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.

<table>
<thead>
<tr>
<th>Career Cluster</th>
<th>Program Manager</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Manufacturing</td>
<td><a href="mailto:Candi.Norwood@tn.gov">Candi.Norwood@tn.gov</a></td>
<td>(615) 532-2844</td>
</tr>
<tr>
<td>Agriculture, Food, &amp; Natural Resources</td>
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<td>(615) 532-2847</td>
</tr>
<tr>
<td>Architecture &amp; Construction</td>
<td><a href="mailto:Candi.Norwood@tn.gov">Candi.Norwood@tn.gov</a></td>
<td>(615) 532-6248</td>
</tr>
<tr>
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<td><a href="mailto:Tara.Campbell@tn.gov">Tara.Campbell@tn.gov</a></td>
<td>(615) 532-6248</td>
</tr>
<tr>
<td>Business Management &amp; Administration</td>
<td><a href="mailto:Tara.Campbell@tn.gov">Tara.Campbell@tn.gov</a></td>
<td>(615) 253-7442</td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td><a href="mailto:Elizabeth.Rafferty@tn.gov">Elizabeth.Rafferty@tn.gov</a></td>
<td>(615) 532-2840</td>
</tr>
<tr>
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<td>(615) 253-7442</td>
</tr>
<tr>
<td>Government &amp; Public Administration</td>
<td><a href="mailto:Sloan.Hudson@tn.gov">Sloan.Hudson@tn.gov</a></td>
<td>(615) 532-2839</td>
</tr>
<tr>
<td>Health Science</td>
<td><a href="mailto:Sloan.Hudson@tn.gov">Sloan.Hudson@tn.gov</a></td>
<td>(615) 532-2839</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
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<td>(615) 532-2840</td>
</tr>
<tr>
<td>Human Services</td>
<td><a href="mailto:Elizabeth.Rafferty@tn.gov">Elizabeth.Rafferty@tn.gov</a></td>
<td>(615) 532-2840</td>
</tr>
<tr>
<td>Information Technology</td>
<td><a href="mailto:Deborah.Knoll@tn.gov">Deborah.Knoll@tn.gov</a></td>
<td>(615) 253-7442</td>
</tr>
<tr>
<td>Law, Public Safety, Corrections, &amp; Security</td>
<td><a href="mailto:Sloan.Hudson@tn.gov">Sloan.Hudson@tn.gov</a></td>
<td>(615) 532-2839</td>
</tr>
<tr>
<td>Marketing</td>
<td><a href="mailto:Tara.Campbell@tn.gov">Tara.Campbell@tn.gov</a></td>
<td>(615) 253-7442</td>
</tr>
<tr>
<td>Science, Technology, Engineering, &amp; Mathematics (STEM)</td>
<td><a href="mailto:Deborah.Knoll@tn.gov">Deborah.Knoll@tn.gov</a></td>
<td>(615) 532-2844</td>
</tr>
<tr>
<td>Transportation, Distribution, &amp; Logistics</td>
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<td>(615) 532-6248</td>
</tr>
</tbody>
</table>
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 [LEAP Report](#)
- 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.

Additional Considerations

- 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 Industry Certification Conversion Table.

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

**High School Mechatronics Program of Study**

- Industry Certification
  - Machining Level 1 - Measurement, Materials, and Safety Certification (NIMS)
  - Siemens Level 1 Certified Mechatronics Systems Assistant
- Early Postsecondary
  - Dual credit/enrollment
  - Motlow State Community College

**Certificate**
- Motlow State Community College
  - Siemens Level 2 Certified Mechatronics Systems Associate

**Associate's Degree**
- TCAT
  - Mechatronics Technology
- Roane State
  - Mechatronics
- Dyersburg State
  - Mechatronics
  - Industrial Electricity
  - Mechatronics Programmable Logic Controller

**Bachelor's Degree**
- B.S., Mechatronics Engineering
  - Middle Tennessee State University

**High School Diploma**
- Industrial Machining Mechanic ($46,460)

**Certificate**
- Industrial Engineering Technician ($43,530)

**Associate's Degree**
- Manufacturing Engineering Technologist ($61,810)

**Bachelor's Degree**
- Mechatronic Engineers ($82,360)
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.

Example program of study with seamless industry and postsecondary alignment:
Architecture & Construction
Changes from 2017-18

- There are no major changes in this career cluster.

Additional Considerations

- *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 [Industry Certification Conversion Table for details](#).

- *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.
Example program of study with seamless industry and postsecondary alignment:

<table>
<thead>
<tr>
<th>High School Residential &amp; Commercial Construction Program of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industry Certification</strong></td>
</tr>
<tr>
<td>• NCCER Core Curriculum</td>
</tr>
<tr>
<td>• OSHA 30 Construction</td>
</tr>
<tr>
<td>• CTSO Competitive Events</td>
</tr>
<tr>
<td>• SkillsUSA Work-based Learning; Career Practicum</td>
</tr>
<tr>
<td><strong>Apprenticeship</strong></td>
</tr>
<tr>
<td>Apprenticeship training is available in carpentry, electrical, HVAC, and plumbing.</td>
</tr>
<tr>
<td><strong>Certificate</strong></td>
</tr>
<tr>
<td>Building Construction Technology</td>
</tr>
<tr>
<td>• TCATs in 10 locations</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>• Additional TCAT offerings include Electrical Construction, HVAC/R, Plumbing and Pipefitting, Brick, Block, &amp; Stone Masonry, Concrete Technology, Clean Energy Building Technology, Surveying, Electrical &amp; Power Transmission Installation, Heavy Equipment Operator, Industrial Electricity, Mechanical Maintenance Fundamentals, Woodworking</td>
</tr>
<tr>
<td><strong>Associates</strong></td>
</tr>
<tr>
<td>Electrical Engineering Technology</td>
</tr>
<tr>
<td>• Nashville State</td>
</tr>
<tr>
<td>• Southwest TN Electrical Technology</td>
</tr>
<tr>
<td>• Northeast State</td>
</tr>
<tr>
<td>• Chattanooga State Civil Technology</td>
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<tr>
<td>• Cleveland State</td>
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<tr>
<td><strong>Bachelors</strong></td>
</tr>
<tr>
<td>Construction Management</td>
</tr>
<tr>
<td>• MTSU</td>
</tr>
<tr>
<td>• University of Tennessee at Chattanooga Construction Science</td>
</tr>
<tr>
<td>• University of Tennessee at Knoxville Concrete Industry Management</td>
</tr>
<tr>
<td>• MTSU Architecture &amp; Engineering</td>
</tr>
<tr>
<td>• Available at many TN universities</td>
</tr>
<tr>
<td><strong>High School Diploma</strong></td>
</tr>
<tr>
<td>• General maintenance &amp; repair workers, $35,740</td>
</tr>
<tr>
<td>• Operating engineers and equipment operators, $36,170</td>
</tr>
<tr>
<td><strong>Apprenticeship</strong></td>
</tr>
<tr>
<td>• Carpenters, $34,080</td>
</tr>
<tr>
<td>• Electricians, $46,790</td>
</tr>
<tr>
<td>• Plumbers, pipefitters, and steamfitters, $45,860</td>
</tr>
<tr>
<td>• Electrical power-line installers and repairers, $66,930</td>
</tr>
<tr>
<td><strong>Certificate</strong></td>
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<tr>
<td>• HVAC technicians, $38,950</td>
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<tr>
<td><strong>Associates</strong></td>
</tr>
<tr>
<td>• Electrical and electronics engineering technicians, $53,320</td>
</tr>
<tr>
<td>• Civil engineering technicians, $49,920</td>
</tr>
<tr>
<td><strong>Bachelors</strong></td>
</tr>
<tr>
<td>• Construction managers, $76,040</td>
</tr>
<tr>
<td>• Cost estimators, $55,330</td>
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<tr>
<td>• Architecture &amp; engineering occupations, $70,380</td>
</tr>
<tr>
<td>• Surveyors, $44,940</td>
</tr>
</tbody>
</table>
Arts, Audio/Visual Technology, & Communications
Changes from 2017-18

- There are no major changes in this career cluster.

Additional Considerations

- *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.
Example program of study with seamless industry and postsecondary alignment:

**High School A/V Production Program of Study**

**Certificate**
- Film/Video Technology
  - Columbia State
  - Cleveland State
  - Pellissippi State
- Video Production
  - Pellissippi State
  - Watkins College of Art, Design, & Film
- Film Certificate
  - Pellissippi State
  - Volunteer State

**Associates**
- Media Technologies
  - Pellissippi State
  - Entertainment Media Production

**Bachelors**
- Video and Film Production
  - MTSU
  - Mass Communication/Media Studies
  - Austin Peay
  - ETSU
  - University of Memphis

**High School Diploma**
- Public Address Announcers, $18,290
- Camera Operators, $44,080

**Certificate**
- Audio and video equipment technicians, $38,120
- Sound engineering technicians, $45,080

**Associate**
- Broadcast technicians, $44,190

**Bachelors**
- Producers and Directors, $40,340
- Editors, $42,810
- Film and Video Editors, $40,930*
- Writers and Authors, $47,350
- Radio and television announcer, $27,250
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.

Additional Considerations

- *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.
Example program of study with seamless industry and postsecondary alignment:

High School Human Resources Program of Study

**Early Postsecondary**
- Dual credit/enrollment
  - Motlow State Community College
  - TN College of Applied Technology
  - Vol State Community College

**Certificate**
- **Administrative Office Technology**
  - Select TCATs

**Administrative Assistant**
- Nashville State Community College

**Office Systems Specialist**
- Chattanooga State Community College

**Associates**
- **A.A.S. Business Administration**
  - Nashville State Community College
  - Northeast State Community College
  - Volunteer State Community College
  - Cleveland State Community College
  - Motlow State Community College
  - Chattanooga State Community College

**B.S. Business Administration (Human Resources Concentration)**
- University of Tennessee
- Austin Peay State University
- Middle Tennessee State University
- University of Tennessee Chattanooga

**Bachelors**
- **Human Resources Manager ($48,690)**
- **Labor Relations Specialist ($63,750)**
- **Training and Development Specialists ($52,650)**
- **Compensation and Benefits Manager ($82,220)**

**High School**
- General Office Clerk ($29,650)

**Certificate**
- Office and Administrative Support Workers ($30,420)

**Associates**
- Human Resources Assistant ($37,700)
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.

Example program of study with seamless industry and postsecondary alignment:

<table>
<thead>
<tr>
<th>High School Teaching as a Profession Program of Study</th>
<th>Certificate</th>
<th>Associates</th>
<th>Bachelors</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTSO Competitive Events</td>
<td>Early Childhood Education-TCAT</td>
<td>A.A.S. Early Childhood Education</td>
<td>B.S. in Education Subject(s): Art, English/Language Arts, Foreign Languages, History/Social Studies, Math, Music, Phys Ed/Health, Science, Special Ed, Speech/Communications</td>
</tr>
<tr>
<td>- FCCLA: Advocacy, Career Investigation, Early Childhood Education, Focus on Children, Teach and Train</td>
<td></td>
<td>A.S.T. Associate of Science in Teaching K-6 Elementary Education &amp; Early Childhood Education (Pre-K-3)</td>
<td>- Austin Peay State University - Belmont University - Carson-Newman College - Lipscomb University - Middle Tennessee State University - Tennessee State University - Tennessee Tech University - The University of Tennessee - University of Memphis - Vanderbilt University</td>
</tr>
<tr>
<td>- Work-Based Learning Practicum</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
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.

Example program of study with seamless industry and postsecondary alignment:
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:**
Health Science
Changes from 2017-18

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

Additional Considerations

- 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 [Industry Certification Conversion Table for details](#).

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

Example program of study with seamless industry and postsecondary alignment:
Human Services
Changes from 2017-18

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

Additional Considerations

- 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 Industry Certification Conversion Table for details.

- 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.
Example program of study with seamless industry and postsecondary alignment:

**High School Human and Social Sciences Program of Study**

**Certificate**
- CTSO Competitive Events
  - FCCLA
- Work-based Learning: Career Practicum
- Human Services Practicum

**Tennessee Specific Industry Certification in Human and Social Sciences**

**Associates**
- A.A.S. Early Childhood Education
- A.S.T. Associate of Science in Teaching K-6 Elementary Education & Early Childhood Education (PreK-3)
  - Nashville State Community College

**Bachelors**
- B.S. in Varied Majors
  - Belmont University
  - East Tennessee State University
  - Freed-Hardeman University
  - Lee University
  - Middle Tennessee State University
  - Tennessee State University
  - Tennessee Tech University
  - University of Memphis
  - University of Tennessee
  - Vanderbilt University

**High School Diploma**
- Teacher Assistants, $19,493

**Certificate**
- Administrative Assistant, $29,188
- Childcare Worker, $18,530
- Nanny, $19,730

**Associates**
- Preschool Teachers, $24,770

**Bachelors**
- Marriage and Family Therapists, $34,310
- Mental Health Counselors, $29,051
- Teachers, $43,193
- Mental Health and Substance Abuse Social Workers, $34,088
- Child, Family, and School Social Workers, $40,944
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 Industry Certification Conversion Table for details.

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

Example program of study with seamless industry and postsecondary alignment:
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.
Example program of study with seamless industry and postsecondary alignment:

**Criminal Justice & Corrective Services Program of Study**

- Security Guard
- Correction Officer/Jailer
- Statewide dual credit available

**Homeland Security**
- Nashville State Community College

**Postsecondary Certificate**

- **Law Enforcement Certification**
  - Cleveland, Dyersburg, Walters, Volunteer, South West Tennessee State Community College

**Associate Degree**

- **A.A.S. Criminal Justice (On Site)**
  - Columbia, Dyersburg, Nashville, Roane, Volunteer, Walters, North East, South West Tennessee Community Colleges

- **A.A.S. Criminal Justice RODP All Community Colleges A.A.S. Law Enforcement Volunteer State Community College**

- **Homeland Security**
  - Roane State Community College
  - Southwest Tennessee-

**Bachelor’s Degree**

- **B.S. Criminal Justice**
  - Austin Peay, TSU, ETSU, U of Memphis, MTSU, UT Chattanooga

- **B.S. Criminal Justice with Homeland Security Concentration**
  - Austin Peay, MTSU

**Bachelor’s Degree**

- **B.S. Forensic Science**
  - MTSU

**High School Diploma**

- Police, Fire, Ambulance dispatcher ($24,330-$40,160)

**Certificate**

- Patrol Officer ($31,240-$50,100)

**Associate Degree**

- Criminal Justice teacher ($35,820-$86,570) with transitional teaching license

**Bachelor’s Degree**

- Police Detectives ($36,800-$126,660)
- Emergency Management Director ($38,730-$149,130)
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.

Additional Considerations

- 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.
Example program of study with seamless industry and postsecondary alignment:

High School Marketing Management Program of Study

Early Postsecondary
Dual credit/enrollment:
Nashville State Community College
Vol State Community College

Certificate
Retail Management
Nashville State Community College

Associates
A.A.S., Marketing
Nashville State Community College
Vol State Community College

A.S. Marketing
Columbia State Community College
Chattanooga State Community College

B.A.A. Marketing
East Tennessee State University
Belmont University
Lipscomb University
Middle Tennessee State University

B.S. Marketing
Tennessee Technological University
University of Tennessee
University of TN Martin

B.B.A. Marketing Management
University of Memphis

High School Diploma
- Retail Salesperson ($21,960)

Associates
- Retail Supervisor ($35,950)

Bachelors
- Marketing Specialist ($54,280)
- Sales Manager ($68,270)
- Advertising Promotions Manager ($66,400)
- Marketing Manager ($82,400)
- Purchasing Manager ($80,020)
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.

Additional Considerations

- For districts with excelling STEM programs, the department, in conjunction with Tennessee STEM Innovation Network, offers a [STEM School Designation](#).

- 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 education.
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.

<table>
<thead>
<tr>
<th>Certification</th>
<th>Aligned Course</th>
<th>Program(s) of Study</th>
<th>Career Cluster(s)</th>
<th>ESSA Conversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Welding Society Certified Welder</td>
<td>Welding II (6033)</td>
<td>Welding</td>
<td>Advanced Manufacturing</td>
<td>Industry certification + 2 EPSOs</td>
</tr>
<tr>
<td>Associate of ISC²</td>
<td>Cybersecurity Practicum (6177)</td>
<td>Cybersecurity</td>
<td>Information Technology</td>
<td>Industry certification + 1 EPSO</td>
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<tr>
<td>Autodesk Inventor from AutoCAD</td>
<td>Engineering Practicum (6141) STEM IV: Practicum (6147)</td>
<td>Engineering, Technology, and Applied STEM</td>
<td>STEM</td>
<td>Industry certification + 1 EPSO</td>
</tr>
<tr>
<td>Automotive Service Excellence Student Certification: Maintenance &amp; Light Repair Certification</td>
<td>Maintenance &amp; Light Repair IV (5882)</td>
<td>Automotive Maintenance and Light Repair</td>
<td>Transportation, Distribution, &amp; Logistics</td>
<td>Industry certification only</td>
</tr>
<tr>
<td>Automotive Service Excellence Student Certification: Nonstructural Analysis/Repair</td>
<td>Collision Repair: Nonstructural (6062)</td>
<td>Automotive Collision Repair</td>
<td>Transportation, Distribution, &amp; Logistics</td>
<td>Industry certification only</td>
</tr>
<tr>
<td>Automotive Service Excellence Student Certification: Painting and Refinishing</td>
<td>Collision Repair: Painting &amp; Refinishing (6063)</td>
<td>Automotive Collision Repair</td>
<td>Transportation, Distribution, &amp; Logistics</td>
<td>Industry certification only</td>
</tr>
<tr>
<td>AWS SENSE Entry Level Welder</td>
<td>Welding I (6078)</td>
<td>Welding</td>
<td>Advanced Manufacturing</td>
<td>Industry certification + 2 EPSOs</td>
</tr>
<tr>
<td>Certification</td>
<td>Aligned Course</td>
<td>Program(s) of Study</td>
<td>Career Cluster(s)</td>
<td>ESSA Conversion</td>
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</tr>
<tr>
<td>AWS SENSE Advanced Level Welder</td>
<td>Welding II (6033)</td>
<td>Welding</td>
<td>Advanced Manufacturing</td>
<td>industry certification + 2 EPSO</td>
</tr>
<tr>
<td>CCNA Cisco Certified Network Associate</td>
<td>Networking (6097)</td>
<td>Networking Systems</td>
<td>Information Technology</td>
<td>industry certification + 1 EPSO</td>
</tr>
<tr>
<td>Certified Clinical Medical Assistant</td>
<td>Medical Therapeutics (5999)</td>
<td>Therapeutic Services</td>
<td>Health Science</td>
<td>industry certification + 2 EPSO</td>
</tr>
<tr>
<td>Certified EKG Technician</td>
<td>Cardiovascular Services (6131)</td>
<td>Diagnostic Services</td>
<td>Health Science</td>
<td>industry certification only</td>
</tr>
<tr>
<td>Certified Nursing Assistant</td>
<td>Nursing Education (6008)</td>
<td>Nursing Services</td>
<td>Health Science</td>
<td>industry certification only</td>
</tr>
<tr>
<td>Certified Personal Trainer</td>
<td>Exercise Science (6170)</td>
<td>Sport and Human Performance</td>
<td>Health Science</td>
<td>industry certification + 1 EPSO</td>
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<tr>
<td>Certified Pharmacy Technician</td>
<td>Pharmacological Science (6133)</td>
<td>Therapeutic Services</td>
<td>Health Science</td>
<td>industry certification + 2 EPSO</td>
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<tr>
<td>Certified Solidworks Associate (CSWA)-Academic</td>
<td>Engineering Practicum (6141)</td>
<td>Engineering, Technology, and Applied STEM</td>
<td>STEM</td>
<td>industry certification + 1 EPSO</td>
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<tr>
<td>Child Development Associate (CDA) Credential</td>
<td>Early Childhood Education Careers (ECEC) III (6017)</td>
<td>Early Childhood Education Careers</td>
<td>Human Services</td>
<td>industry certification + 1 EPSO</td>
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<tr>
<td>Cisco Certified Entry Network Tech (CCENT)</td>
<td>Computer Systems (6094)</td>
<td>Networking Systems</td>
<td>Information Technology</td>
<td>industry certification + 1 EPSO</td>
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<tr>
<td>CIW Web Design Specialist</td>
<td>Web Site Development (6101)</td>
<td>Web Design</td>
<td>Information Technology</td>
<td>industry certification + 1 EPSO</td>
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<tr>
<td>Commercial Pesticide Certification – Core (03)</td>
<td>Landscaping and Turf Science (5951)</td>
<td>Horticulture Science</td>
<td>Agriculture, Food, &amp; Natural Resources</td>
<td>industry certification only</td>
</tr>
<tr>
<td>Certification</td>
<td>Aligned Course</td>
<td>Program(s) of Study</td>
<td>Career Cluster(s)</td>
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<tr>
<td>CompTIA A+</td>
<td>Cybersecurity I (6175)</td>
<td>Cybersecurity</td>
<td>Information Technology</td>
<td>industry certification + 1 EPSO</td>
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<tr>
<td>CompTIA A+</td>
<td>Computer Systems (6094)</td>
<td>Networking Systems</td>
<td>Information Technology</td>
<td>industry certification + 1 EPSO</td>
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<tr>
<td>CompTIA A+</td>
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<td>Coding</td>
<td>Information Technology</td>
<td>industry certification + 1 EPSO</td>
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<tr>
<td>CompTIA IT Fundamentals</td>
<td>Computer Science Foundations (6905)</td>
<td>All Information Technology POS</td>
<td>Information Technology</td>
<td>industry certification only</td>
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<tr>
<td>CompTIA Network+</td>
<td>Cybersecurity II (6176)</td>
<td>Cybersecurity</td>
<td>Information Technology</td>
<td>industry certification + 2 EPSO</td>
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<tr>
<td>CompTIA Network+</td>
<td>Networking (6097)</td>
<td>Networking Systems</td>
<td>Information Technology</td>
<td>industry certification + 2 EPSO</td>
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<tr>
<td>CompTIA Security +</td>
<td>Cybersecurity Practicum (6177)</td>
<td>Cybersecurity</td>
<td>Information Technology</td>
<td>industry certification + 2 EPSO</td>
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<tr>
<td>Emergency Medical Responder (First Responder)</td>
<td>Emergency Medical Services (5995)</td>
<td>Emergency Services</td>
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<td>industry certification + 1 EPSO</td>
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<tr>
<td>EPA Section 608 Universal</td>
<td>HVAC (6077)</td>
<td>Mechanical, Electrical, &amp; Plumbing (MEP) Systems</td>
<td>Architecture &amp; Construction</td>
<td>industry certification only</td>
</tr>
<tr>
<td>FANUC</td>
<td>Robotics &amp; Automated Systems (6143)</td>
<td>Mechatronics</td>
<td>Advanced Manufacturing</td>
<td>industry certification + 1 EPSO</td>
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<tr>
<td>FANUC</td>
<td>Robotics &amp; Automated Systems (6143)</td>
<td>Technology</td>
<td>STEM</td>
<td>industry certification + 1 EPSO</td>
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<td>Certification</td>
<td>Aligned Course</td>
<td>Program(s) of Study</td>
<td>Career Cluster(s)</td>
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<tr>
<td>HVAC Excellence Employment Ready Certifications</td>
<td>HVAC (6077)</td>
<td>Mechanical, Electrical, &amp; Plumbing (MEP) Systems</td>
<td>Architecture &amp; Construction</td>
<td>industry certification + 2 EPSOs</td>
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<tr>
<td>HVAC Excellence, Heating, Electrical, Air Conditioning Technology (H.E.A.T.)</td>
<td>HVAC (6077)</td>
<td>Mechanical, Electrical, &amp; Plumbing (MEP) Systems</td>
<td>Architecture &amp; Construction</td>
<td>industry certification only</td>
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<tr>
<td>I-CAR Refinish Technician ProLevel 1 or I-CAR Non-Structural Technician ProLevel 1</td>
<td>Collision Repair: Nonstructural (6062)</td>
<td>Automotive Collision Repair</td>
<td>Transportation, Distribution, &amp; Logistics</td>
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<td>Level I Siemens Certified Mechatronic Systems Assistant</td>
<td>Mechatronics II (6157)</td>
<td>Mechatronics</td>
<td>Advanced Manufacturing</td>
<td>industry certification + 2 EPSOs</td>
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<tr>
<td>Machining Level I - Measurement, Materials, and Safety Certification (NIMS)</td>
<td>Principles of Manufacturing (5922)</td>
<td>Machining Technology</td>
<td>Advanced Manufacturing</td>
<td>industry certification only</td>
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<tr>
<td>Microsoft Office Expert (pass the two-part Expert Exam in Excel)</td>
<td>Advanced Computer Applications (5904)</td>
<td>Office Management</td>
<td>Business Management &amp; Administration</td>
<td>industry certification only</td>
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<tr>
<td>Microsoft Office Expert (pass the two-part Expert Exam in Word)</td>
<td>Advanced Computer Applications (5904)</td>
<td>Office Management</td>
<td>Business Management &amp; Administration</td>
<td>industry certification only</td>
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<tr>
<td>Microsoft Office Master - Track 1 (Word Expert + Excel Core + Elective)</td>
<td>Advanced Computer Applications (5904)</td>
<td>Office Management</td>
<td>Business Management &amp; Administration</td>
<td>industry certification only</td>
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<tr>
<td>Microsoft Office Master - Track 2 (Excel Expert + Word Core + Elective)</td>
<td>Advanced Computer Applications (5904)</td>
<td>Office Management</td>
<td>Business Management &amp; Administration</td>
<td>industry certification only</td>
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<tr>
<td>Microsoft Office Master - Track 3 (Word Expert + Excel Expert)</td>
<td>Advanced Computer Applications (5904)</td>
<td>Office Management</td>
<td>Business Management &amp; Administration</td>
<td>industry certification only</td>
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<tr>
<td>Microsoft Office Specialist (Excel)</td>
<td>Advanced Computer Applications (5904)</td>
<td>Office Management</td>
<td>Business Management &amp; Administration</td>
<td>industry certification only</td>
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<td>Certification</td>
<td>Aligned Course</td>
<td>Program(s) of Study</td>
<td>Career Cluster(s)</td>
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<tr>
<td>Microsoft Office Specialist (PowerPoint)</td>
<td>Advanced Computer Applications (5904)</td>
<td>Office Management</td>
<td>Business Management &amp; Administration</td>
<td>industry certification only</td>
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<tr>
<td>Microsoft Office Specialist (Word)</td>
<td>Advanced Computer Applications (5904)</td>
<td>Office Management</td>
<td>Business Management &amp; Administration</td>
<td>industry certification only</td>
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<tr>
<td>Microsoft Technology Associate Software Development Fundamental</td>
<td>Coding II (6099)</td>
<td>Coding</td>
<td>Information Technology</td>
<td>industry certification only + 1 EPSO</td>
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<tr>
<td>NCCER Carpentry Level One</td>
<td>Structural Systems I (6164)</td>
<td>Structural Systems</td>
<td>Architecture &amp; Construction</td>
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<td>NCCER Carpentry Level Two</td>
<td>Structural Systems II (6165)</td>
<td>Structural Systems</td>
<td>Architecture &amp; Construction</td>
<td>industry certification only</td>
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<tr>
<td>NCCER Construction Technology</td>
<td>Residential &amp; Commercial Construction I (6162)</td>
<td>Residential &amp; Commercial Construction</td>
<td>Architecture &amp; Construction</td>
<td>industry certification only</td>
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<tr>
<td>NCCER Core Curriculum</td>
<td>Fundamentals of Construction (6073)</td>
<td>Residential &amp; Commercial Construction;</td>
<td>Architecture &amp; Construction</td>
<td>industry certification only</td>
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<td>Structural Systems; Mechanical, Electrical, &amp; Plumbing (MEP) Systems</td>
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<tr>
<td>NCCER Electrical Level One</td>
<td>Electrical Systems (6075)</td>
<td>Mechanical, Electrical, &amp; Plumbing (MEP) Systems</td>
<td>Architecture &amp; Construction</td>
<td>industry certification only</td>
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<tr>
<td>NCCER Plumbing Level One</td>
<td>Plumbing Systems (6082)</td>
<td>Mechanical, Electrical, &amp; Plumbing (MEP) Systems</td>
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<td>OSHA 10</td>
<td>Fundamentals of Construction (6073)</td>
<td>Residential &amp; Commercial Construction;</td>
<td>Architecture &amp; Construction</td>
<td>industry certification only</td>
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<td>Structural Systems; Mechanical, Electrical, &amp; Plumbing (MEP) Systems</td>
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<tr>
<td>Certification</td>
<td>Aligned Course</td>
<td>Program(s) of Study</td>
<td>Career Cluster(s)</td>
<td>ESSA Conversion</td>
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<tr>
<td>Certified Production Technician (CPT)</td>
<td>Principles of Manufacturing (5922)</td>
<td>Machining Technology</td>
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<td>Industry certification + 1 EPSO</td>
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<td>Principles of Machining (5929)</td>
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<td>Principles of Machining II (5923)</td>
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<td>Manufacturing Practicum (5926)</td>
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<td>Culinary Arts III (5981)</td>
<td>Culinary Arts</td>
<td>Hospitality &amp; Tourism</td>
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<tr>
<td>Snap-On Precision Measurement</td>
<td>Principles of Manufacturing (5922)</td>
<td>All Advanced Manufacturing</td>
<td>Advanced Manufacturing</td>
<td>Industry certification only</td>
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<tr>
<td>Tennessee Specific Industry Certification-Animal Science (currently in pilot year)</td>
<td>Veterinary Science (5961)</td>
<td>Veterinary and Animal Science</td>
<td>Agriculture, Food, &amp; Natural Resources</td>
<td>Industry certification + 1 EPSO</td>
</tr>
<tr>
<td>Tennessee Specific Industry Certification Dietetics and Nutrition (currently in pilot year)</td>
<td>Nutrition Science and Diet Therapy (6007)</td>
<td>Dietetics and Nutrition</td>
<td>Human Services</td>
<td>Industry certification + 1 EPSO</td>
</tr>
<tr>
<td>Tennessee Specific Industry Certification Horticulture Science (currently in pilot year)</td>
<td>Landscaping &amp; Turf Science (5951)</td>
<td>Horticulture Science</td>
<td>Agriculture, Food, &amp; Natural Resources</td>
<td>Industry certification + 1 EPSO</td>
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<tr>
<td>Tennessee Specific Industry Certification Social Health Services (currently in pilot year)</td>
<td>Family Studies (6136)</td>
<td>Social Health Services</td>
<td>Human Services</td>
<td>Industry certification + 1 EPSO</td>
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<td>TN Board of Cosmetology &amp; Barbering - TN Cosmetology 1010</td>
<td>Cosmetology IV (6179)</td>
<td>Cosmetology</td>
<td>Human Services</td>
<td>Industry certification + 2 EPSOs</td>
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<tr>
<td>TN Board of Cosmetology &amp; Barbering - TN Master Barber 1010</td>
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<td>Human Services</td>
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<td>Certification</td>
<td>Aligned Course</td>
<td>Program(s) of Study</td>
<td>Career Cluster(s)</td>
<td>ESSA Conversion</td>
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<tr>
<td>Universal R-410A</td>
<td>HVAC (6077)</td>
<td>Mechanical, Electrical, &amp; Plumbing (MEP) Systems</td>
<td>Architecture &amp; Construction</td>
<td>Industry certification only</td>
</tr>
</tbody>
</table>