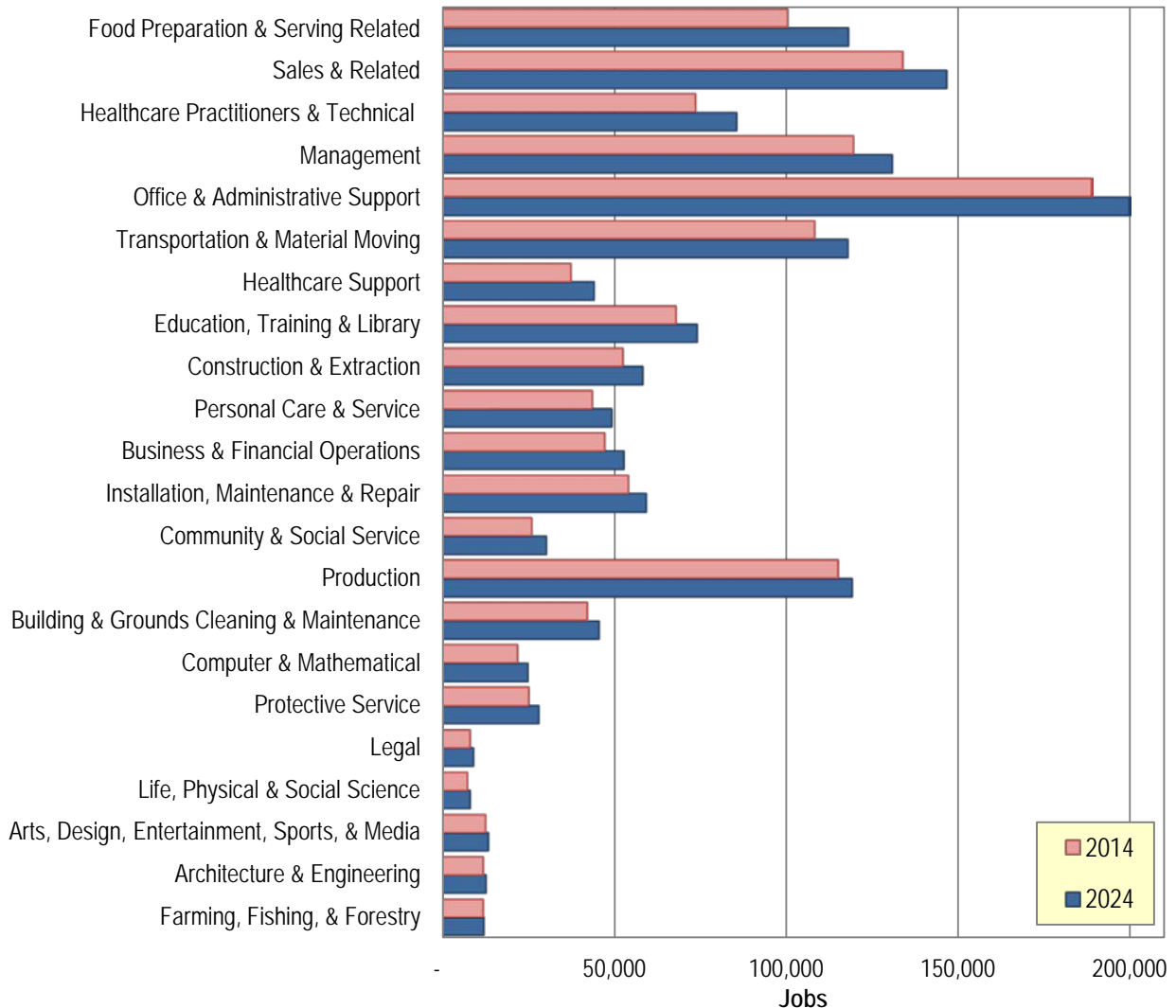


Data Source: Arkansas Department of Workforce Services, Arkansas-Statewide, Long-Term Industry and Occupational Projections 2014-2024

The Department of Workforce Services also identifies the occupations within those industries whose numbers are expected to grow over the next decade and those where the number of jobs is expected to decrease. The occupations expected to add the most jobs are those in the food preparation and serving-related occupations category, which is expected to add 17,641 jobs in Arkansas by 2024. Those occupations include combined food preparation and serving workers, including fast food (6,137 new jobs), waiters and waitresses (3,299 new jobs), restaurant cooks (2,919 new jobs) and supervisors of food preparation and serving workers (2,136 new jobs).

The occupation groups in the following chart are ordered by the number of jobs expected to be added by 2024.

Arkansas Jobs by Occupation



Data Source: Arkansas Department of Workforce Services, Arkansas-Statewide, Long-Term Industry and Occupational Projections 2014-2024

CAREER AND TECHNICAL K-12 EDUCATION REQUIREMENTS

Unlike most areas of K-12 education, the Arkansas Department of Education (ADE) and the State Board of Education are not the main agency and board responsible for approving, overseeing and regulating CTE. The Arkansas Department of Career Education (ARCareerEd) and the Career Education and Workforce Development Board are responsible for supervising career and technical education.³ Under state statute, the Board is responsible for adopting rules governing CTE programs, prescribing academic standards for CTE programs and teachers, approving CTE courses districts can offer, and approving program funding (§ 25-30-102). ARCareerEd is responsible for receiving and distributing federal and state funds intended to support CTE in secondary education. ARCareerEd is also responsible for approving CTE programs in schools, ensuring CTE instructors are appropriately licensed, and ensuring that schools are complying with CTE program requirements. ARCareerEd also visits schools on a

³ Prior to 2015, the Career Education and Workforce Development Board was known as the State Board of Career Education. Act 892 of 2015 renamed the board.

five-year rotating cycle to ensure schools' CTE programs are safe and appropriately equipped and that they are providing quality instruction.

State statute specifies that ARCareerEd's responsibility includes "general control and supervision of all programs of vocational, technical, and occupational education in secondary institutions," which include "state public schools" (§ 25-30-107(b)(1)). However, ARCareerEd has not been regulating CTE programs in open enrollment charter schools.⁴ The agency indicated that that decision was tied to the fact that open enrollment charter schools have not received federal Perkins funding for CTE education. However, the receipt of federal funds is not a statutory requirement for ARCareerEd to control and supervise vocational programs. (See page 20 for more information on Perkins funding.) ARCareerEd acknowledged that charter schools are, in fact, within their purview, and the agency will begin monitoring the open enrollment charter schools in the same way they regulate traditional school districts.⁵

Because the law specifies that ARCareerEd's responsibility is *secondary* education, the agency does not monitor career education/exploration in elementary grades [K-6]. ARCareerEd does ensure schools with 7th and 8th grade students are scheduling time to offer Career Orientation and Keyboarding in those grade levels.

State statute requires the Career Education and Workforce Development Board to coordinate with the State Board of Education "to ensure that academic, workplace, and technical skills create opportunities for a strong comprehensive education regardless of the student's ultimate career choice" (§ 25-30-104). State statute also requires the Career Education and Workforce Development Board to coordinate with the Arkansas Higher Education Coordinating Board "to ensure that secondary and postsecondary career preparation is connected to create opportunities for a strong comprehensive education regardless of the student's ultimate career choice" (§ 25-30-105(a)).

DISTRICT/SCHOOL ACCREDITATION REQUIREMENTS

While ARCareerEd is the main regulatory agency for CTE education, ADE and the State Board of Education are responsible for setting the state's accreditation standards for schools, including the number of CTE courses schools must teach. Under ADE's Rules Governing Standards for Accreditation of Arkansas Public Schools and School Districts, schools serving students in kindergarten through 4th grade are required to provide instruction each year in practical living skills and career exploration, while schools that serve students in grades 5 through 8 are required to annually provide instruction in career and technical education. However, neither ADE nor ARCareerEd have developed academic standards/curriculum frameworks to describe the career content schools are to teach in kindergarten through 6th grade.

Most of the focus on CTE instruction occurs at the high school level. Schools that serve students in grades 9 through 12 are required to teach nine units of CTE. The nine CTE courses high schools are required to teach must represent at least three of the following 16 occupational areas, or career clusters.^{6, 7}

1. Agriculture, Food & Natural Resources
2. Architecture & Construction
3. Arts, A/V Technology & Communications

⁴ Arkansas Department of Career Education, January 8, 2018 meeting.

⁵ Turner, K., Arkansas Department of Career Education, January 22, 2018 phone conversation

⁶ Arkansas Department of Education, Rules Governing Standards for Accreditation of Arkansas Public Schools and School Districts, 9.03.4.11

⁷ Arkansas Department of Career Education, <http://ace.arkansas.gov/cte/careerClusters/Pages/default.aspx>

4. Business, Management & Administration
5. Education & Training
6. Finance
7. Government & Public Administration
8. Health Science
9. Hospitality & Tourism
10. Human Services (including early childhood development, family and consumer sciences and cosmetology)
11. Information Technology
12. Law, Public Safety, Corrections & Security
13. Manufacturing
14. Marketing, Sales, & Service
15. Science Technology, Engineering, & Mathematics
16. Transportation, Distribution & Logistics

These career clusters are also recognized by the U.S. Department of Education.⁸ Each career cluster is divided into career pathways and further into programs of study. For example, the Hospitality and Tourism career cluster is divided into two career pathways: 1.) Restaurant & Food and Beverage Services and 2.) Travel and Tourism. Within the Restaurant & Food and Beverage Services pathway, there are two programs of study: 1.) Culinary Arts and 2.) Food Production, Management & Services. Each program of study contains a progression of courses students can complete.

| Career Cluster | Hospitality & Tourism | | |
|-------------------|---|---|-------------------------|
| Pathways | Restaurant & Food and Beverage Services | | Travel and Tourism |
| Programs of Study | Culinary Arts | Food Production, Management, and Services | Hospitality and Tourism |

CTE PROGRAMS OF STUDY

Arkansas school districts collectively offered a total of 58 programs of study in 2016-17, though individual districts typically offer only a selection of those programs. ADE's accreditation standards also allow school districts to develop and request approval to offer "innovative programs of study based on community and student needs" (9.03.4.11). The table below shows the number of schools approved or conditionally approved to offer each program of study. Open enrollment charter schools are not included in the numbers below because ARCareerEd does not regulate the CTE provided in those schools. The programs are listed from the most commonly offered by schools to the least commonly offered. (A list of career clusters and the available programs of studies in each cluster in 2017-18 can be found in the Appendix.⁹)

| Program of Study | Schools Offering | % of All Schools (districts only) |
|--|------------------|-----------------------------------|
| Family and Consumer Science Education | 225 | 86% |
| Agricultural Power, Structural & Technical Systems | 188 | 71% |
| Medical Professions | 172 | 65% |
| Digital Communications | 170 | 65% |
| Animal Systems | 150 | 57% |
| Welding | 114 | 43% |
| Automotive Service Technology | 104 | 40% |

⁸ Perkins Collaborative Resource Network, <http://cte.ed.gov/resources/certification-crosswalk>

⁹ Arkansas Department of Career Education, Program Operational Guides, <http://arcareereducation.org/services/career-technical-education/programs-of-study>

| Program of Study | Schools Offering | % of All Schools (districts only) |
|---|-------------------------|--|
| Criminal Justice | 90 | 34% |
| Plant Systems | 81 | 31% |
| Cosmetology | 80 | 30% |
| Education and Training | 75 | 29% |
| Computer Engineering | 63 | 24% |
| Construction Technology | 58 | 22% |
| Automotive Collision Repair Technology | 55 | 21% |
| Natural Resources & Environmental Service Systems | 53 | 20% |
| Advanced Manufacturing | 47 | 18% |
| Marketing Tech. and Research | 45 | 17% |
| Office Administration | 43 | 16% |
| Advertising and Graphic Design | 42 | 16% |
| Culinary Arts | 41 | 16% |
| Child Care Guidance, Management, and Services | 38 | 14% |
| Accounting | 37 | 14% |
| Pre-Engineering | 37 | 14% |
| A/V Tech & Film | 35 | 13% |
| AgriBusiness Systems | 34 | 13% |
| Junior Reserve Officers Training Corps (JROTC) | 34 | 13% |
| Mobile Application Development | 27 | 10% |
| Entrepreneurship | 27 | 10% |
| Insurance and Risk Management | 24 | 9% |
| Management | 24 | 9% |
| Banking | 22 | 8% |
| Hospitality | 21 | 8% |
| Industrial Equipment Maintenance | 21 | 8% |
| Television Production | 20 | 8% |
| Engineering/CAD | 19 | 7% |
| Diesel Mechanics | 17 | 6% |
| Photography | 17 | 6% |
| Architectural/CAD | 15 | 6% |
| Business Finance | 13 | 5% |
| Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) | 13 | 5% |
| Securities and Investments | 13 | 5% |
| Aviation Technology | 11 | 4% |
| Graphic Communications | 11 | 4% |
| Precision Machining Technology | 10 | 4% |
| Pre-Mechatronics | 10 | 4% |
| Sports Medicine | 10 | 4% |
| Web Design | 10 | 4% |
| Food Production Management & Services | 9 | 3% |
| Furniture Manufacturing | 9 | 3% |
| Radio Broadcasting | 9 | 3% |
| Biomedical Sciences | 8 | 3% |
| Consumer Services | 6 | 2% |
| Power Equipment Technology | 6 | 2% |
| Programming | 6 | 2% |
| Food Products & Processing Systems | 2 | 1% |
| Medical Office Management | 2 | 1% |
| PILOT Advanced Nutritional Dietetics | 1 | 0.4% |
| Renewable Energy Technology | 1 | 0.4% |

ADE monitors whether districts offer at least the required nine units of CTE courses, and ARCareerEd monitors whether the nine units provide programs of study in at least three occupational areas. For accreditation purposes, ARCareerEd sends to ADE a list of any schools it finds to be out of compliance. No schools were cited for an issue with CTE in the last three years.¹⁰

There is significant variety in the number of programs of study offered in 2016-17 by each high school, ranging from three programs of study in seven of the state's traditional high schools to 24 programs in one high school. The following tables show the schools with the highest number of programs of study and the schools with the lowest number of programs.¹¹ (In 2016-17, Springdale School of Innovation may have had fewer offerings in part because the school did not serve high school students in the upper grades [11th and 12th]).

| Schools With the Most Programs of Study | |
|---|----|
| Springdale High School | 24 |
| Northside High School (Fort Smith) | 22 |
| Conway High School | 21 |
| Bentonville High School | 20 |
| Southside High School (Fort Smith) | 18 |

| Schools With the Least Programs of Study | |
|--|---|
| Eureka Springs High School | 3 |
| Midland High School | 3 |
| Hillcrest High School | 3 |
| Lee High School (Lee County) | 3 |
| Clarendon High School | 3 |
| St. Joe High School (Ozark Mountain) | 3 |
| Springdale School of Innovation | 3 |

CTE COURSES

According to ADE's course code management system, there are 601 separate CTE courses districts can offer high school students. These courses include Aerospace Engineering, Beef Science, Cabinetry, Keyboarding and Turf Grass Management.¹² More than half of the CTE courses are concurrent credit versions of CTE courses, which allows ARCareerEd to more easily track courses for which students are earning concurrent credit. For example, there are Marketing courses as well as ARCareerEd "Concurrent Credit" Marketing courses.

Of the 235 traditional districts and 24 open enrollment charter schools in 2016-17, the number of CTE courses offered to high school students varied widely. Northwest Arkansas Classical Academy, for example, an open enrollment charter school, enrolled students in just one CTE course, while the Springdale School District enrolled students in 122 CTE courses. On average, traditional school districts each taught about 43 CTE courses in 2016-17, while the 16 open enrollment charter schools that had high school students taught an average of about eight CTE courses. While traditional districts generally teach more CTE courses than open enrollment charter schools, students in some school districts had very few CTE course options. Lee County and Strong-Huttig School Districts offered the lowest number of CTE courses of all the traditional districts: 14 courses. Academics Plus and LISA Academy offered the most CTE courses of all the charter schools, 24 and 22 respectively. The table below shows the districts and open enrollment charter schools that taught the highest and the lowest number of CTE courses in 2016-17.¹³ Some charter schools that did not teach the nine required CTE courses may have had a waiver from the CTE requirement as part of their charter agreements, while others may have *offered* more CTE courses, but no students signed up to take them.

¹⁰ Causbie, R., Arkansas Department of Education, January 17, 2018 email.

¹¹ Bureau of Legislative Research analysis of Arkansas Department of Career Education program approvals, 2016-17

¹² Arkansas Department of Education, Course Code Management System, <https://adedatabeta.arkansas.gov/ccms/CourseList> CTE courses for this report are defined as those with 90-95 as the second and third digit of the course code and a 4, 5, or 6 as the first digit.

¹³ BLR Analysis of course data obtained from APSCN.

| Districts or Open Enrollment Charter Schools Teaching the LOWEST Number of CTE Courses | 2016-17 # of CTE Courses |
|--|--------------------------|
| Quest Middle of Little Rock (no 11 th or 12 th grade students) | 1 |
| Northwest Arkansas Classical Academy (no 12 th grade students) | 1 |
| Arkansas Arts Academy | 2 |
| Arkansas Connections Academy | 2 |
| KIPP Delta Public Schools | 2 |
| Premier High School of Little Rock | 4 |
| Future School of Fort Smith (no 9 th , 11 th , or 12 th grade students) | 4 |
| Quest Middle School of Pine Bluff (no 11 th or 12 th grade students) | 5 |
| SIATech | 6 |
| Haas Hall Bentonville | 7 |
| Haas Hall Academy | 7 |

| Districts or Open Enrollment Charter Schools Teaching the Highest Number of CTE Courses | 2016-17 # of CTE Courses |
|---|--------------------------|
| Springdale School District | 122 |
| West Memphis School District | 112 |
| Fort Smith School District | 97 |
| Bentonville School District | 95 |
| Rogers School District | 91 |
| Russellville School District | 91 |
| Greenwood School District | 88 |
| Conway School District | 87 |
| Cabot School District | 87 |
| Van Buren School District | 86 |

The following table shows the most popular CTE courses based on the number of students who enrolled in 2016-17. The most popular CTE course was Computerized Business Applications, which was taught in 270 schools.

| 2016-17 Course | # of Students | # of Schools |
|--|---------------|--------------|
| Computerized Business Applications | 15,947 | 270 |
| Family & Consumer Sciences | 13,300 | 258 |
| Food & Nutrition | 8,683 | 214 |
| Survey of Agriculture Systems | 8,168 | 221 |
| Child Development | 7,370 | 219 |
| Parenting | 6,685 | 203 |
| Keystone* | 6,192 | 24 |
| Financial Literacy | 5,096 | 158 |
| Digital Communications I-Digital Layout and Design | 4,578 | 186 |
| Driver's Education | 4,249 | 89 |

*Keystone is a course designed to help students transition from middle school to high school. The course provides an orientation to the high school's "offerings, faculty, activities, clubs, rules and regulation" as well as activities that allow students to participate in job shadowing, career fairs, field trips to business sites, etc.¹⁴

A 2016 Thomas B. Fordham Institute report examining the CTE courses and outcomes of Arkansas students found that, on average, high school students took 4.9 CTE courses, and 89% took at least one CTE course while in school.¹⁵

¹⁴ <http://ace.arkansas.gov/cte/specialPrograms/careerGuidance/keystoneCapstone/Documents/KEYSTONE%20-%20Policy%20Manual%20Statement.pdf>

¹⁵ Dougherty, S.M., Career and Technical Education in High School: Does It Improve Student Outcomes?, Thomas B. Fordham Institute, April 2016.

GRADUATION REQUIREMENTS

Just as high schools are required to *teach* CTE courses, students are required to *take* career courses as a component of their graduation requirements. To graduate from high school, all students are required to take six Career Focus units.¹⁶ Career Focus credits and CTE courses are generally similar in concept. However, students can receive Career Focus credits toward their graduation requirement for courses that are not considered CTE courses. High school guidance counselors or other school staff work with students to create a "Career Development Portfolio."¹⁷ The portfolio typically contains a student's resume, transcript, ACT scores, career planning assessment, a list of non-family references and recommendation letters, and a list of courses needed in post-secondary level to complete the student's desired degree.

Courses that align with the student's career plans can be counted as the student's career focus units even if the classes are not generally considered CTE courses. For example, if a student wants to take a foreign language, that course could be considered part of the students' career focus units needed for graduation if it serves the goals specified in the student's Career Development Portfolio.

Act 930 of 2017 requires school districts to develop, beginning in 2018-19, a student success plan for each student by the end of the 8th grade. The requirements for the plan share some of the current functions of the Career Development Portfolio. According to the statute (§ 6-15-2911), the student success plan must:

- Guide the student along pathways to graduation
- Address accelerated learning opportunities
- Address academic deficits and interventions
- Include college and career planning components

ARCareerEd officials indicate that ADE and ARCareerEd may adjust the Career Development Portfolio so the portfolio and the student success plan become a single entity.

Additionally, a new graduation requirement was added during the General Assembly's 2017 session, which can be fulfilled with CTE courses. Act 480 of 2017 requires students in 10th, 11th, or 12th grades to take a course containing personal finance standards before they graduate from high school. The requirement starts with the freshman class in 2017-18. The course must cover standards including savings and checking account maintenance, household budget creation, and preparing for employment. Previously, state law required ADE, in consultation with ARCareerEd, to develop a personal finance course, but did not require students to take it.

ADE has indicated students can take the following courses to comply with the new requirement:¹⁸

- Financial Literacy
- Quantitative Literacy
- Economics
- Financial Planning and Wealth Management (a new course)
- ADE-approved AP Micro Economics and Personal Finance
- ADE-approved AP Macro Economics and Personal Finance

ARCareerEd indicated that, in the week prior to this report's release, additional CTE courses were added to the list of units that could satisfy the Act 480 requirements.

¹⁶ Arkansas Department of Education, Rules Governing Standards for Accreditation of Arkansas Public Schools and School District, 14.01.

¹⁷ Arkansas Department of Career Education, Program Policies and Procedures for Career and Technical Education, Secondary Programs Adult Skill Training, Section III, D.

¹⁸ Arkansas Department of Education, <http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=3458>

CTE COMPLETERS

In addition to taking CTE courses to fulfill graduation requirements, students can also focus on certain career areas leading to the completion of a CTE program of study. Students who focus on particular programs of study—those who graduate from high school having completed three units in a career pathway, including all the required core courses—are considered “completers.” In 2015-16, there were 12,855 completers in Arkansas school districts.¹⁹ (Because open-enrollment charter schools do not receive any federal Perkins funding, they do not report the number of completers to ARCareerEd.) Completers made up about 40% of all 12th grade students that year and 42% of all graduates.

| | Completers | 12 th Grade Students | % of 12 th Grade Students | Graduates | % of Graduates |
|---------|------------|---------------------------------|--------------------------------------|-----------|----------------|
| 2012-13 | 12,056 | 30,254 | 40% | 29,298 | 41% |
| 2013-14 | 12,309 | 31,166 | 39% | 30,315 | 41% |
| 2014-15 | 12,718 | 31,928 | 40% | 29,916 | 43% |
| 2015-16 | 12,855 | 31,789 | 40% | 30,324 | 42% |

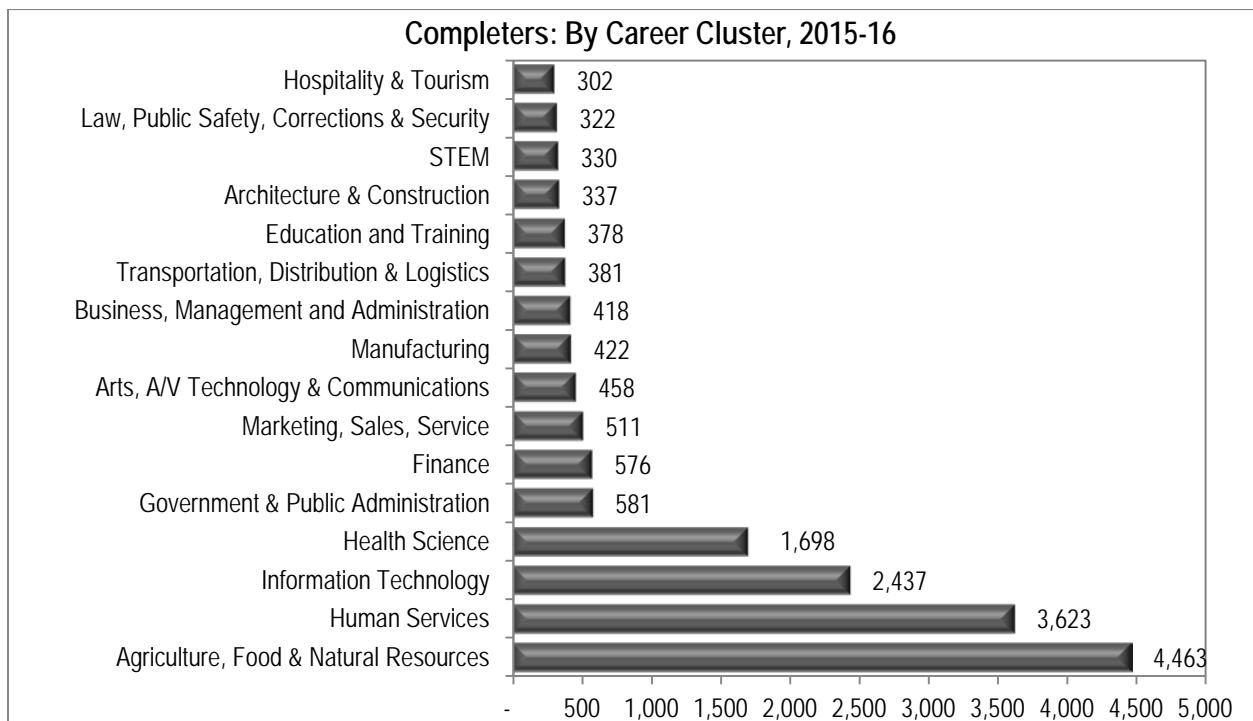
Data Source: Arkansas Department of Career Education, Arkansas Department of Education, Data Center; Data includes only traditional school districts

Districts vary widely on the percentage of graduates who are completers. In 2015-16, two districts had zero completers (Bentonville and Lee County), while in other districts, nearly all of the 12th grade students were reported as being completers (Cleveland County, 92%). The career clusters with the most completers in 2015-16 were Agriculture, Food and Natural Resources; Human Services; Information Technology and Health Science. Nationally, the most popular programs for CTE concentrators²⁰ are Arts, Audio-Visual Technology, and Communication; Business Management and Administration and Health Science.²¹

¹⁹ Bennett, C., Arkansas Department of Career Education, Oct. 12, 2017 email.

²⁰ **CTE concentrators** are students who have completed at least three units of credit in a program of study. CTE concentrators are identified by ARCareerEd using APSCN enrollment records. ARCareerEd uses data on concentrators in the agency's federal reporting. **CTE completers** are students who have completed at least three units of credit in a program of study *and* graduated from high school. The CTE completers are identified locally by the high school, which then self-reports the number of completers to ARCareerEd.

²¹ U.S. Department of Education, Perkins Data Explorer, <https://perkins.ed.gov/pims/DataExplorer/CTEConcentrator>



Note: Some students completed programs in more than one program of study. If a student completed more than one program, that student is listed in the chart above for each program completed.

Some CTE courses provide concurrent credit, allowing students to obtain college credit while still in high school. Additionally, some CTE coursework can also lead to industry certification or state licensure before graduation.

DELIVERY OF CTE INSTRUCTION

School districts can offer career and technical courses in two ways.

- They can offer the courses on their own campus, using their own teachers or online digital learning courses, or
- They can send students to the closest Secondary Area Career Center that serves multiple districts.

Districts may offer some courses on their own campus and send students to Career Centers for others. Career Centers draw students from multiple high schools, allowing them to provide high-cost career and technical programs. Districts that choose to send students to Career Centers may do so for several reasons. First, the Career Center may offer programs that require expensive equipment, such as automotive lifts, that can be purchased more easily by a center serving multiple districts than by a single district. Additionally, when students receive CTE instruction in a Career Center, districts receive funding to pay for this instruction. When students take their CTE courses on their own campus (not in a Career Center), districts receive no additional funds to provide this instruction and must rely on other operational funds, such as foundation funding, to pay for staff. (For more information about the Career Center funding, see page 17). Because some Career Centers are sponsored by two-year higher education institutions, students may be eligible to earn concurrent credit or industry certifications upon completion.

While there may be a financial incentive to send students to a Career Center for their CTE courses, many districts choose to offer some CTE courses on their own campus. That's because sending students to a Career Center can take significant time from a student's daily schedule simply for transportation to and from the Center. In addition to the time, transportation

also may pose a significant cost to districts. Also, on-campus student organizations related to CTE courses (e.g., Future Farmers of America) may be stronger and more active if students are associated with a single staff member on their high school campus than a variety of instructors on a two-year college campus. And finally, some CTE courses do not require expensive equipment and can be taught easily in students' home high schools.

The following table shows the number of schools approved in 2016-17 to offer each program of study on their own campus and the number approved to offer each program of study through their local Career Center. The programs are organized by those most commonly offered through a Career Center.

The programs of study districts most frequently offer through Career Centers are:

- Medical Professions
- Welding
- Automotive Service Technology

The programs of study that schools most frequently offer on their own campus are:

- Family & Consumer Sciences Education
- Agricultural Power, Structural and Technical Systems
- Digital Communications²²

| 2016-17 Program of Study | Number of Schools With Approved Programs of Study | |
|---|---|-----------|
| | Through Career Centers | On Campus |
| Medical Professions | 154 | 30 |
| Welding | 111 | 3 |
| Automotive Service Technology | 98 | 8 |
| Criminal Justice | 80 | 11 |
| Cosmetology | 78 | 2 |
| Computer Engineering | 59 | 5 |
| Automotive Collision Repair Technology | 55 | 0 |
| Advanced Manufacturing | 44 | 3 |
| Advertising and Graphic Design | 37 | 6 |
| Construction Technology | 33 | 26 |
| Culinary Arts | 33 | 9 |
| Industrial Equipment Maintenance | 19 | 2 |
| A/V Tech & Film | 18 | 18 |
| Diesel Mechanics | 16 | 1 |
| Engineering/CAD | 15 | 4 |
| Mobile Application Development | 14 | 14 |
| Education and Training | 13 | 66 |
| Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) | 12 | 1 |
| Aviation Technology | 11 | 0 |
| Graphic Communications | 10 | 1 |
| Precision Machining Technology | 10 | |
| Pre-Mechatronics | 9 | 1 |
| Pre-Engineering | 8 | 30 |
| Office Administration | 6 | 38 |
| Furniture Manufacturing | 6 | 3 |
| Power Equipment Technology | 6 | 0 |
| Radio Broadcasting | 5 | 4 |

²² BLR analysis of Arkansas Department of Career Education data, 2016-17 District and Secondary Area Technical Center Accreditation Reports, Swicegood, M. Oct. 27, 2017 email.

| 2016-17 Program of Study | Number of Schools With Approved Programs of Study | |
|--|---|-----------|
| | Through Career Centers | On Campus |
| Architectural/CAD | 4 | 11 |
| Accounting | 3 | 35 |
| Agricultural Power, Structural & Technical Systems | 1 | 187 |
| Plant Systems | 1 | 80 |
| AgriBusiness Systems | 1 | 33 |
| Television Production | 1 | 19 |
| Renewable Energy Technology | 1 | 0 |
| Family and Consumer Science Education | 0 | 225 |
| Digital Communications | 0 | 171 |
| Animal Systems | 0 | 150 |
| Natural Resources & Environmental Service Systems | 0 | 53 |
| Marketing Tech. and Research | 0 | 45 |
| Child Care Guidance, Management, and Services | 0 | 38 |
| JROTC | 0 | 34 |
| Entrepreneurship | 0 | 27 |
| Insurance and Risk Management | 0 | 24 |
| Management | 0 | 24 |
| Banking | 0 | 22 |
| Hospitality | 0 | 21 |
| Photography | 0 | 17 |
| Business Finance | 0 | 13 |
| Securities and Investments | 0 | 13 |
| Sports Medicine | 0 | 10 |
| Web Design | 0 | 10 |
| Food Production Management & Services | 0 | 9 |
| Biomedical Sciences | 0 | 8 |
| Consumer Services | 0 | 6 |
| Programming | 0 | 6 |
| Food Products & Processing Systems | 0 | 2 |
| Medical Office Management | 0 | 2 |
| PILOT Advanced Nutritional Dietetics | 0 | 1 |

SECONDARY AREA CAREER CENTERS

Secondary Area Career Centers were first created in 1985 with the passage of Act 788. The purposes of the centers as specified in statute are:

1. Support economic, industrial, and employment development efforts;
2. Provide equity and substantially equal access to quality vocational programs; and
3. Improve school programs to assist schools in meeting accreditation standards (§ 6-51-302(a)).

Called “secondary vocational centers” or “multidistrict vocational centers” in statute (and a variety of names in rule), these centers are typically sponsored by high schools or two-year colleges (although one center is sponsored by an education service cooperative with instruction delivered by two higher education institutions, while another center is sponsored by a technical institute). There are currently 25 Career Centers with 27 satellite locations designed to serve high school students within a defined geographical region. State law calls for the establishment of at least one area vocational center in each of the 15 education service cooperative service areas and one in Pulaski County.

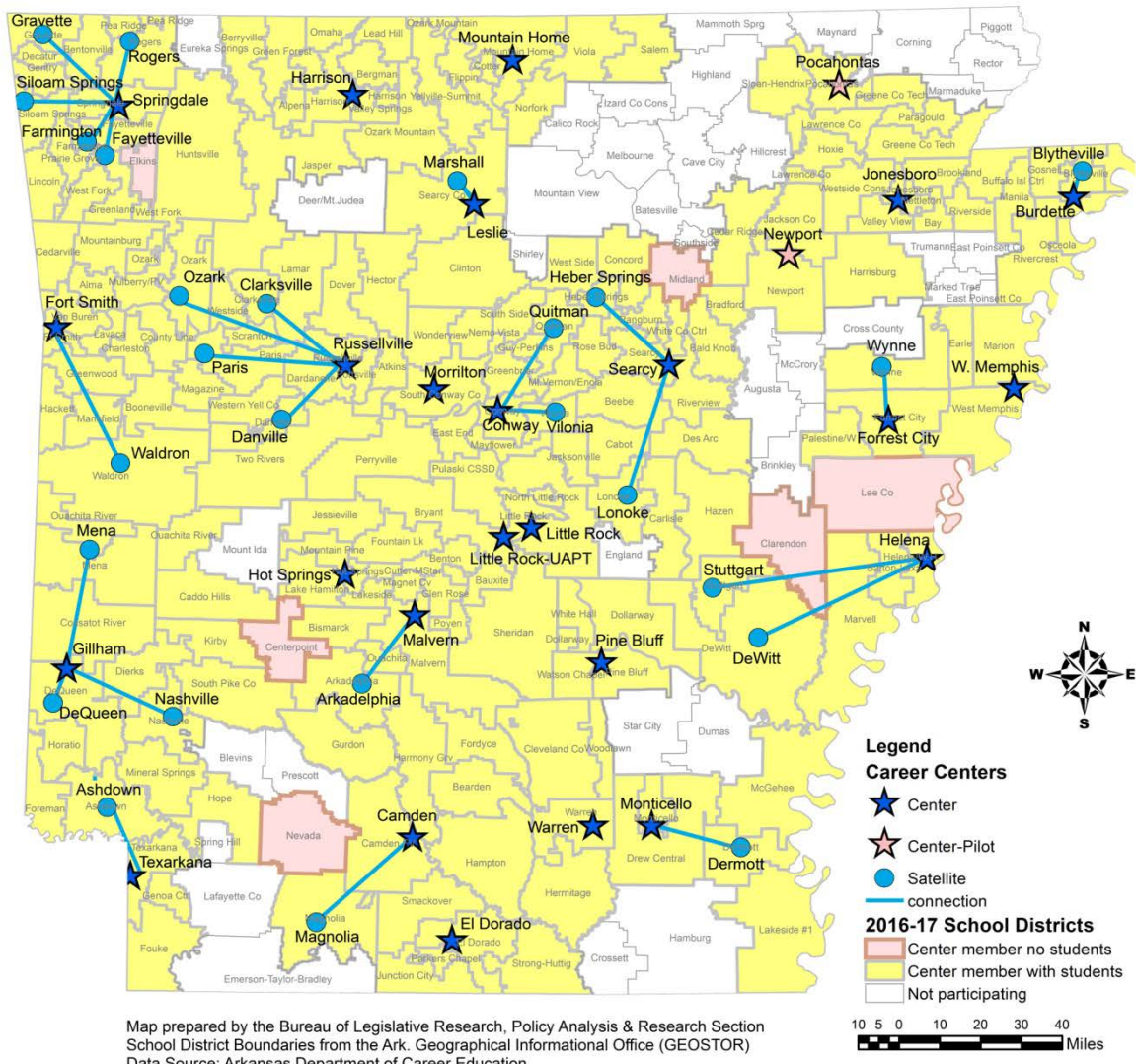
In May 2016, the Career Education and Workforce Development Board approved two new pilot centers: the Black River Technical College in Pochahontas and Arkansas State University in

Newport. In 2016-17, the pilot centers served a total of six school districts that previously did not have access to a Career Center.

In total, 37 school districts were not members of any Career Center either because they did not have close enough access to a center or because they opted not to participate.

In 2017-18, the Pocahontas Career Center added four additional participating districts (Marmaduke, Rector, Lawrence County, and Maynard)²³, and the Newport center added one school district (Augusta). (McCrary was permitted to join the Newport center, but decided against it due to travel logistics.)²⁴

The following map shows the locations of the Career Centers and their satellite locations in 2016-17. It also shows the school districts that were members of a Career Center that year and had students taking courses there; districts that were members of a Career Center, but didn't have students participating; and districts that were not members of any Career Center. Districts that were not members of a Career Center either may not have been close enough to a Career Center or they may have been close enough, but chose not to participate.



Map prepared by the Bureau of Legislative Research, Policy Analysis & Research Section
 School District Boundaries from the Ark. Geographical Informational Office (GEOSTOR)
 Data Source: Arkansas Department of Career Education

²³ Taylor, S., Block River Technical College TOPPS, January 22, 2018 phone conversation

²⁴ Myers, T., ASU-Newport IGNITE Academy, January 22, 2018 phone conversation

To be approved as a Career Center, a sponsoring institution must:

- Offer three occupation-specific programs in the first three years and six programs of study in at least five career clusters by the beginning of its fourth year.
- Serve multiple high schools.
- Not be located within 25 miles of an existing center, unless the new center will “not adversely affect” neighboring centers.²⁵

Satellite locations may be approved if they are shared by more than one school district and the sponsoring center can show a need for the expanded program through “surveys of area businesses and industry, job outlook forecasts, [and] projected enrollment.”²⁶

Because the Career Centers must be spread out geographically, ARCareerEd and its board may not approve district plans to create new centers in locations that are too close to existing ones. (ARCareerEd can approve a new center, even if it is within the 25 mile limit, if it “will not adversely impact adjoining centers.”²⁷) Some school districts, however, are moving forward anyway and creating their own CTE centers outside the Career Center statutory framework. This allows districts to set up a center without adhering to the state Career Center rules, but it also means they do not qualify for any of the state funds allocated for Career Center operations.

Additionally, Act 509 of 2017 created the statutory authority for school districts and vocational technical schools (defined to including vo-tech schools, technical institutes and two- and four-year colleges) to partner together to form “Workforce Development Center Authorities,” which will operate one or more workforce development centers within their areas of operation. This statute recognizes the Workforce Development Center Authorities as legal entities, empowers them to raise funds by issuing bonds and authorizes districts or communities to levy taxes to support a center. Workforce Development Centers, however, will not receive any of the existing Career Center funding, unless they are also approved as a Secondary Area Career Center (see Career Center Funding section on page 17). The Workforce Development Center Authority statute requires the sponsoring entities to enter into an agreement that must be filed with the Arkansas Secretary of State’s office. To date, the Secretary of State’s office indicates that no centers have submitted any such agreements.²⁸

CAREER CENTER STUDENTS AND PROGRAMS

In 2016-17, 187 school districts and one open enrollment charter school (KIPP) sent 18,622 students to Secondary Career Centers for courses.²⁹ That year 43 school districts and 23 open enrollment charter schools did not use a Career Center either because they elected not to or because they did not have access to a center in their area. (Some charter schools do not serve high school students.) Each center served between 135 and about 1,900 students and drew students from between three neighboring school districts and 18. Some school districts sent students to more than one center. Currently, the Career Centers collectively offer 34 different programs of study, though each Career Center and satellite offers between 3 and 12 programs of study. ARCareerEd’s policies require Secondary Career Centers to have at least six programs of study by the end of the center’s fourth year in operation, though five of the centers have fewer than the six required programs. ARCareerEd staff indicate that the policy manual is

²⁵ Arkansas Department of Career Education, Special Policies and Procedures for Secondary Technical Centers, Section I A, 2-4.

²⁶ Arkansas Department of Career Education, Special Policies and Procedures for Secondary Technical Centers, Section I C, 5.

²⁷ Arkansas Department of Career Education, Special Policies and Procedures for Secondary Technical Centers, I.A.2.

²⁸ Boyd, K., Arkansas Secretary of State’s Office, January 17, 2018 phone call.

²⁹ Isaacs, S., Arkansas Department of Career Education, Oct. 31, 2017 email.

currently being updated to focus more on ensuring the Career Centers offer quality programs rather than a certain quantity of programs.

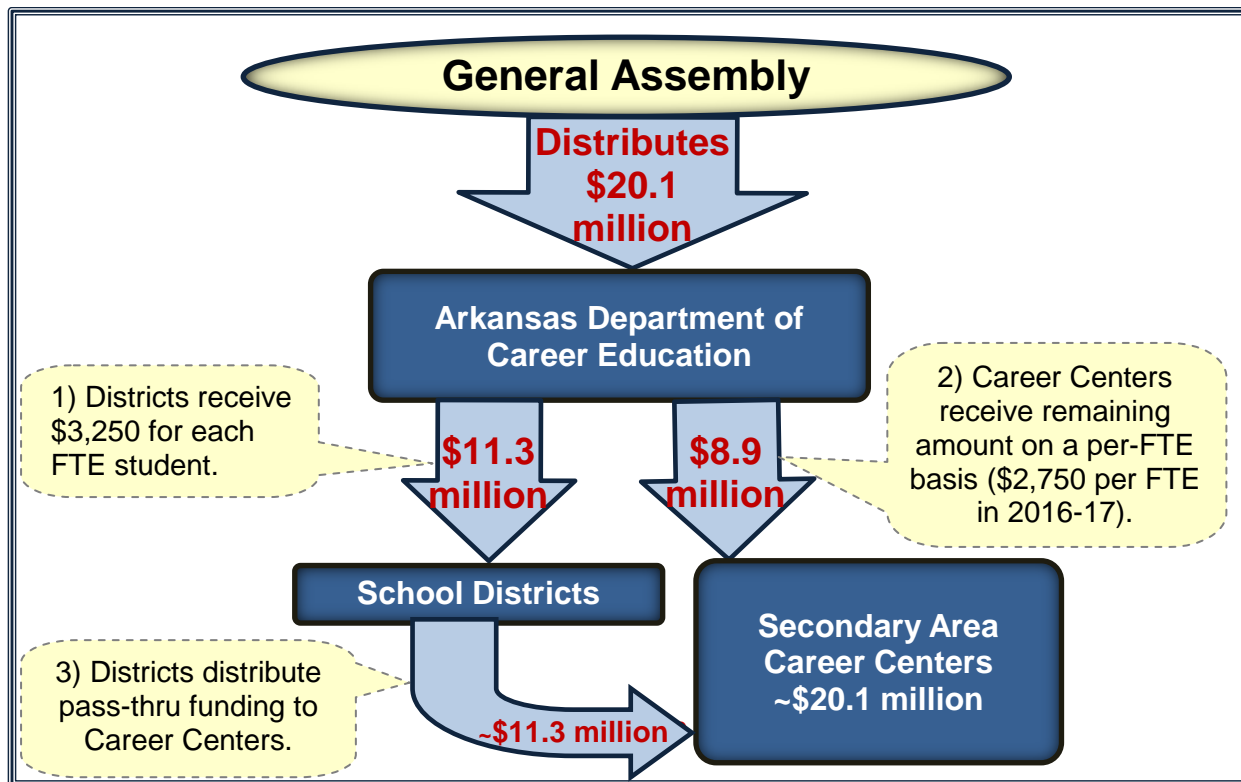
| Center | Students | Districts | # Programs of Study |
|--|----------|----------------|---------------------|
| Arkansas Northeastern College Technical Center | 380 | 7 | 6 |
| Arkansas Tech University Career Center | 1,287 | 14 | 9 |
| ASU Mtn. Home Regional Career Center | 132 | 6 | 5 |
| ASU Searcy Regional Career Center | 518 | 15 | 7 |
| ASU-Mid-South Technical Center | 1,099 | 3 | 9 |
| Conway Area Career Center | 1,917 | 11 | 8 |
| De Queen/Mena Cooperative Technical Education Center | 520 | 11 | 7 |
| EastArk Secondary Career Center | 115 | 3 | 3 |
| Jefferson Area Vocational Center | 521 | 4 | 5 |
| Metropolitan Career and Technical Center | 865 | 4 | 11 |
| Monticello Occupational Education Center | 589 | 5 | 7 |
| National Park Technology Center | 1,094 | 8 | 8 |
| North Central Career Center | 218 | 3 | 5 |
| NorthArk Technical Center | 255 | 12 | 6 |
| Northeast Arkansas Career & Technical Center | 1,463 | 13 | 10 |
| Northwest Technical Institute Secondary Career Center | 591 | 15 | 7 |
| Ouachita Area Career Center | 591 | 9 | 7 |
| Phillips Community College Career and Technical Center | 1,652 | 5+1 charter | 10 |
| River Valley Technical Center | 564 | 5 | 6 |
| Saline County Career Center | 338 | 4 | 3 |
| SAU Tech Career Academy | 588 | 6 | 6 |
| SouthArk Career Center | 362 | 5 | 6 |
| Southeast Arkansas Comm Based Ed Center | 1,457 | 5 | 8 |
| Texarkana Area Vocational Center | 651 | 6 | 7 |
| Western Arkansas Technical Center | 855 | 18 | 12 |

CAREER CENTER FUNDING

To support the Career Centers, the General Assembly provides about \$20.1 million to ARCareerEd. (The two pilot Career Centers are not paid through the this appropriation. Instead, ARCareerEd uses a total of about \$500,000 from its share of the Educational Excellence Trust Fund to pay these pilot centers.) The agency then distributes the \$20.1 million in two parts. The department provides school districts with \$3,250 per full-time equivalent student (FTE) based on each district's prior-year enrollment in career education courses provided by the Career Centers. This per-student amount is specified in statute (in the same section of code that specifies other adequacy-related funding, including foundation and categorical funding) and it has remained unchanged since it was first established through Act 59 of 2003 (§ 6-20-2305(b)(2)(B)). Funding is also provided for students considered to be less than 1 FTE at the rate of \$1,625 for 1/2 FTE, \$1,083 for 1/3 FTE, and \$541 for 1/6th FTE. For the 2016-17 school year, a total of \$11,307,689 was provided to 176 districts for about 3,480 FTE students (based on prior year FTEs). This funding is considered pass-through funding because each year the Career Centers bill participating high schools for student training fees based on the school's FTE count.

Districts receive vocational center aid based on the previous year's FTE students, but they pay the Career Centers based on current year numbers. That means that if a district had 50 students enrolled last year and 60 students this year, the district would receive funding for 50 students, but would have to pay the Career Centers for 60 students. Additionally, in recognition of the high cost of providing career and technical education, some districts have agreed to pay more than the required \$3,250 per FTE, using other district funds to cover the additional cost.

After these reimbursements are paid to districts, ARCareerEd sends the funds remaining from the original \$20.1 million directly to the Career Centers for program operation and administration expenses. This funding is distributed to each Career Center based on the current year FTE student count of each center. In 2016-17, this portion of the funding totaled \$8,944,860, or \$2,750 per student.³⁰ Ultimately, with this funding and the funding that passes through the school districts, Career Centers receive the entire \$20.1 million.



This vocational center aid funding has remained flat at about \$20.1 million for a number of years. However, the number of FTE students attending Career Centers has increased. This results in Career Centers receiving less funding each year per student. For example, in 2012-13, after ARCareerEd distributed \$3,250 per FTE to the districts, the remaining amount provided about \$3,600 per student for fewer than 3,000 FTE students served by the Career Centers. In 2015-16, the number of FTE students attending Career Center classes increased to more than 3,400 FTEs, leaving just \$2,700 per student for the Career Centers.³¹ That said, the number of FTEs dropped by about 200 students in 2016-17.

ARCareerEd allows the vocational center aid funding to be used to pay instructor salaries as well as other instructional needs to support a center's secondary program. However, ARCareerEd prohibits Career Centers from using the funding for general maintenance and operations expenditures of the center's facility. ARCareerEd bases this rule on department staff's interpretation of state law (and similarly worded policy documented in the Special Policies and Procedures for Secondary Technical Centers). According to the law, "[t]he management, maintenance and operation of a center shall be the responsibility of the local school or institution approved by the State Board of Career Education to be the center" (§ 6-51-303). State statute also indicates that only "centers which utilize existing vocational education resources such as facilities, equipment, etc." will be approved as secondary centers. Exceptions may be provided

³⁰ Isaacs, S., Arkansas Department of Career Education, Oct. 31, 2017 email.

³¹ McGill, P., Arkansas Department of Career Education, June 30, 2016 emails.

for proposed centers located in areas where “comprehensive vocational offerings have not been developed and the state board determines that those resources must be developed” to accomplish the statutory purposes of Career Centers (§ 6-51-302(b)).

In 2016-17, Career Centers received about \$6,226 per FTE (based on 2016-17 FTE counts). Collectively the Career Centers spent \$22.76 million, or \$7,005 per FTE.³² The expenditures include Career Centers' spending of other types of funding they may receive, as well as fund balances retained from previous years. The following table shows each Career Center's per-student expenditures. These expenditures come from self-reported expenditure reports the Career Centers submit to ARCareerEd annually.

| Career Center | 2016-17 FTEs | Expenditure Per FTE |
|--|--------------|---------------------|
| Arkansas Northeastern College Technical Center (College based) | 54 | \$9,984 |
| ASU-Mid-South Technical Center (College based) | 183 | \$6,089 |
| ASU Mtn. Home Regional Career Center (College based) | 29 | \$1,176 |
| ASU Searcy Regional Career Center (College based) | 120 | \$5,814 |
| Arkansas Tech University Career Center (College based) | 244 | \$6,924 |
| Conway Area Career Center (High school based) | 282 | \$6,847 |
| De Queen/Mena Cooperative Technical Education Center (College based; center is administered by a coop, but instruction is provided by two higher education institutions) | 90 | \$8,750 |
| EastArk Secondary Career Center (College based) | 19 | \$5,372 |
| Jefferson Area Vocational Center (High school based) | 130 | \$5,295 |
| Metropolitan Career and Technical Center (High school based) | 225 | \$6,028 |
| Monticello Occupational Education Center (High school based) | 95 | \$6,505 |
| National Park Technology Center (College based) | 182 | \$7,350 |
| North Central Career Center (High school based) | 43 | \$4,638 |
| NorthArk Technical Center (College based) | 64 | \$7,460 |
| Northwest Technical Institute Secondary Career Center (College based) | 132 | \$8,306 |
| Northeast Arkansas Career & Technical Center (High school based) | 287 | \$9,478 |
| Ouachita Area Career Center (College based) | 99 | \$6,921 |
| Phillips Community College Career and Technical Center (College based) | 138 | \$6,008 |
| River Valley Technical Center (High school based) | 72 | \$5,185 |
| Saline County Career Center (College based) | 85 | \$7,037 |
| SAU Tech Career Academy (College based) | 136 | \$6,378 |
| SouthArk Career Center (College based) | 91 | \$7,981 |
| Southeast Arkansas Community Based Education Center (High school based) | 167 | \$6,011 |
| Texarkana Area Vocational Center (High school based) | 109 | \$6,483 |
| Western Arkansas Technical Center (College based) | 175 | \$9,151 |

³² These figures do not include expenditures or FTEs from ASU-Mountain Home Career Center because that center was funded with other resources in 2014-15.

OTHER CTE FUNDING

In addition to the Career Center funding, districts and charter schools receive funding for career and technical education in three additional ways:

- Foundation Funding
- Vocational Start-Up Grants
- Federal Perkins Funding (open enrollment charter schools do not receive this funding)

FOUNDATION FUNDING

Every school district and charter school receives foundation funding based on a statutorily set per-student rate (\$6,646 in 2016-17). The per-student rate is based on a formula of the resources schools need (teachers, instructional materials, etc.) in order to provide an adequate education. The funding formula is known as the matrix. There is not a component in the matrix that provides funding specifically for CTE. However the matrix does include funding for elective (non-core) teachers (\$531.54 per student for 2016-17) and for instructional materials generally (\$183.10 per student). The matrix does not specify how much of these resources are intended for CTE. For example, the funding for non-core teachers is meant to cover CTE teachers in high schools as well as physical education, art and music teachers in the elementary grades.

VOCATIONAL START-UP GRANTS

The General Assembly also appropriates \$2.37 million to help new career education programs purchase a minimum level of equipment. This funding is typically provided to school districts, but Secondary Career Centers and other organizations may also be eligible. This funding can be used only for purchasing equipment and program specific supplies, required training, assessment, and software to support newly approved career focus programs of study, foundation courses, expanded programs of study, and other career and technical related courses. In 2016-17, ARCareerEd awarded a total of \$2,716,739 in vocational start-up grants. (The grants are paid on a reimbursement basis, and some programs may not use the full amount.) In 2016-17, 51 school districts' schools and four Secondary Area Career Centers received grant awards. The average award was nearly \$35,000, although awards ranged from less than \$3,000 to nearly \$115,000.³³

FEDERAL PERKINS FUNDING

The federal government provides funding to schools to support secondary and postsecondary career and technical education. This money, allocated based on the Carl D. Perkins Career and Technical Education Act of 2006, is known as Perkins funding. About 15% of the Perkins funding received by the state is reserved for state administrative use, and the remaining funding is divided between secondary and postsecondary use. In Arkansas, secondary education receives 75% of the remaining funds, and postsecondary education receives the other 25%. This adequacy study report focuses on the secondary education portion.³⁴

In 2016-17, districts were allocated a total of about \$6.6 million in Perkins funding to support CTE. That equates to about \$47.50 per high school student (9th through 12th grade students in traditional school districts). Open enrollment charter schools in Arkansas do not receive any

³³ Arkansas Department of Career Education, New Program Startup Grants 2016-17, <http://arcareereducation.org/docs/default-source/career-and-technical-education/funding/state-startup/2016-17-nps-grant-awards.pdf?sfvrsn=2>.

³⁴ Perkins Reference Manual for Local Coordinators and State Staff, Arkansas Department of Career Education.

Perkins funding. While federal law does not prohibit charter schools from receiving Perkins dollars, ARCareerEd cites Arkansas's state Perkins plan as the basis for excluding charter schools. The state plan asserts, "The charter schools are primarily elementary or middle school level, and the few that operate high school courses are focused on academic courses and do not offer CTE programs of study. If any charter school requests funding, the same methodology as is used to determine funding by the Arkansas Department of Education for other federal funds will be used for Perkins funding allocation."³⁵ The state plan was drafted at least a decade ago when fewer than 10 charter schools existed, and the plan has had only minor updates since then.³⁶

The majority of the Perkins funding (70%) is allocated to districts based on the number of 5-17 year olds whose household income is below the poverty line. The remaining amount is distributed based on each district's general student enrollment. Districts whose Perkins allocations are less than \$15,000 must join a consortium—usually the district's education service cooperative—where the funding is pooled with other districts' Perkins funding. A consortium board, consisting of representatives of each affected district, determines how the money will be spent each year. In 2016-17, just 45 of the 235 districts were allocated more than \$15,000 in Perkins funding and therefore received their funding directly.³⁷

In 2016-17, the average district award amount was a little more than about \$28,000, but the funding ranged from as little as \$2,200 for one district (Poyen School District) to as much as \$389,493 for another district (Little Rock School District).³⁸

Perkins funding is actually *distributed* to districts and consortia on a reimbursement basis. The money can be spent on a variety of CTE resources, including career coaches, equipment, professional development for CTE educators and other CTE salaries and benefits.

CTE EXPENDITURES

An unduplicated total for K-12 CTE expenditures in Arkansas is difficult to obtain because CTE instruction is provided in a variety of ways by different types of entities. Because many districts are paying other school districts or career centers to provide CTE instruction for their students through Secondary Career Centers, the expenditures for a single student may be double counted when tallying expenditures statewide. They may be counted once as an expenditure by the sending district when it pays the Career Center and again by the Career Center when it actually provides instruction.

Despite those issues, this report attempts to document the total CTE expenditures of districts and charter schools as recorded in the Arkansas Public School Computer Network (APSCN). The following figures do not include the expenditures of Secondary Career Centers housed by two-year higher education institutions. The figures may also include some expenditure duplications noted above.

Districts and charter schools typically spend about \$120 million annually on career and technical education.³⁹ District expenditures in 2016-17 equated to about \$254 per student statewide. The figures in the chart below show the expenditures of school districts only. In 2016-17, charter schools did not report any CTE expenditures, despite the fact that they did have students

³⁵ Arkansas Five-Year Plan for the Carl D. Perkins Career and Technical Education Act of 2006, 2008-2013 with Approved Changes from OCTAE 2010-2017

³⁶ Turner, K. and Swicegood, M., Arkansas Department of Career Education, January 22, 2018 phone conversation

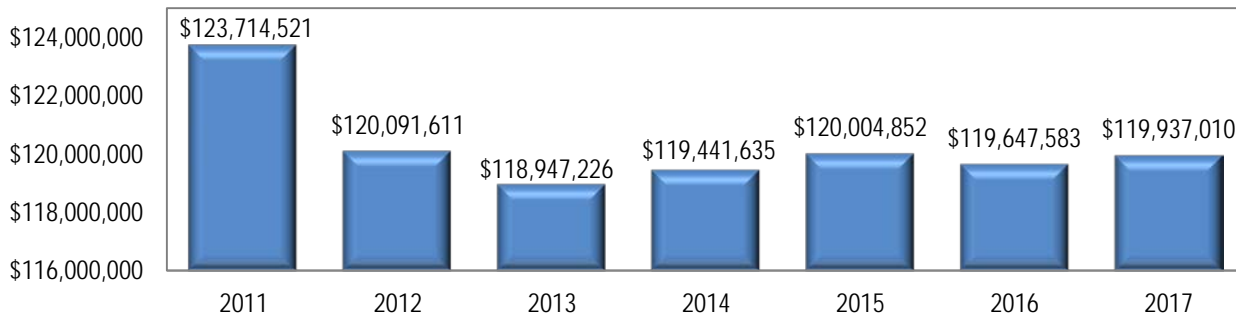
³⁷ Swicegood, M., Arkansas Department of Career Education, January 8, 2018 meeting.

³⁸ Swicegood, M., Arkansas Department of Career Education, January 8, 2018 meeting.

³⁹ Arkansas Public School Computer Network, expenditures in function codes 1300-1399.

enrolled in CTE courses. This may be the result of the way some charter schools deliver CTE courses (i.e., virtual classes through a digital learning vendor). The charter CTE expenditures may actually be recorded using technology expenditure codes, rather than CTE codes. Or the missing expenditures may reflect a lack of uniformity in reporting CTE revenues and expenditures.

District and Charter School CTE Expenditures

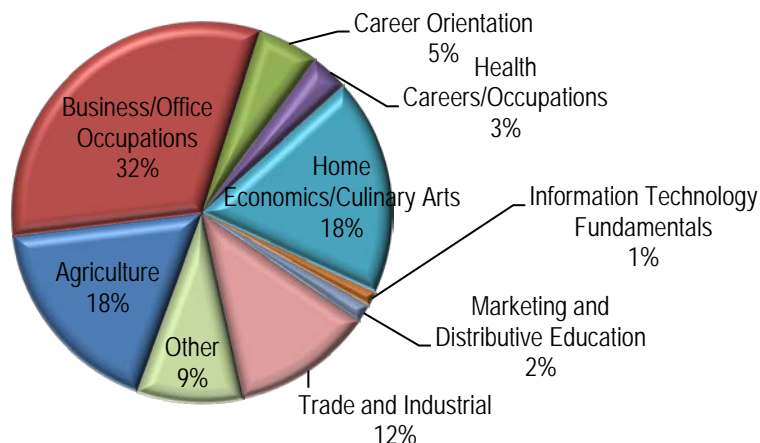


Districts used foundation funding and other local funds to pay for the vast majority of those expenditures, as shown in the table below.

| District/Charter School Funding Used to Pay For CTE Expenditures | 2016-17 Total | Per K-12 Student |
|---|----------------------|------------------|
| Foundation Funding and Other Local Funds | \$101,615,535 | \$215 |
| Vocational Center Aid (Career Center Funding) | \$10,170,896 | \$22 |
| Perkins Funding | \$2,322,356 | \$5 |
| Vocational Start-Up Grants | \$1,800,953 | \$4 |
| Other (e.g., state National School Lunch categorical funding, state Majority to Minority revenue, etc.) | \$4,027,271 | \$9 |
| Total | \$119,937,010 | \$254 |

The following chart shows how the district and charter career education expenditures were broken out by occupational category. This chart uses expenditure data pulled from the APSCN system, which does not perfectly align with the program categorization used by ARCareerEd. That said, the largest CTE expenditures were made in the area of Business/Office, Home Economics and Agriculture. That appears to mirror the most popular CTE courses: Computerized Business Applications, Family & Consumer Sciences, Food & Nutrition and Survey of Agriculture Systems.

District/Charter School CTE Expenditures, by Type of Program, 2016-17



Note: The categories in the pie chart are those used by the Arkansas Financial Accounting Handbook for APSCN. Some of the categories, such as Home Economics, use terminology that is no longer favored by CTE educators.

STUDENT ACHIEVEMENT

As a component of its requirements under the federal Perkins Act, ARCareerEd must report to the federal government measures of student performance in career and technical education. Each year, ARCareerEd must submit data on students concentrating in CTE courses. The data include students' academic performance in English and math, their performance in CTE courses, their graduation rates and their post-high school employment or college placement.

The following table describes the performance of the state's districts on various CTE measures required by the federal government.⁴⁰ **CTE concentrators** are students who have completed at least three units of credit in a program of study. CTE concentrators are identified by ARCareerEd using APSCN enrollment records. ARCareerEd uses data on concentrators in the agency's federal reporting. **CTE completers**, mentioned earlier in this report, are students who have completed at least three units of credit in a program of study *and* graduated from high school. The CTE completers are identified locally by the high school, which then self-reports the number of completers to ARCareerEd. The agency is working with ADE and its programmers to develop methods to verify completers through data districts already enter in APSCN.

| | Arkansas 2015-16 |
|---|------------------|
| % of CTE concentrators proficient on Geometry End of Course exam | 75.87% |
| Technical Skill Attainment: % of CTE concentrators proficient on CTE competency exams | 74.36% |
| Graduation rate for CTE concentrators | 96.65% |
| Placement: % of completers who were either employed, in the military or enrolled in postsecondary education six months after graduation | 95.53% |
| Nontraditional participation: % of students enrolled in at least one unit in a program of study that is non-traditional for their gender | 26.62% |
| Nontraditional completion: CTE concentrators who complete the requirements for a program of study that is not traditional for their gender | 19.65% |

Data Source: Arkansas Department of Career Education

The U.S. Department of Education, in its most recent annual report on states' CTE performance, noted that CTE concentrators in all states had higher graduation rates than all students generally in 2013-14.⁴¹ Additionally, a recent Thomas B. Fordham Institute report that examined CTE students in Arkansas found that in this state, "Concentrators are 21 percentage points more likely to graduate from high school than otherwise identical students (with similar demographics, 8th grade test scores, and number of CTE courses taken) who do not concentrate." The report also found that concentrators are more likely to be employed, more likely to be enrolled in a two-year college and more likely to have higher wages than students who do not concentrate.⁴²

⁴⁰ Swicegood, M., Arkansas Department of Career Education, October 12, 2017 email.

⁴¹ U.S. Department of Education, Carl D. Perkins Career and Technical Education Act of 2006, Report to Congress on State Performance Program Year 2013-14

⁴² Dougherty, S.M., Career and Technical Education in High School: Does It Improve Student Outcomes?, Thomas B. Fordham Institute, April 2016.

APPENDIX

The chart below shows the career clusters and the programs of study for 2017-18. There are 16 career clusters and 60 possible programs of study.

| Career Cluster | Program of Study |
|---|--|
| Agriculture, Food & Natural Resources | Agribusiness Systems |
| | Agricultural Power, Structural & Technical Systems |
| | Animal Systems |
| | Natural Resources/Environmental Service Systems |
| | Food Products and Processing |
| | Plant Systems |
| Architecture & Construction | Construction Technology |
| | Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) |
| Arts, Audio/Video Technology & Communications | Advertising and Graphic Design |
| | Audio-Video Technology & Film |
| | Graphic Communication |
| | Photography |
| | Radio Broadcasting |
| | Television Production |
| Business, Management and Administration | Management |
| | Office Administration |
| | Medical Office Administration |
| Education & Training | Education & Training |
| Finance | Accounting |
| | Banking |
| | Insurance & Risk Management |
| | Securities and Investments |
| Government & Public Administration | JROTC (Air Force, Army, Marines, Navy) |
| Health Science | Sports Medicine |
| | Medical Professions |
| Hospitality & Tourism | Culinary Arts |
| | Food Production, Management, & Services |
| | Hospitality and Tourism |
| Human Services | Child Care Guidance, Management & Services |
| | Consumer Services |
| | Cosmetology |
| | Family & Consumer Sciences Education |
| | Advanced Nutrition Dietetics |

| Career Cluster | Program of Study |
|--|--|
| Information Technology | Digital Communications |
| | Social Media and Communications |
| | Web Design |
| Law, Public Safety, Corrections & Security | Criminal Justice |
| Manufacturing | Advanced Manufacturing |
| | Electronics |
| | Furniture Manufacturing |
| | Industrial Equipment Maintenance |
| | Precision Machining Technology |
| | Welding |
| | Major Appliance Technology |
| Marketing, Sales, Service | Entrepreneurship |
| | Marketing |
| Science, Technology, Engineering and Math (STEM) | Biomedical Sciences |
| | Computer Engineering |
| | Drafting and Design |
| | Engineering CAD |
| | Architectural CAD |
| | Mobile Application Development |
| | Programming |
| | Pre-Engineering |
| Transportation, Distribution & Logistics | Automotive Collision Repair Technology |
| | Automotive Service Technology |
| | Aviation Technology |
| | Diesel Mechanics |
| | Power Equipment Technology |
| | Supply Chain and Logistics |