

Open Enrollment Guide 2018-19 CTE Programs of Study

Overview

Each spring, all Tennessee school districts receiving Perkins funds are required to select their career and technical education (CTE) programs of study for the upcoming school year in eTIGER. In preparation for this year's open enrollment window (Jan 17 – Feb. 22) we have designed this guide to share important information about our 2018-19 courses and programs of study. Please review the following information on each career cluster prior to making your final program of study selections. If you have additional questions, please reach out to the appropriate program manager listed below or Candi.Norwood@tn.gov. If you have questions regarding eTIGER, please contact CTE.eTIGER@tn.gov.

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Making Your Program of Study Selections

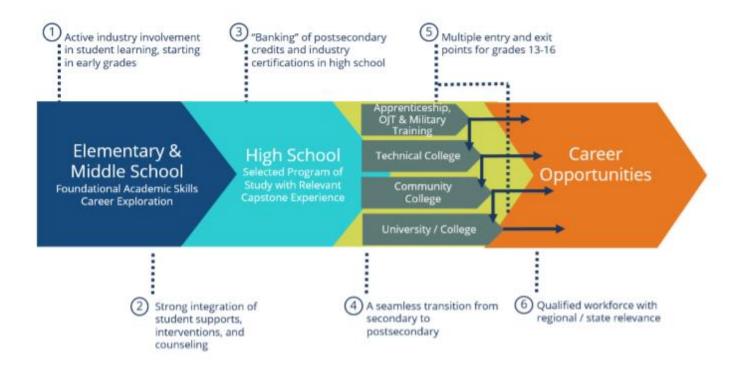
Before you login to eTIGER to make your program of study selections for 2018-19, it is important that you take the time to review the following information and materials. This selection process should go hand-in-hand with your preparation for (1) developing your 2018-19 local plan, (2) determining your staffing decisions, and (3) building education-to-career learning pathways for your students. As you prepare to select your programs of study, we recommend having the following resource materials available:

- Definition of CTE concentrator; a student who completes three or more courses within a program of study. (To access the CTE Concentrator FAQ, click here.)
- □ Career Cluster Considerations (pages 4-28 in this guide)
- □ Industry Certification Conversion Chart (pages 29-34 in this guide)
- □ 2018-19 Programs of Study (POS)
- □ 2018-19 POS and course revisions document
- □ 2018-19 POS instructions for eTIGER
- 2017 Tennessee Department of Economic and Community Development's <u>LEAP Report</u>
- □ Labor market/industry data for your city, county, and region
 - Useful resources for labor data:
 - Drive to 55: Pathways to Postsecondary reports sent to directors of schools
 - Local chamber of commerce
 - Tennessee Department of Labor and Workforce Development's Jobs 4 TN portal
- Available postsecondary program offerings and early postsecondary opportunities at local or regional postsecondary schools
 - Useful resources for postsecondary:
 - University of Tennessee system
 - Tennessee Board of Regents system
 - CollegeforTN web portal
- Input from local business and industry advisory council
- Department-promoted industry certifications, embedded within the 2018-19 programs of study and aligned to specific courses
- □ List of your district's current CTE staff, including licensure, endorsements, and training of each and the 2017-18 Correlation of Course Codes



After collecting and reviewing this information, it is important that you have meaningful conversations with your teachers to ensure the selections of all of the programs of study for your district meet the following criteria:

- encourage and support active industry involvement in student learning;
- allow for postsecondary credit and industry certifications while progressing through a course sequence outlined in the 2018 -19 programs of study (including capstone experiences upon program of study completion);
- transition seamlessly from secondary to postsecondary;
- have multiple entry and exit points, providing a clear pathway to available **employment** and **postsecondary** training in your region; and
- have regional workforce relevance.





Career Cluster Considerations

For more information on the following career clusters, please visit our website at https://www.tn.gov/education/career-and-technical-education.html.

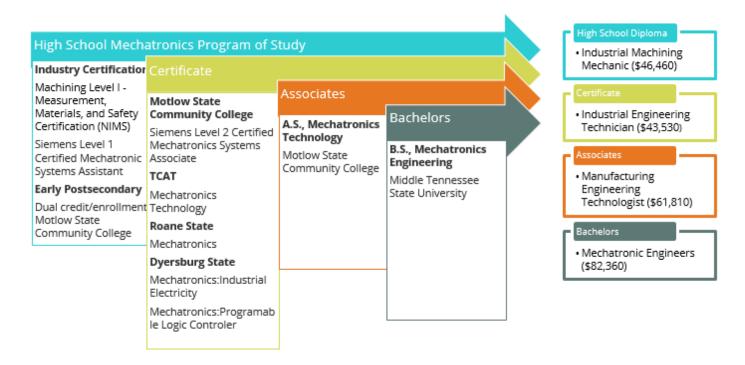
Advanced Manufacturing

Changes from 2017-18

- In *Principles of Manufacturing*, stamping and injection molds were added to standard four.
- Standards were added in *Welding I* to include procedure specifications.
- Standards were added in *Welding II* to include increasing welding efficiency.

- We are seeing an increase in the use of the *Mechatronics* program of study based on employer needs in the state. There are some dual enrollment and dual credit opportunities available at select postsecondary institutions, which may allow you to implement this program of study at a lower cost. Reach out to your local community college or college of applied technology to inquire about potential partnerships.
- Industry certification alignment: Due to the increase in the use of the *Mechatronics* program of study, we are also seeing increased interest in aligned industry certifications. It is important to note that the appropriately aligned industry certification for *Mechatronics* is the Siemens Level 1 certification and **not** the Certified Production Technician (CPT) certification. CPT is appropriately aligned with the *Machining Technology* program of study.
- Advanced Manufacturing Practicum is a customizable course available as a capstone for these programs of study. You can find those standards listed with the corresponding program of study.
- Programs of study in this career cluster contains industry certifications that meet ESSA's Ready Graduate
 indicator of one industry certification and two early postsecondary opportunities (EPSOs). See <u>Industry</u>
 Certification Conversion Table.
- Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Advanced Manufacturing.







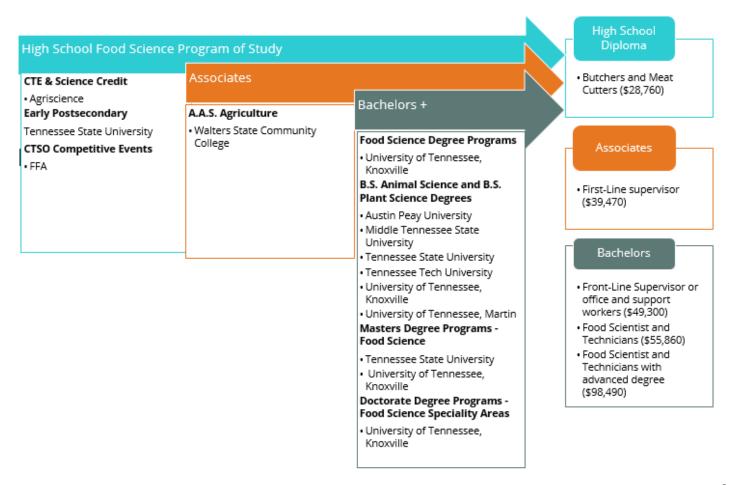
Agriculture, Food, & Natural Resources

Changes from 2017-18

• There are no major changes in this career cluster.

Additional Considerations

- Food Science is a program of study with a positive job outlook. Industry has shown a particular interest in seeing this program of study expand at the secondary level.
- Veterinary & Animal Science and Horticulture Science have Tennessee Specific Industry Certifications available.
- Both Work-Based Learning: Career Practicum and Supervised Agricultural Experience can be used to customize credits for a student toward a concentration in Agriculture.
- For those districts with a strong Agriculture program, we recommend offering *Introduction to Agricultural Sciences* at the middle school level.





Architecture & Construction

Changes from 2017-18

• There are no major changes in this career cluster.

- Residential & Commercial Construction works well in schools or districts that have the capacity to offer only one construction pathway, and/or job outlooks in the community need students with a diverse set of construction skills, as it focuses on basic skills useful in many construction career pathways.
- For schools or districts where two construction programs are feasible and/or job outlooks in the community need a number of students trained in a specific specialized area, *Structural Systems* and *Mechanical, Electrical, & Plumbing Systems* work well. Both allow students to select an area in which to develop a specialized skill.
- Industry certification alignment: There is a desire from industry and postsecondary to see industry
 certifications in this area exceed the basic NCCER Core Curriculum certification. NCCER certifications in
 specific content such as the NCCER Construction Technology and NCCER Electrical Level One will allow for
 students to earn postsecondary credit in addition to industry recognition.
- Programs of study in this career cluster contain industry certifications that meet ESSA's Ready Graduate
 indicator of one industry certification and two EPSOs. See the <u>Industry Certification Conversion Table for details</u>.
- *Construction Practicum* is a customizable course available as a capstone for these programs of study. You can find those standards listed with the corresponding program of study.
- Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Architecture & Construction.



High School Residential & Commercial Construction Program of Study

Industry Certification

- NCCER Core Curriculum
- OSHA 30 Construction

CTSO Competitive Events

SkillsUSA

Work-based Learning: Career Practicum

Apprenticeship

Apprenticeship training is available in carpentry, electrical, HVAC, and plumbing.

Certificate

Building Construction Technology

TCATs in 10 locations

· Additional TCAT offerings include Electrical Construction, HVAC/R. Plumbing and Pipefitting, Brick, Block, & Stone Masonry. Concrete Technology, Clean Energy Building Technology, Surveying, Electrical & Power Transmission Installation, Heavy Equipment Operator, Industrial Electricity, Mechanical Maintenance

Fundamentals,

Woodworking

Electrical Engineering Technology

- Nashville State Southwest TN
- Electrical Technology
- Northeast State · Chattanooga
- State Civil Technology
- Cleveland State

 MTSU Architecture & Engineering

Management

Bachelors

Construction

Management

· University of

Tennessee at

Chattanooga

Construction

University of

Knoxville

Concrete

Industry

Tennessee at

MTSU

Science

· Available at many TN universities

High School Diploma

- General maintenance & repair workers, \$35,740
- Operating engineers and equipment operators, \$36,170

Apprenticeship

- Carpenters, \$34,080
- Electricians, \$46,790
- · Plumbers, pipefitters, and steamfitters, \$45,860
- · Electrical power-line installers and repairers, \$66,930

Certificate

HVAC technicians, \$38,950

- Electrical and electronics engineering technicians, \$53,320
- Civil engineering technicians, \$49,920

Bachelors

- Construction managers, \$76,040
- · Cost estimators, \$55,330
- · Architecture & engineering occupations, \$70,380
- Surveyors, \$44,940



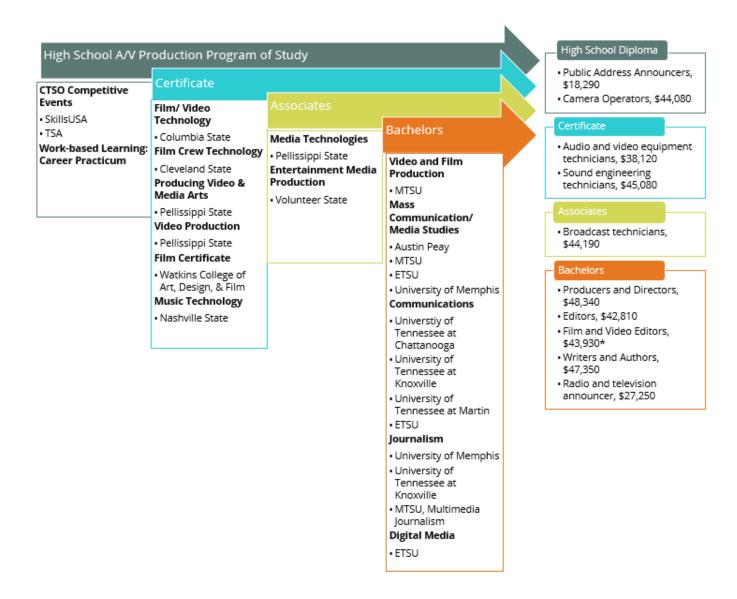
Arts, Audio/Visual Technology, & Communications

Changes from 2017-18

There are no major changes in this career cluster.

- Applied Arts Practicum is a customizable course available as a capstone for these programs of study. You can find those standards listed with the corresponding program of study.
- Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Arts, Audio/Visual Technology, & Communications.







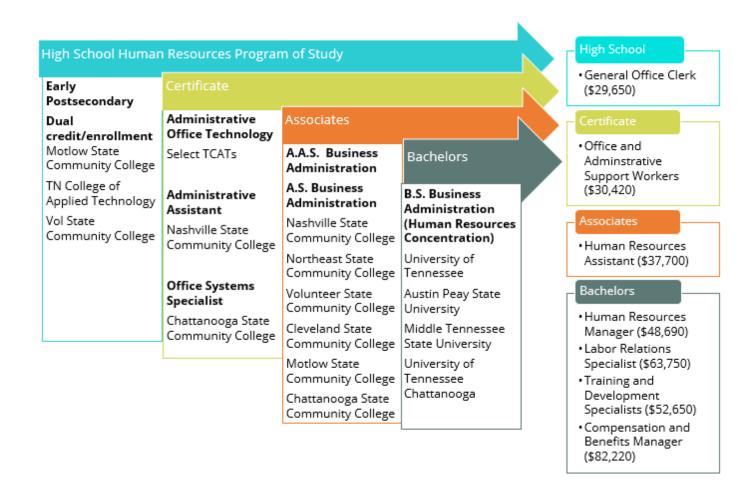
Business Management & Administration

Changes from 2017-18

- Content was added in *Business Management* to include industrial psychology and situational leadership.
- One standard was revised in Business Communication to include information messaged through spreadsheets.
- One standard was revised in Accounting I to include the use of spreadsheet software.

- Business Management works well in schools or districts that are looking for a pathway into postsecondary business programs and/or have successful capstone business programs already in place, such as Virtual Enterprise International.
- For those districts looking for industry certifications in software applications that are valued by industry and prepare students for both immediate employment and matriculation to postsecondary programs (available through *Advanced Computer Applications*), we recommend offering the *Office Management* program of study.
- For those districts with a strong Business Management & Administration program, we recommend offering *Computer Applications* at the middle school level to ensure students are entering the program with the appropriate technical expertise to move effectively through the program of study's advanced courses. Students who have taken *Computer Applications* in middle school may move directly into the second-level course in the *Office Management* program of study.
- Business & Entrepreneurship Practicum is a customizable course available as a capstone for these programs of study. You can find those standards listed with the corresponding program of study.
- Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Business Management & Administration.







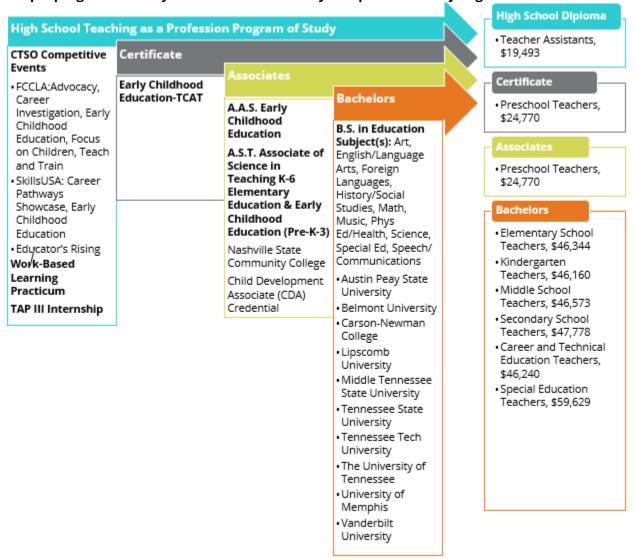
Education & Training

Changes from 2017-18

There are no major changes in this career cluster.

Additional Considerations

• Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Education & Training.





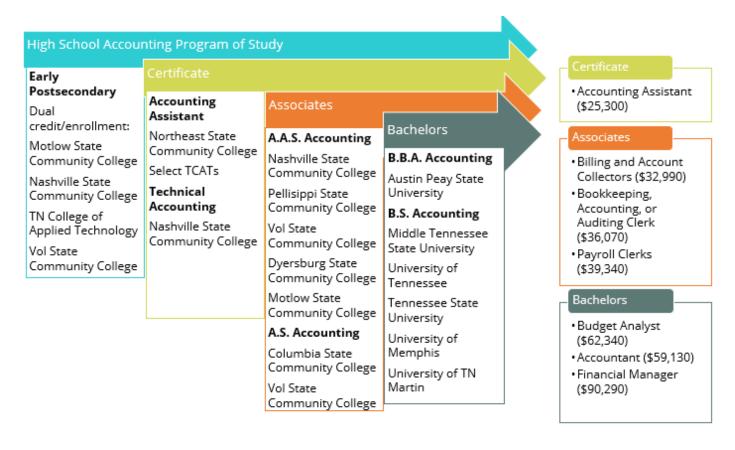
Finance

Changes from 2017-18

- Accounting I had one standard added to include spreadsheet software.
- Accounting II combined two standards and added content to include the analysis of annual reports.
- Financial Planning was added to the Accounting program of study as an option for concentration.

Additional Considerations

• Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Finance.





Government & Public Administration

Changes from 2017-18

• There are no major changes in this career cluster.

Additional Considerations

- Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Government & Public Administration.
- Example program of study with seamless industry and postsecondary alignment:

Dual Enrollment/High High School Public Management Program of Study School Diploma **Public Managment** Associate Degree Court Clerk (\$25,760and Administration \$39,270) Program of Study A.A. Political Science Bachelor's Degree Pellissippi State **B.S. Political Science** Associate Degree Community College Work-Based University of Tennessee Learning A.S. Political Science Knoxville ·Social and Human Nashville State Services Assistants Middle Tennessee State (\$21,620-\$36,370) Community College University Early · Eligibility Interviewers Postsecondary Southwest Tennessee University of Memphis (\$31,300-\$42,900) Community College Government, political **Public Administration** science, sociology Concentration courses Universities above offer Bachelor's Degree concentrations or minors in Public Social and Community Administration Service Managers Sociology (\$38,060-\$75,650) University of Tennessee · Compliance Officer Knoxville (\$29,400-\$100,650) Middle Tennessee State Urban Planner University (\$33,810-\$85,020) w/ Master's Degree University of Memphis Urban Planning Master's Degree University of Memphis



Health Science

Changes from 2017-18

• The Exercise Physiology program of study is now called Sport and Human Performance.

- For those districts with a strong Health Science program, we recommend offering *Introduction to Health Science* at the middle school level.
- Programs of study in this career cluster contain industry certifications that meet ESSA's Ready Graduate
 indicator of one industry certification and two EPSOs. See the <u>Industry Certification Conversion Table for</u>
 details.
- Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Health Science.



High School Therapeutic Services Program of Study Therapeutic Clinical Program of Study Food Server Dietetic Technician

Internship Early Postsecondary

Clinical

credit/enrollmen t may be established with local postseconday institutions in Anatomy & Physiology.

Postsecondary Certificate

Pharmacy Tech Associate Degree Certificate or Diploma Chattanooga,

Roane, SW TN, Walters State Community Colleges, and TCAT's in lackson, Knoxville. Murfreesboro. and Oneida

Dental Assistant

TCAT Memphis Volunteer State Community College

A.A.S. Dental Hygiene

Northeast. Chattanooga, Roane State Community Colleges TSU

A.A.S. Physical Therapy Assistant

lackson and Roane State Community Colleges

A.A.S. Occupational Therapy Assistant

lackson and Walters State Community Colleges

Bachelor's Degree

Pre-Dental, Pre-Dental Hygiene, Pre-Pharmacy MTSU, TTU, UT

B.S. Health and Human Performance

UT Martin Austin Peay State

B.S. Dental Hygiene

TSU and ETSU

Advanced Degrees: Ph.D. Physical Therapy

ETSU TSU

UT Memphis

Ph.D. Occupational Therapy

TSU

UT Memphis UT Chattanooga

High School Diploma

 Dietetic Technician (\$17,210-\$29,000)

Certificate

- Pharmacy Technician (\$22.450-\$34.050)
- Dental Assistant (\$25,910-\$40,170)
- Medical Assistant (\$23,650-33,920)
- · Massage Therapist (\$19,810-\$42,970)

Associate Degree

- Dental Hygienist (\$49,220-\$73,470)
- Occupational Therapy Assistant (\$50,100-\$65,500)

Bachelor's Degree

- Dental Hygienist (\$49,220-\$73,470)
- · Physical Therapist (\$66,360-\$98,120)
- Occupational Therapist (\$59,730-\$94,130)



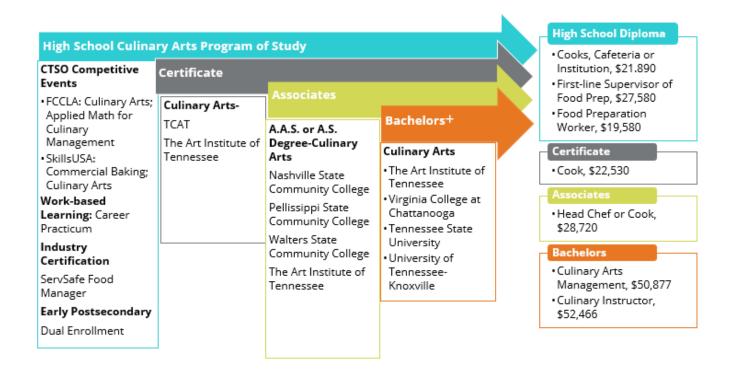
Hospitality & Tourism

Changes from 2017-18

• There are no major changes in this career cluster.

Additional Considerations

- The *Hospitality and Tourism Management* program of study is highly customizable based on local community needs. It can be used to address not only available employment opportunities, but also continued postsecondary training in the hospitality and hotel management, sports, and entertainment fields of study. The *Event Planning & Management* course is designed to build on partnerships with local businesses and organizations and includes flexibility to focus on a particular area of interest for your students.
- Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Hospitality & Tourism.





Human Services

Changes from 2017-18

• The Social Health Services program of study will now be called Human and Social Sciences.

- If you are currently offering the *Cosmetology* or *Barbering* programs of study, we recommend that you build relationships with your local postsecondary institution to ensure appropriate transition of student hours toward a license. This is also a good area to establish a dual enrollment program.
- There are Tennessee Specific Industry Certifications in the *Human and Social Sciences* and *Dietetics & Nutrition* programs of study. For more information, contact Elizabeth.Rafferty@tn.gov.
- Programs of study in this career cluster contains industry certifications that meet ESSA's Ready Graduate
 indicator of one industry certification and two EPSOs. See the <u>Industry Certification Conversion Table for
 details</u>.
- For those districts with a strong Human Services program, we recommend offering *Introduction to Social Health* at the middle school level.
- Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Human Services.



High School Diploma High School Human and Social Sciences Program of Study Teacher Assistants, \$19,493 Certificate CTSO Competitive Certificate Events Tennessee Specific Administrative Assistant, FCCLA Industry **Bachelors** \$29,188 Work-based A.A.S. Early Certification in · Childcare Worker, Learning: Career Childhood Human and Social B.S. in Varied \$18,530 Practicum Education Sciences Majors Nanny, \$19,730 A.S.T. Associate of Human Services · Belmont University Practicum Science in · East Tennessee Teaching K-6 · Preschool Teachers, Elementary State University \$24,770 Education & Early • Freed-Hardeman Childhood University Bachelors Education (PreK-3) · Lee University · Marriage and Family Nashville State Middle Tennessee Therapists, \$34,310 Community College State University · Mental Health Tennessee State Counselors, \$29,051 University Teachers, \$43,193 Tennessee Tech · Mental Health and University Substance Abuse Social University of Workers, \$34,088 Memphis · Child, Family, and School University of Social Workers, \$40,944 Tennessee Vanderbilt University



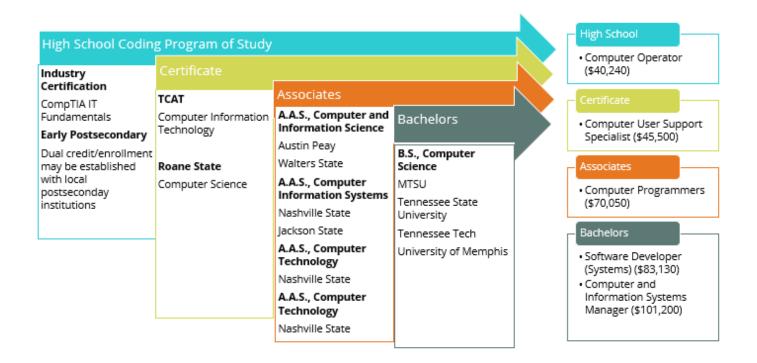
Information Technology

Changes from 2017-18

• Standards were added in *Computer Science Foundations* to include content to cover emerging technologies such as the Internet of Things (IoT) and cloud technology.

Additional Considerations

- For those districts with a strong Information Technology program, we recommend offering *Computer Applications* at the middle school level to ensure students are entering the program with the appropriate technical expertise to move effectively through the advanced courses.
- Coding Practicum and Web Design Practicum are customizable courses available as capstones for these programs of study. You can find those standards listed with the corresponding program of study.
- Programs of study in this career cluster contain industry certifications that meet ESSA's Ready Graduate
 indicator of one industry certification and two EPSOs. See the <u>Industry Certification Conversion Table for
 details</u>.
- Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Information Technology.





Law, Public Safety, Corrections, & Security

Changes from 2017-18

- The Law Enforcement Services program of study has been revised to combine duplicative course content and add standards to include corrections. The program of study, now called Criminal Justice and Corrective Services, includes Criminal Justice I, II, III, and Practicum. Principles of Law, Corrections, and Security has been retired.
- The Legal and Correction Services program of study has been revised to combine duplicative course content and add standards to include corrections. The program of study, now called Pre-Law, includes Pre-Law I, II, III, and Service Learning Practicum. Principles of Law, Corrections, and Security and Court Systems and Practices have been retired.

Additional Considerations

• Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Law, Public Safety, Corrections, & Security.



High School Criminal Justice & Corrective Services Program of Study **Diploma** Criminal Justice · Police, Fire, & Corrective Ambulance Services Law Associate Degree dispatcher (\$24,330-Program of Enforcement \$40,160) Study Certification Bachelor's A.A.S. Criminal Cleveland, Security Guard Degree Justice (On Site) Correction Dyersburg, Columbia, B.S. Criminal Officer/Jailer Walters, Dyersburg, Patrol Officer (\$31,240-Volunteer, South Justice Austin Nashville, Roane, \$50,100) Statewide dual Peay, TSU, ETSU, West Tennessee Volunteer, credit available U of Memphis, State Community Walters, North Associate Criminal Justice Ease, South West MTSU, UT Homeland Degree Chattanooga Tennessee Security Community B.S. Sociology Criminal Justice Nashville State Colleges with Criminal teacher (\$35,820-Community lustice College \$86,570) with A.A.S. Criminal Concentration TN Justice RODP All transitional teaching Technological license Community University Colleges A.A.S. Law Enforcement B.S. Criminal Bachelor's Volunteer State Justice with Degree Community Homeland College Security Police Detectives Concentration (\$36,800-\$126,660) Homeland Austin Peay, Emergency Security Roane MTSU State Community Management Director (\$38,730-College B. S. Forensic \$149,130) Southwest Science MTSU Tennessee-



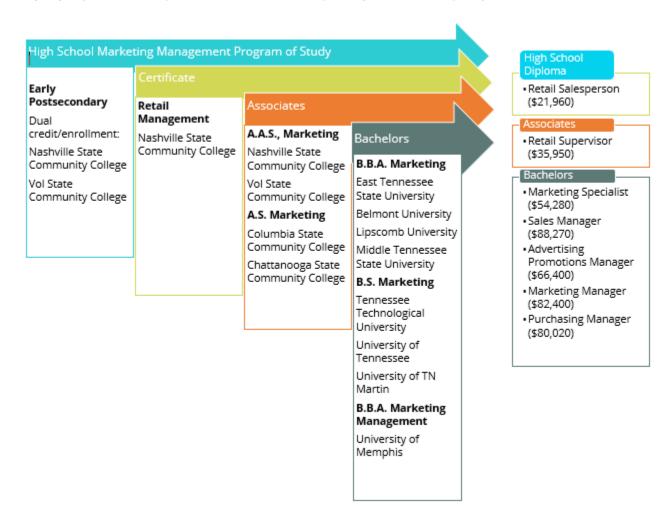
Marketing

Changes from 2017-18

• The Distribution and Logistics program of study has been revised to be called Supply Chain Management and has been moved to the Marketing career cluster. Courses include Foundations of Supply Chain Management, Supply Chain Management I, Supply Chain Management II, and Supply Chain Practicum. Supply Chain Management II and Practicum are similar. Practicum should be chosen if the LEA has opportunities for work-based learning. If not, Supply Chain Management II contains comparable content but standards can be taught to mastery in the classroom. There will be mandatory two-day training for teachers of Supply Chain Management at the Institute for CTE Educators in 2018.

- A capstone course, *Business & Entrepreneurship Practicum*, is available to further customize the experience for students in the *Entrepreneurship* program of study. Students now have an additional year to work on ideas for start-up business ventures while earning credit toward a concentration.
- Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Marketing.







Science, Technology, Engineering, & Mathematics (STEM)

Changes from 2017-18

• The STEM program of study is now called Advanced STEM Applications and includes multiple AP course options.

- For districts with excelling STEM programs, the department, in conjunction with Tennessee STEM Innovation Network, offers a <u>STEM School Designation</u>.
- For those districts with a strong STEM program, we recommend offering the suite of available middle school STEM courses between sixth and eighth grade in order to prepare students for advancement in high school.
- *STEM Practicum* is a customizable course available as a capstone for these programs of study. You can find those standards listed with the corresponding program of study.
- Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in STEM.



Examples of programs of study with seamless transitions to industry and postsecondary

High School STEM Career Cluster Programs of Study Industry · Computer User Support Certification Associates Specialist (\$45,500) Southwest Certified Solidworks Geographic Information Tennessee Bachelors Associate (CSWA)-Systems Technician A.S.,Computer Academic Computer Software (\$42,010) Engineering Specialist B.S., Mechanical or Technology University of Electrical Southwest Tennessee Memphis Engineering Electrical Engineering A.S., Geographic Technician (\$54,600) Software Testing Tennessee State Information Systems Geographic Information University Geographical Roane State Systems Technologist Tennessee Tech Information Systems Community College (\$72,220)University Tennessee State A.S., Mechanical University of Bachelors Applied Goespatial Engineering Tennessee-Knoxville Information Systems Technology Software Quality University of Southwest Tennessee Assurance Engineer Tennessee-(\$72,220)A.S., Electrical Chattanooga Software Developer Engineering B.S., Civil Engineering (\$82,740)Technology Tennessee State Mechanical Engineer Nashville State University (\$85,500)Community College • Electrical Engineer University of Memphis Southwest Tennessee (\$86,130) Tennessee Tech · Civil Engineer (\$90,280) University University of Tennessee-Knoxville B.S., Computer Engineering University of Memphis Tennessee Tech University



Transportation, Distribution, & Logistics

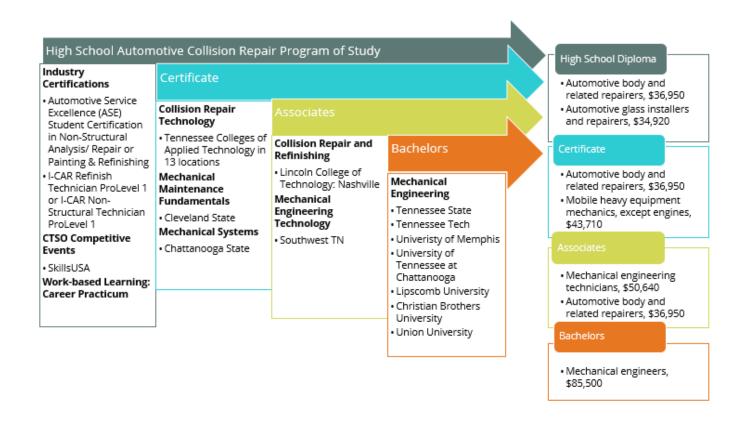
Changes from 2017-18

• The *Distribution and Logistics* program of study has been moved out of this career cluster and into Marketing.

Additional Considerations

• Work-Based Learning: Career Practicum can be used to customize credits for a student toward a concentration in Transportation, Distribution, & Logistics.

Examples of programs of study with seamless transitions to industry and postsecondary





Industry Certification Conversion Table

The department partnered with the Tennessee Colleges of Applied Technology to determine the number of clock hours each industry certification would carry. Upon doing so, the calculation of 30 clock hours to one credit hour (the formula used to determine financial aid from TSAC) was utilized to conduct an ESSA Ready Graduate indicator conversion. The conversion took into account the equivalency of a typical three-credit postsecondary course. If the credit hour conversion was more than nine credit hours, then the industry certification would satisfy the entirety of the ESSA Ready Graduate indicator option of completing two EPSOs and earning an industry certification.

Certification	Aligned Course	Program(s) of Study	Career Cluster(s)	ESSA Conversion
American Welding Society Certified Welder	Welding II (6033)	Welding	Advanced Manufacturing	industry certification + 2 EPSOs
Associate of ISC ²	Cybersecurity Practicum (6177)	Cybersecurity	Information Technology	industry certification + 1 EPSO
Autodesk Inventor from AutoCAD	Engineering Practicum (6141) STEM IV: Practicum (6147)	Engineering, Technology, and Applied STEM	STEM	industry certification + 1 EPSO
Automotive Service Excellence Student Certification: Maintenance & Light Repair Certification	Maintenance & Light Repair IV (5882)	Automotive Maintenance and Light Repair	Transportation, Distribution, & Logistics	industry certification only
Automotive Service Excellence Student Certification: Nonstructural Analysis/Repair	Collision Repair: Nonstructural (6062)	Automotive Collision Repair	Transportation, Distribution, & Logistics	industry certification only
Automotive Service Excellence Student Certification: Painting and Refinishing	Collision Repair: Painting & Refinishing (6063)	Automotive Collision Repair	Transportation, Distribution, & Logistics	industry certification only
AWS SENSE Entry Level Welder	Welding I (6078)	Welding	Advanced Manufacturing	Industry certification + 2 EPSO



Certification	Aligned Course	Program(s) of Study	Career Cluster(s)	ESSA Conversion
AWS SENSE Advanced Level Welder	Welding II (6033)	Welding	Advanced Manufacturing	industry certification + 2 EPSO
CCNA Cisco Certified Network Associate	Networking (6097)	Networking Systems	Information Technology	industry certification + 1 EPSO
Certified Clinical Medical Assistant	Medical Therapeutics (5999) followed by Clinical Internship (5993)	Therapeutic Services	Health Science	Industry certification + 2 EPSO
Certified EKG Technician	Cardiovascular Services (6131)	Diagnostic Services	Health Science	industry certification only
Certified Nursing Assistant	Nursing Education (6000)		Health Science	industry certification only
Certified Personal Trainer	Exercise Science (6170) followed by Clinical Internship (5993)	Sport and Human Performance	Health Science	industry certification + 1 EPSO
Certified Pharmacy Technician	Pharmacological Science (6133)	Therapeutic Services	Health Science	Industry certification + 2 EPSOs
Certified Solidworks Associate (CSWA)- Academic	Engineering Practicum (6141) STEM IV: Practicum (6147)	Engineering, Technology, and Applied STEM	STEM	industry certification + 1 EPSO
Child Development Associate (CDA) Credential	Early Childhood Education Careers (ECEC) III (6017)	Early Childhood Education Careers	Human Services	industry certification + 1 EPSO
Cisco Certified Entry Network Tech (CCENT)	Computer Systems (6094)	Networking Systems	Information Technology	industry certification + 1 EPSO
CIW Web Design Specialist	Web Site Development (6101)	Web Design	Information Technology	industry certification + 1 EPSO
Commercial Pesticide Certification – Core (03)	Landscaping and Turf Science (5951)	Horticulture Science	Agriculture, Food, & Natural Resources	industry certification only



Certification	Aligned Course	Program(s) of Study	Career Cluster(s)	ESSA Conversion
CompTIA A+	Cybersecurity l (6175)	Cybersecurity	Information Technology	industry certification + 1 EPSO
CompTIA A+	Computer Systems (6094)	Networking Systems	Information Technology	industry certification + 1 EPSO
CompTIA A+	Coding II (6099)	Coding	Information Technology	industry certification + 1 EPSO
CompTIA IT Fundamentals	Computer Science Foundations (6905)	All Information Technology POS	Information Technology	industry certification only
CompTIA Network+	Cybersecurity II (6176)	Cybersecurity	Information Technology	industry certification + 2 EPSO
CompTIA Network+	Networking (6097)	Networking Systems	Information Technology	industry certification + 2 EPSO
CompTIA Security +	Cybersecurity Practicum (6177)	Cybersecurity	Information Technology	industry certification + 2 EPSO
Emergency Medical Responder (First Responder)	Emergency Medical Services (5995)	Emergency Services	Health Science	industry certification + 1 EPSO
EPA Section 608 Universal	HVAC (6077)	Mechanical, Electrical, & Plumbing (MEP) Systems	Architecture & Construction	industry certification only
FANUC	Robotics & Automated Systems (6143)	Mechatronics	Advanced Manufacturing	industry certification + 1 EPSO
FANUC	Robotics & Automated Systems (6143)	Technology	STEM	industry certification + 1 EPSO



Certification	Aligned Course	Program(s) of Study	Career Cluster(s)	ESSA Conversion
HVAC Excellence Employment Ready Certifications	HVAC (6077)	Mechanical, Electrical, & Plumbing (MEP) Systems	Architecture & Construction	industry certification + 2 EPSOs
HVAC Excellence, Heating, Electrical, Air Conditioning Technology (H.E.A.T.)	HVAC (6077)	Mechanical, Electrical, & Plumbing (MEP) Systems	Architecture & Construction	industry certification only
I-CAR Refinish Technician ProLevel 1 or I-CAR Non- Structural Technician ProLevel 1	Collision Repair: Nonstructural (6062)	Automotive Collision Repair	Transportation, Distribution, & Logistics	industry certification only
Level I Siemens Certified Mechatronic Systems Assistant	Mechatronics II (6157)	Mechatronics	Advanced Manufacturing	industry certification + 2 EPSOs
Machining Level I - Measurement, Materials, and Safety Certification (NIMS)	Principles of Manufacturing (5922)	Machining Technology	Advanced Manufacturing	industry certification only
Microsoft Office Expert (pass the two-part Expert Exam in Excel)	Advanced Computer Applications (5904)	Office Management	Business Management & Administration	industry certification only
Microsoft Office Expert (pass the two-part Expert Exam in Word)	Advanced Computer Applications (5904)	Office Management	Business Management & Administration	industry certification only
Microsoft Office Master - Track 1 (Word Expert + Excel Core + Elective)	Advanced Computer Applications (5904)	Office Management	Business Management & Administration	industry certification only
Microsoft Office Master - Track 2 (Excel Expert + Word Core + Elective)	Advanced Computer Applications (5904)	Office Management	Business Management & Administration	industry certification only
Microsoft Office Master - Track 3 (Word Expert + Excel Expert)	Advanced Computer Applications (5904)	Office Management	Business Management & Administration	industry certification only
Microsoft Office Specialist (Excel)	Advanced Computer Applications (5904)	Office Management	Business Management & Administration	industry certification only



Certification	Aligned Course	Program(s) of Study	Career Cluster(s)	ESSA Conversion
Microsoft Office Specialist (PowerPoint)	Advanced Computer Applications (5904)	Office Management	Business Management & Administration	industry certification only
Microsoft Office Specialist (Word)	Advanced Computer Applications (5904)	Office Management	Business Management & Administration	industry certification only
Microsoft Technology Associate Software Development Fundamental	Coding II (6099)	Coding	Information Technology	industry certification + 1 EPSO
NCCER Carpentry Level One	Structural Systems l (6164)	Structural Systems	Architecture & Construction	industry certification only
NCCER Carpentry Level Two	Structural Systems II (6165)	Structural Systems	Architecture & Construction	industry certification only
NCCER Construction Technology	Residential & Commercial Construction l (6162)	Residential & Commercial Construction	Architecture & Construction	industry certification only
NCCER Core Curriculum	Fundamentals of Construction (6073)	Residential & Commercial Construction; Structural Systems; Mechanical, Electrical, & Plumbing (MEP) Systems	Architecture & Construction	industry certification only
NCCER Electrical Level One	Electrical Systems (6075)	Mechanical, Electrical, & Plumbing (MEP) Systems	Architecture & Construction	industry certification only
NCCER Plumbing Level One	Plumbing Systems (6082)	Mechanical, Electrical, & Plumbing (MEP) Systems	Architecture & Construction	industry certification only
OSHA 10	Fundamentals of Construction (6073)	Residential & Commercial Construction; Structural Systems; Mechanical, Electrical, & Plumbing (MEP) Systems	Architecture & Construction	industry certification only



Certification	Aligned Course	Program(s) of Study	Career Cluster(s)	ESSA Conversion
OSHA 30 Construction	Residential & Commercial Construction II (6163), Structural Systems II (6165), Electrical Systems (6075)	Residential & Commercial Construction Structural Systems Mechanical, Electrical, & Plumbing (MEP) Systems	Architecture & Construction	industry certification only
Certified Production Technician (CPT)	Principles of Manufacturing (5922) Principles of Machining (5929) Principles of Machining II (5923) Manufacturing Practicum (5926)	Machining Technology	Advanced Manufacturing	industry certification + 1 EPSO
ServSafe Food Manager	Culinary Arts III (5981)	Culinary Arts	Hospitality & Tourism	industry certification + 1 EPSO
Snap-On Precision Measurement	Principles of Manufacturing (5922)	All Advanced Manufacturing	Advanced Manufacturing	industry certification only
Tennessee Specific Industry Certification- Animal Science (currently in pilot year)	Veterinary Science (5961)	Veterinary and Animal Science	Agriculture, Food, & Natural Resources	industry certification + 1 EPSO
Tennessee Specific Industry Certification Dietetics and Nutrition (currently in pilot year)	Nutrition Science and Diet Therapy (6007)	Dietetics and Nutrition	Human Services	industry certification + 1 EPSO
Tennessee Specific Industry Certification Horticulture Science (currently in pilot year)	Landscaping & Turf Science (5951)	Horticulture Science	Agriculture, Food, & Natural Resources	industry certification + 1 EPSO
Tennessee Specific Industry Certification- Social Health Services (currently in pilot year)	Family Studies (6136)	Social Health Services	Human Services	industry certification + 1 EPSO
TN Board of Cosmetology & Barbering - TN Cosmetology 1010	Cosmetology IV (6179)	Cosmetology	Human Services	industry certification + 2 EPSOs
TN Board of Cosmetology & Barbering - TN Master Barber 1010	Barbering III (5974)	Barbering	Human Services	industry certification + 2 EPSOs



Certification	Aligned Course	Program(s) of Study	Career Cluster(s)	ESSA Conversion
Universal R-410A		I& Plumbing (MFP)		industry certification only