

Career & Technical Education (CTE) Trends



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AGENDA

01 Call to Action

02 Advocacy

03 Partnership

04 Live Locally- Compete Globally

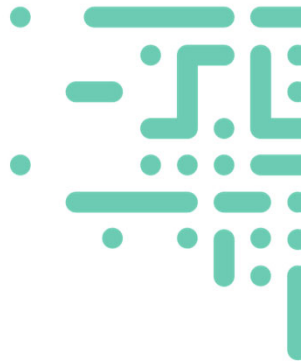
05 Next Steps

Perception is Reality

What is your child's perception of the world of work, based on your conversations at home?



Call to Action



Your words on
the world of
work!

Pell Grants

A-F
Accountability

High- Quality
CTE

Professional
Skills

PROFESSIONAL SKILLS PERFORMANCE REVIEW SELF-EVALUATION

Document design focuses on Self-Evaluation

- Choose at least one evidence indicator in each domain
- Score yourself with the impact indicator
- Answer self-Reflection Questions
- Prepare to share evidence of your self-evaluation through a short conversation

Domain	Evidence Indicator	Impact Indicator
Broad understanding of skills	Critically reflect over each indicator and think about your individual performance.	
COLLABORATION	Are you an integral part of the team?	
	Commit to achieving collective goals	
	Communicate effectively with the team using a variety of tools	
	Contribute to team productivity	
	Problem-Solve	
	Promote an environment of trust	
	Seek conflict resolution/ compromise	
COMMUNICATION	Ability to receive/ give constructive feedback	
	Active Listening	
	Non-verbal communication: hand-shake, facial expression, body language, eye contact	
	Professional Oral Communication	
	Professional Presentation (command of audience, materials)	
INITIATIVE & SELF-DIRECTION	Professional Written Communication	
	Adaptability	
	Motivation	
	Perseverance	
	Planning	
	Pride & Ownership	
	Self-Advocacy	
	Situational Awareness/ Self-Regulation	
PROFESSIONALISM	Time Management	
	Appearance/ Attire: Uniform/ Dress, ID Badges, Well-groomed (hair, nails, face, body odor)	
	Appropriate use of tools and resources	
	Ethics	
	Manners & Etiquette	
	Preparation & Execution	
	Punctuality	

Joint effort

COLLABORATION

7 Evidence Indicators

Many are closely intertwined; however, conversations and questioning can be focused to help flesh out those areas where students exceed or struggle in team settings.

The words in bold are great extension lessons for the classroom so as a learning community you can seek to find shared understanding. These words should be referenced often in conversations and directly pointed out when students are doing this skill well.

- Are you an **integral** part of the team?
- **Commit** to achieving collective goals
- Communicate effectively with the team using a **variety of tools**
- Contribute to team **productivity**
- Problem-Solve
- Promote an environment of **trust**
- Seek **conflict resolution/ compromise**

COMMUNICATION

6 Evidence Indicators

Delineating various forms of communication as well as demonstrating communication etiquette is essential. Students need explicit training in these areas as well as coaching conversations for improvement. The approach should not be “there is only one way” to properly communicate. Focus here should promote diversity, culture, and inclusivity as well.

Each of these evidence indicators should have lessons designed to specifically and constantly practice these skills. Feedback should be on-going in the classroom and allow space for common understanding of constructive feedback for improvement.

- Ability to receive/ give constructive feedback
- Active Listening
- Non-verbal communication: hand-shake, facial expression, body language, eye contact
- Professional Oral Communication
- Professional Presentation (command of audience, materials)
- Professional Written Communication

INITIATIVE & SELF- DIRECTION

8 Evidence Indicators

One of the most difficult domains to explicitly teach, measure, assess; initiative and self-direction require coaching strategies for each indicator. Students should be seeking opportunities to try various strategies and self-reflect on those that offer forward progress.

Creating opportunities in classroom may not be explicit however intentional lesson planning should ensure lessons that require techniques for practicing these skills.

Extension lessons might include technical readings, leadership books, project management videos, and action research while embedding content lessons.

- Adaptability
- Motivation
- Perseverance
- Planning
- Pride & Ownership
- Self-Advocacy
- Situational Awareness/ Self-Regulation
- Time Management



PROFESSIONALISM

6 Evidence Indicators

These indicators are expected of students as if they just naturally matriculate in one's self. However, cultural differences, opportunity gaps, familial dynamics etc. all influence these indicators at various levels. This is also an area where inherent bias about what is appropriate considering one's own values can cause conflict within the classroom.

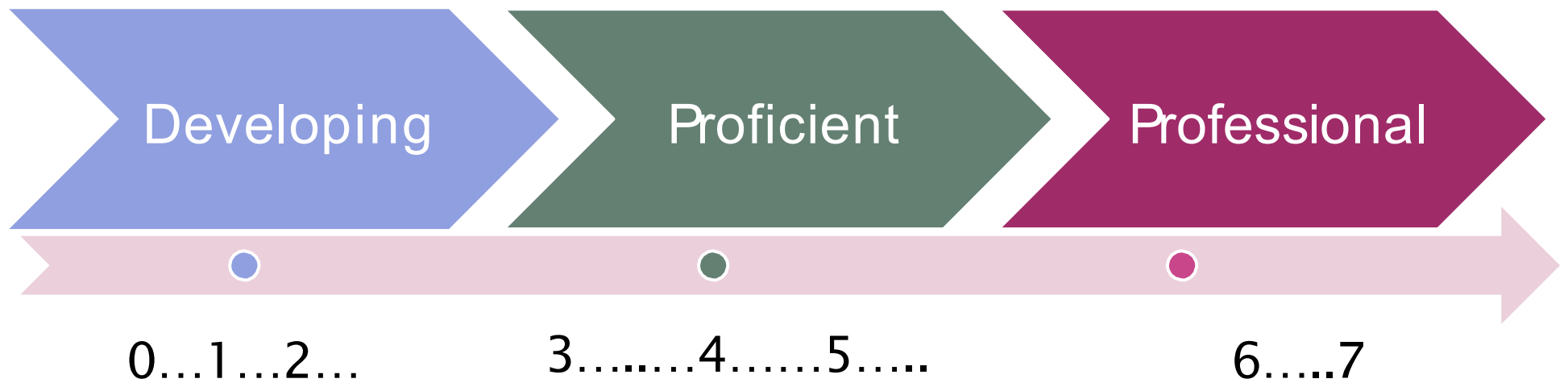
Appropriately these indicators should be viewed through a lens of research, evidence, and best practices while respecting the cultural diversity of the classroom. Careful consideration should be weighed prior to lessons that might marginalize students with unreasonable expectations i.e. "professional dress".

Designing shared understanding lessons in the classroom and develop social contracts that are easy to understand for all is a first step in building a strong professional community in the classroom.

- Appearance/ Attire: Uniform/ Dress, ID Badges, Well-groomed (hair, nails, face, body odor)
- Appropriate use of tools and resources
- Ethics
- Manners & Etiquette
- Preparation & Execution
- Punctuality



IMPACT INDICATORS (HOW TO BEGIN MEASURING)



Call to Action



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Skills

What is Work-based learning?

- **Career Preparation Programs**
- **Practicums**
- **Internships**
- **Apprenticeships**



CAREER ICONS

Adapted for a district to
communicate about a course
offering.



Career Awareness

Learning ABOUT Work

Career Awareness courses build awareness of the variety of careers available to students and the role of postsecondary education. These classes serve to help broaden their options.



Career Exploration

Learning ABOUT Work

Career Exploration courses explore career options in order to motivate students and to inform their decision making in high school and postsecondary education.



Career Preparation

Learning THROUGH Work

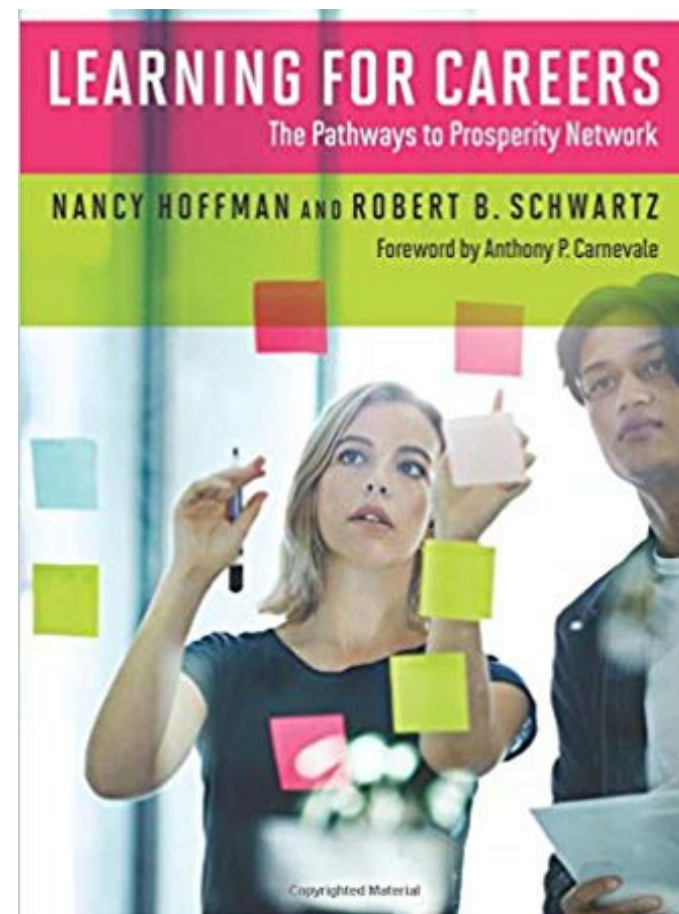
Career Preparation courses allow students to learn through practical experience that develops the knowledge and skills necessary for success in careers and postsecondary education.



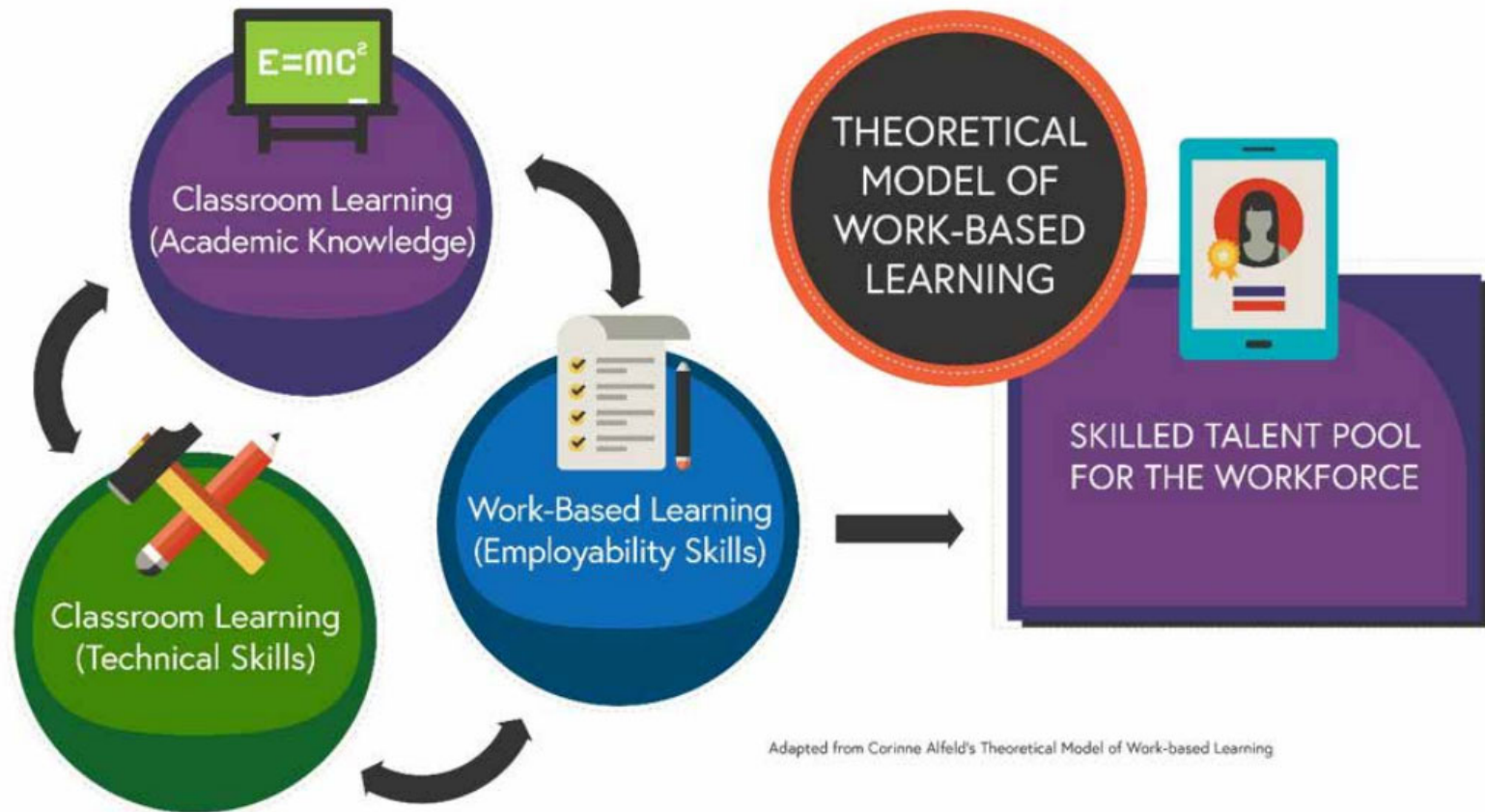
Career Training

Learning FOR Work

Career Training courses allow students to train for employment and/or postsecondary education in a specific range of occupations. These courses are generally practicum courses.



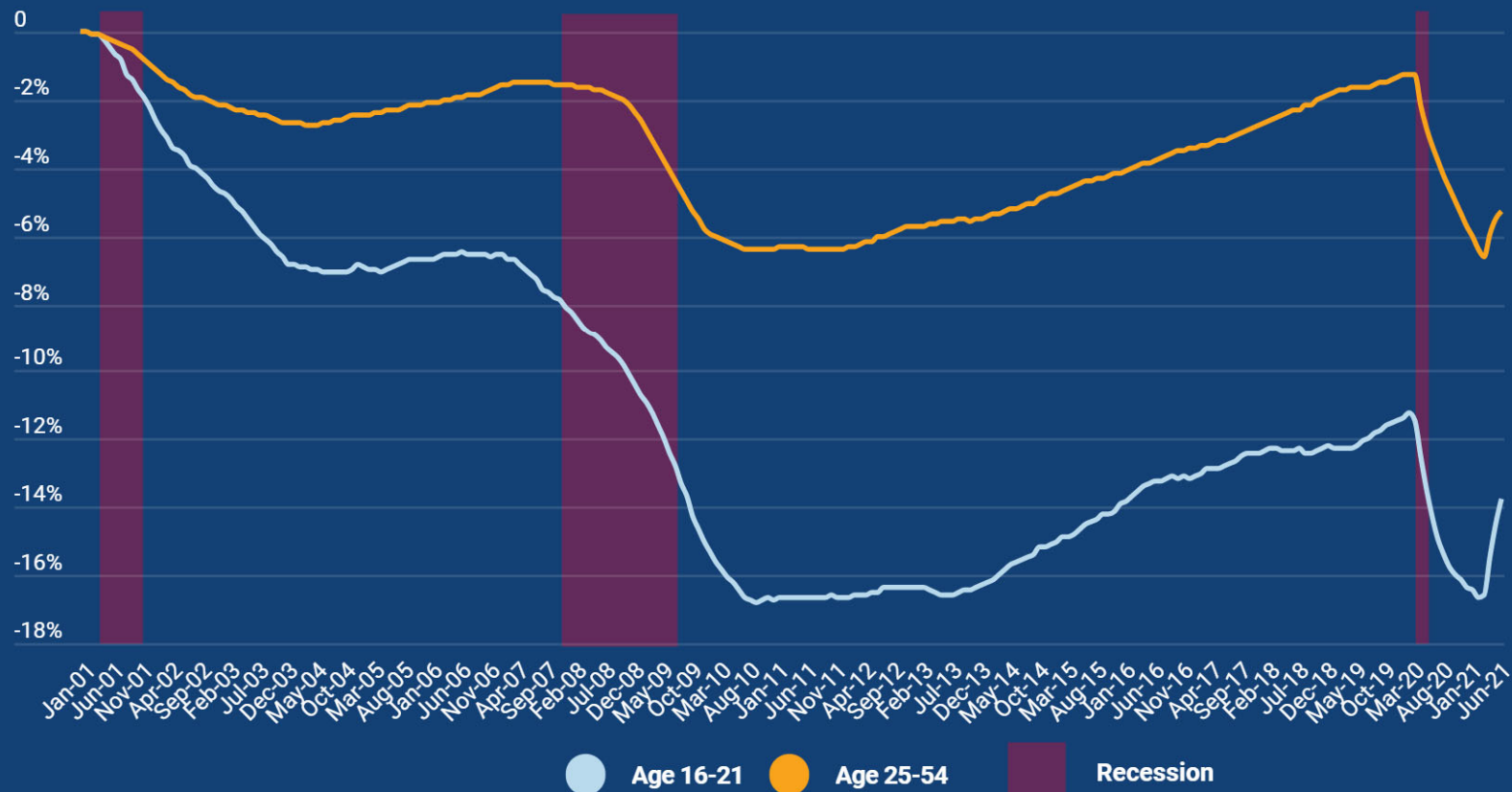
Theory behind work-based Learning



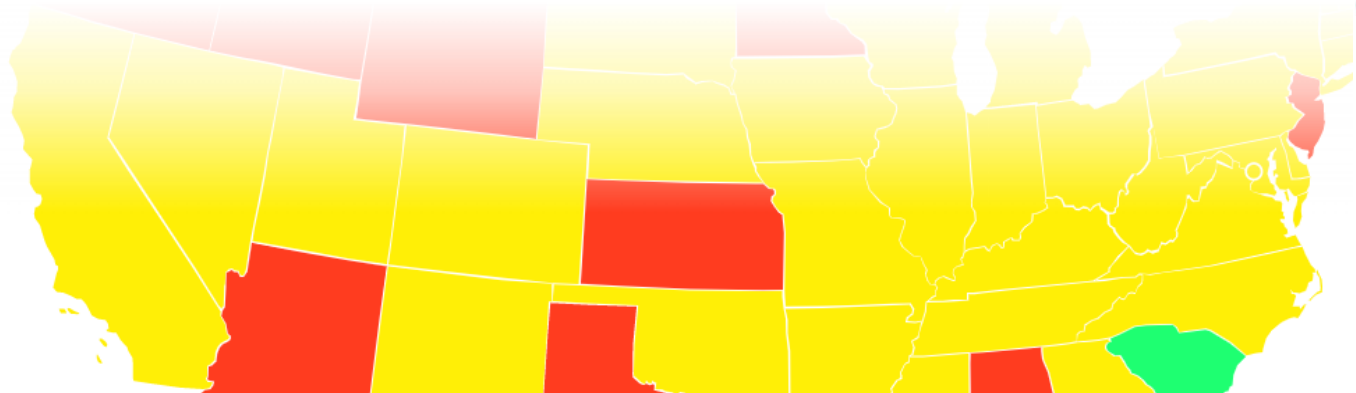
Youth Employment



Change since December 2000 in employment-to-population ratios for youth (ages 16–21) and prime-age workers (ages 25–54)



Texas has defined WBL but not Implemented it well.



TEXAS

CATEGORY	CRITERIA	RATING	CATEGORY	CRITERIA	RATING
Existence of WBL Policy	WBL Definition	Green	WBL Support Infrastructure	Statewide support infrastructure, intermediary and/or public-private partnerships	Red
Content of WBL Policies	WBL as part of HS graduation requirements	Yellow	WBL Quality	WBL communications infrastructure	Yellow
	WBL eligibility	Yellow		Experience quality	Red
	Equity of access	Red		Program Quality	Red
	Addressing policy barriers	Yellow	WBL Funding	Data collection	Red
WBL Funding	Financial Incentives	Red		Use of data to drive equity	Red
	Dedicated Federal funding	Red		Use of data to drive quality	Red
	Dedicated State funding	Yellow			

Architecture and Construction Career Cluster

The Architecture and Construction Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

Construction Management and Inspection Statewide Program of Study



The Construction Management and Inspection program of study explores the occupations and educational opportunities associated with cost estimates for construction projects or services to aid management in bidding on or determining the price of products or services. This program of study may also include exploration into inspecting structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations.

Secondary Courses for High School Credit

Level 1

- Principles of Construction

Level 2

- Building Maintenance Technology I
- Construction Management I

Level 3

- Building Maintenance Technology II
- Construction Management II

Level 4

- Practicum in Construction Management
- Career Preparation I

Postsecondary Opportunities

Associates Degrees

- Construction Engineering Technology/Technician
- Business Administration and Management, General
- Mechanical Engineering
- Business/ Commerce, General

Bachelor's Degrees

- Construction Engineering Technology/Technician
- Business Administration and Management, General
- Mechanical Engineering
- Business/ Commerce, General

Master's, Doctoral, and Professional Degrees

- Materials Engineering
- Business Administration and Management, General
- Mechanical Engineering
- Manufacturing Engineering

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Shadow a building inspector or cost estimator Participate in SkillsUSA 	<ul style="list-style-type: none"> Intern with a construction company Shadow a project manager or inspector

Industry-Based Certifications

- Certified Associate in Project Management (CAPM)
- HBI Pre-Apprenticeship Certificate Training (PACT), Building Construction Technology
- HBI Pre-Apprenticeship Certificate Training (PACT), Core
- LEED Green Associate
- NCCER Construction Site Safety Technician
- NCCER Construction Technology Certification Level I
- NCCER Core
- NCCER Weatherization Technician Level I
- Residential Plans Examiner - R3
- OSHA 30 Hour Construction*
- OSHA 30 Hour General*



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Occupations	Median Wage	Annual Openings	% Growth
Construction and Building Inspectors	\$53,914	983	17%
Cost Estimators	\$63,939	2,239	21%
Construction Managers	\$87,402	2,401	14%

Successful completion of the Construction Management and Inspection program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022



Construction Management and Inspection Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principles of Construction	13004220 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Building Maintenance Technology I	13005400 (2 credits)	None	None
Construction Management I	13004900 (2 credits)	None	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Building Maintenance Technology II	13005500 (2 credits)	Building Maintenance Technology	None
Construction Management II	13005000 (2 credits)	Construction Management I	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Practicum in Construction Management	13006200 (2 credits) 13006205 (3 credits) 13006210 (2 credits) 13006215 (3 credits)	Construction Management II	None
Career Preparation I	12701300 (2 credits) 12701305 (3 credits)	None	None

FOR ADDITIONAL INFORMATION ON THE ARCHITECTURE AND CONSTRUCTION CAREER CLUSTER,
PLEASE CONTACT: CTE@tea.texas.gov
<https://tea.texas.gov/cte>

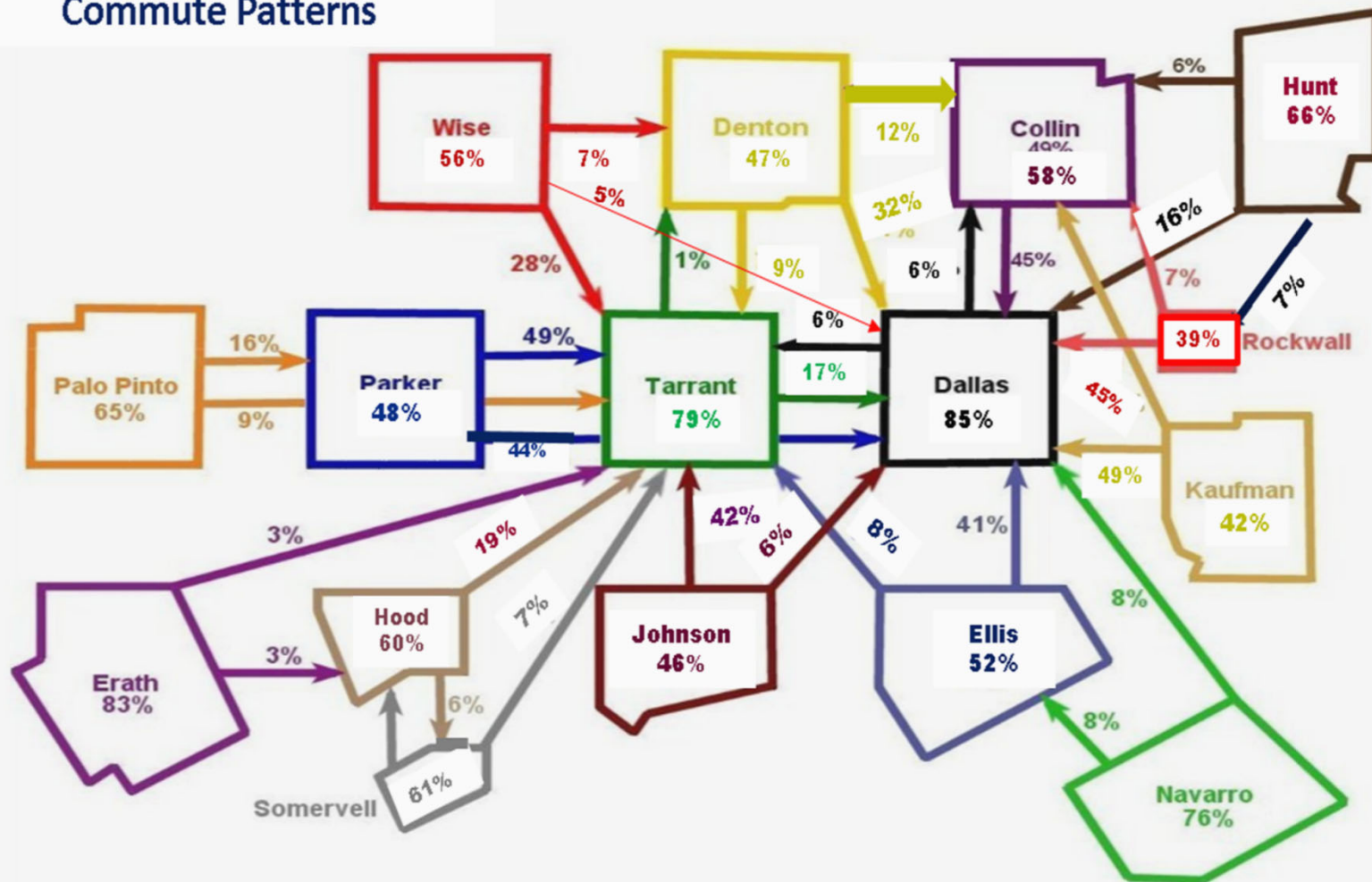
[LEA name] does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: [title, address, telephone number, email.]

Further nondiscrimination information can be found at [Notification of Nondiscrimination in Career and Technical Education Programs](#).

**Level of Course= Level of
Funding**

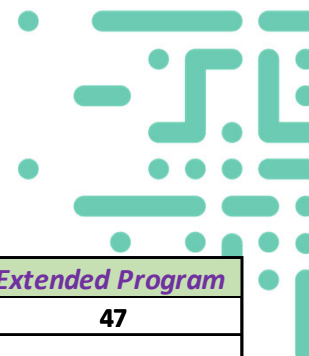
**Course Completers vs. Program
of Study Completers**

North Central Texas Region Commute Patterns



The top 15 programs of Study for WDA Regions in North Central Texas (2019)

<i>Program of Study</i>	<i>AnnualAverageEmployment2026</i>	<i>Annual Openings</i>	<i>Programs offered</i>	<i>Extended Program</i>
Business Management,Entrepreneurship	86194	7951	101	47
Nursing Science	85889	5998	43	
Accounting and Financial Services	53978	5091	67	
Information Technology Support andServices, Networking Systems	53632	4304	48	38
Renewable Energy	27777	2957	7	
Early Learning	29933	2571	42	
Web Development	29324	2413	31	
Marketing and Sales	20957	2252	48	
Teaching and Training	24713	2069	75	
Electrical	15859	1871	13	
Plumbing and Pipefitting	13997	1619	6	
Automotive, Diesel and HeavyEquipment	11853	1144	53	10
Law Enforcement	9084	670	62	
HVAC and Sheet Metal	5625	592	16	
Programming and SoftwareDevelopment	7946	590	54	
Architectural Design, ConstructionManagement and Inspection	7159	561	36	17
Legal Studies	4579	500	24	



2019 Regional Programs of Study Research



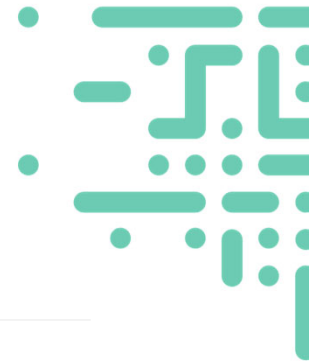
PROGRAM OF STUDY	# OF DISTRICTS OFFERING	ANNUAL OPENINGS
Animal Science	113	151
Business Management	101	7951
Graphic Design and Multimedia Arts	96	821
Culinary Arts	90	5753
Welding	79	1674
Engineering	75	2324
Teaching and Training	75	3405
Digital Communications	73	338
Applied Agricultural Engineering	68	107
Accounting and Financial Services	67	12,440
Healthcare Therapeutic	62	8122
Law Enforcement	62	2456
Plant Science	60	483
Family and Community Services	57	303
Programming & Software Development	54	1646
Automotive	53	4164
Healthcare diagnostics	49	2540
Information Technology	48	3863
Marketing and Sales	48	13436
Entrepreneurship	47	1378

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Program of Study	Annual Average employment 2026	Annual Openings	Number of Programs offered
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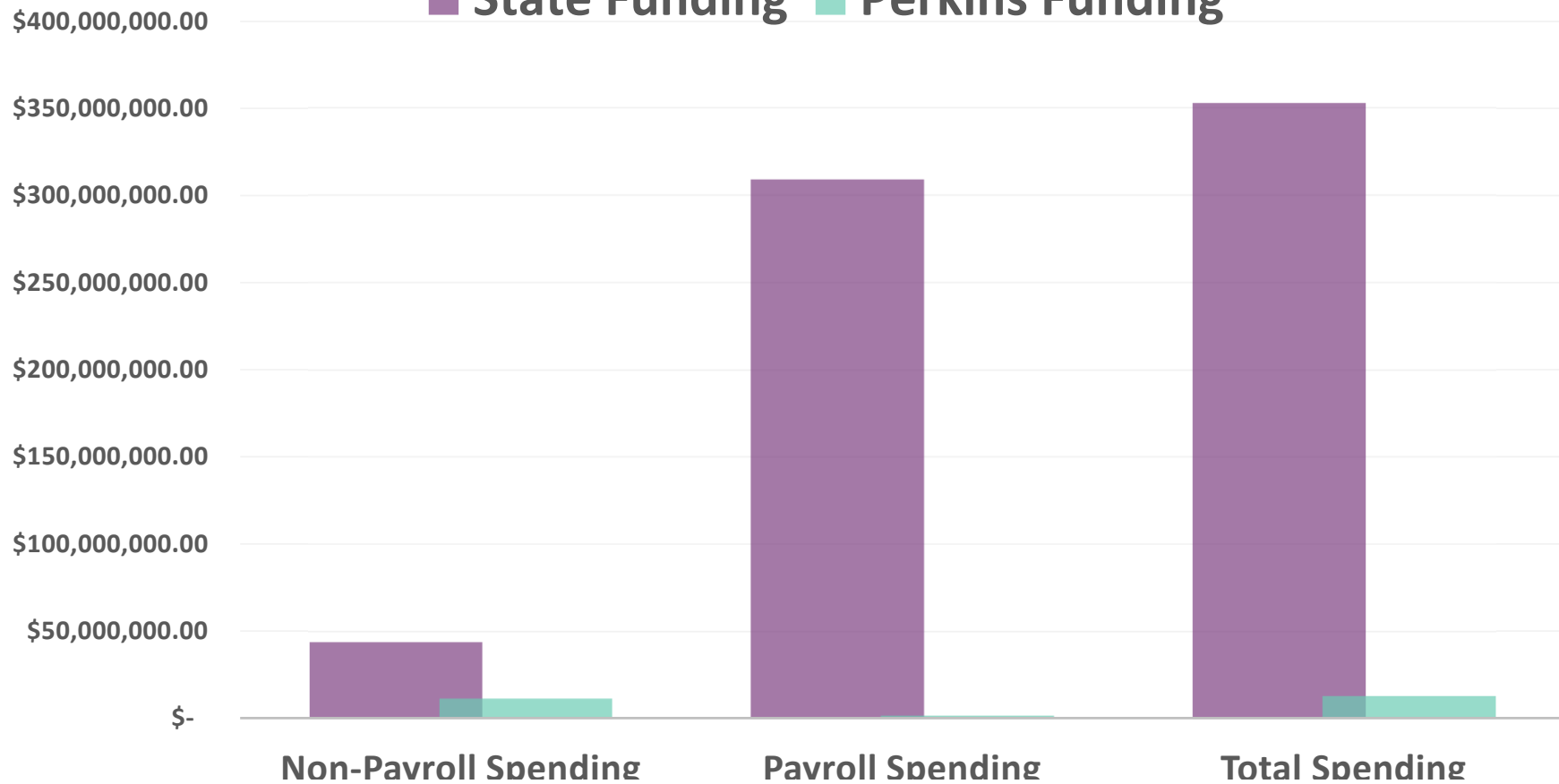
To what extent are Career and Technical Education programs offered in secondary schools in north central Texas aligned with current labor market needs?

Funding in 2019

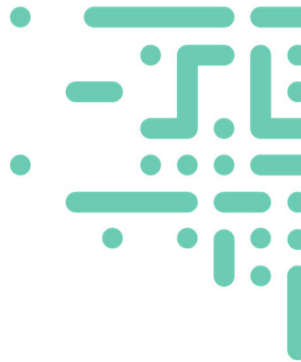


State vs. Perkins Spending

■ State Funding ■ Perkins Funding



Call to Action



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Pell Grants











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Texas Auto-Coding CTE Indicator

A New Method to Code CTE Students

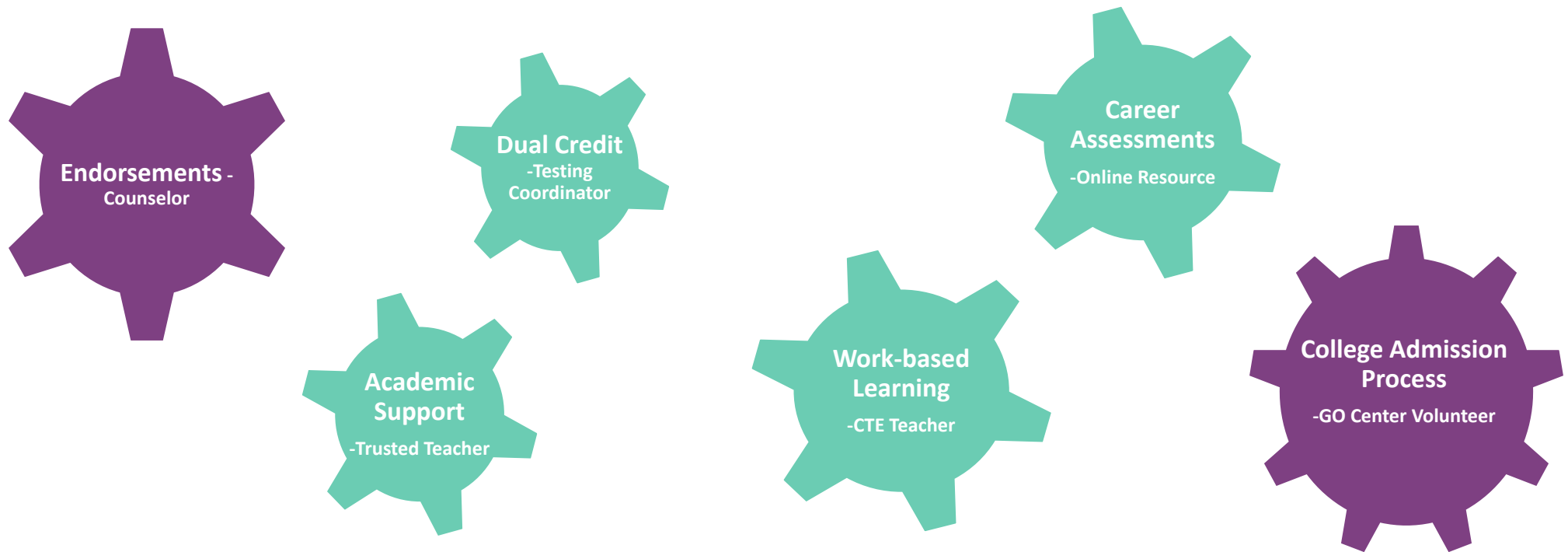
 Perkins IV	VS	 Perkins V
District Self Reported Through PEIMS - Element C142 CAREER-AND-TECHNICAL-ED-IND-CD	 Data Source	Auto-Calculated Using <u>Existing</u> Certified PEIMS Course Completion Data and Business Logic
<ul style="list-style-type: none"> • Greater District Workload • Two or More Districts Report the Same Student Differently • Not Equitable Across the State • Based on Student Intent 	  Problems Benefits	<ul style="list-style-type: none"> • District Workload Reduction • More Accurate Coding • Equitable Across Districts • Based on Course Completion
 Not CTE	Code 4: A student who never enrolled or who did not complete any high-school CTE course as defined by 19 TAC Chapter 126 (C), 127 (B) or 130.	
 CTE Participants	Code 5: A student completing one, but not two or more high-school CTE courses as defined by 19 TAC Chapter 126 (C), 127 (B) or 130, for two or more credits (the student does not have to pass or receive credit).	
 CTE Explorers	Code E: A student completing and passing two or more high-school CTE courses as defined by 19 TAC Chapter 126 (C), 127 (B) or 130, for at least 2 credits, not within the same program of study, and not a participant, concentrator or completer.	
 CTE Concentrators	Code 6: A student completing and passing two or more high-school CTE courses as defined by 19 TAC Chapter 126 (C), 127 (B) or 130, for at least 2 credits within the same program of study and not a Completer.	
 CTE Completers	Code 7: A student completing and passing three or more high-school CTE courses as defined by 19 TAC Chapter 126 (C), 127 (B) or 130, for 4 or more credits within a program of study, including one level 3 or level 4 course from within the same program of study.	

BLUF: Program completion matters

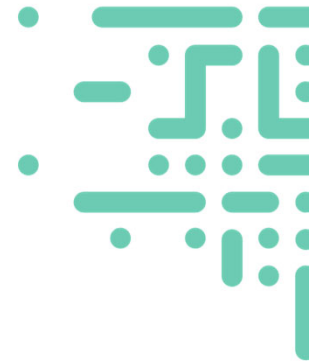
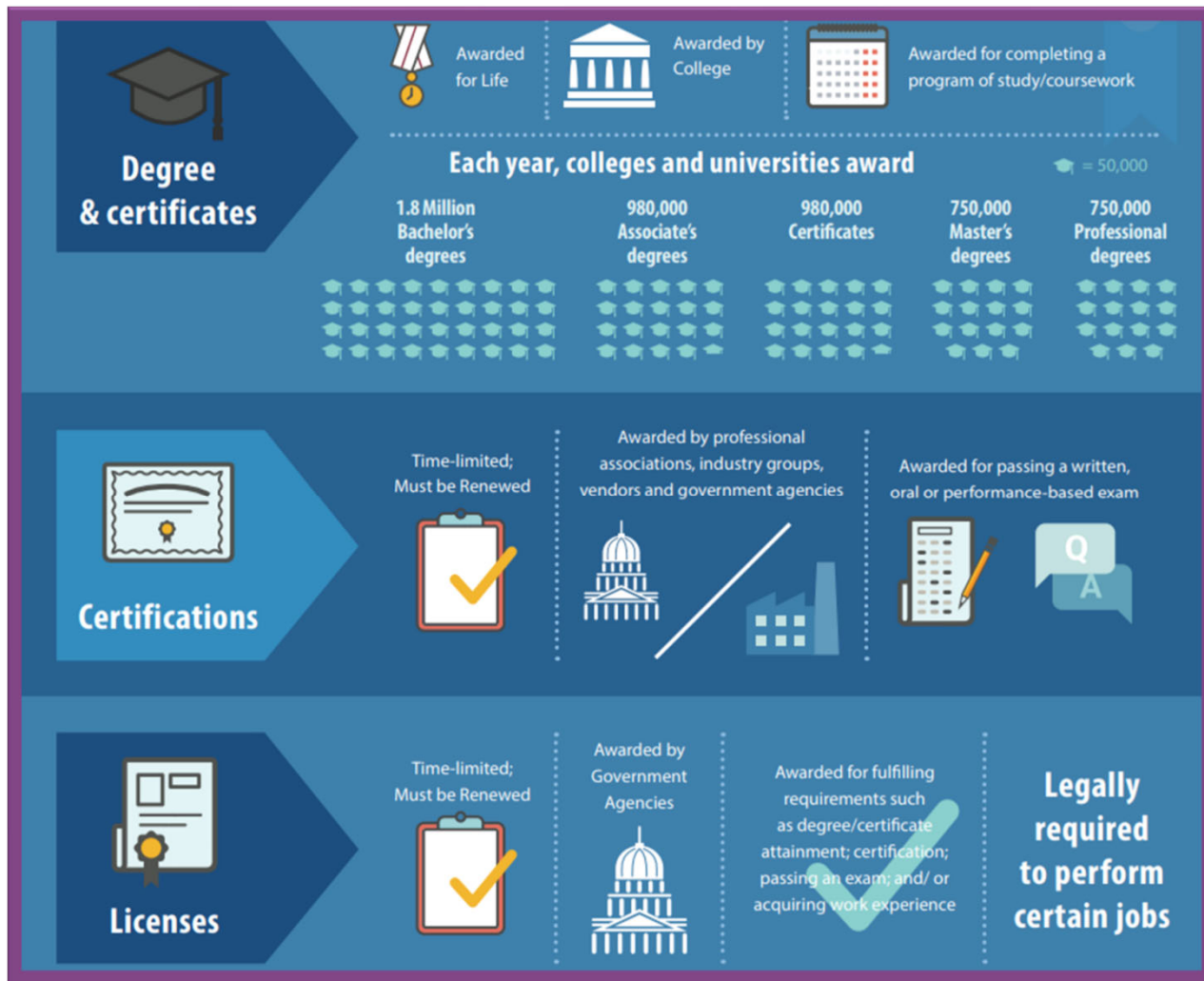
- Moving from district self-reported data through PEIMS to auto-calculate function using certified PEIMS course completion data
- 3 or more courses for 4 or more credits in an approved program of study
- Using Perkins V definitions of CTE Concentrator & Completer
- LEA and state baseline data
- Next Industry Based Credentials- aligned with the Program of Study

Random Acts of Advising

This is what can happen as a result of lack of support and integration—siloed advising activities.



Credentialing Path



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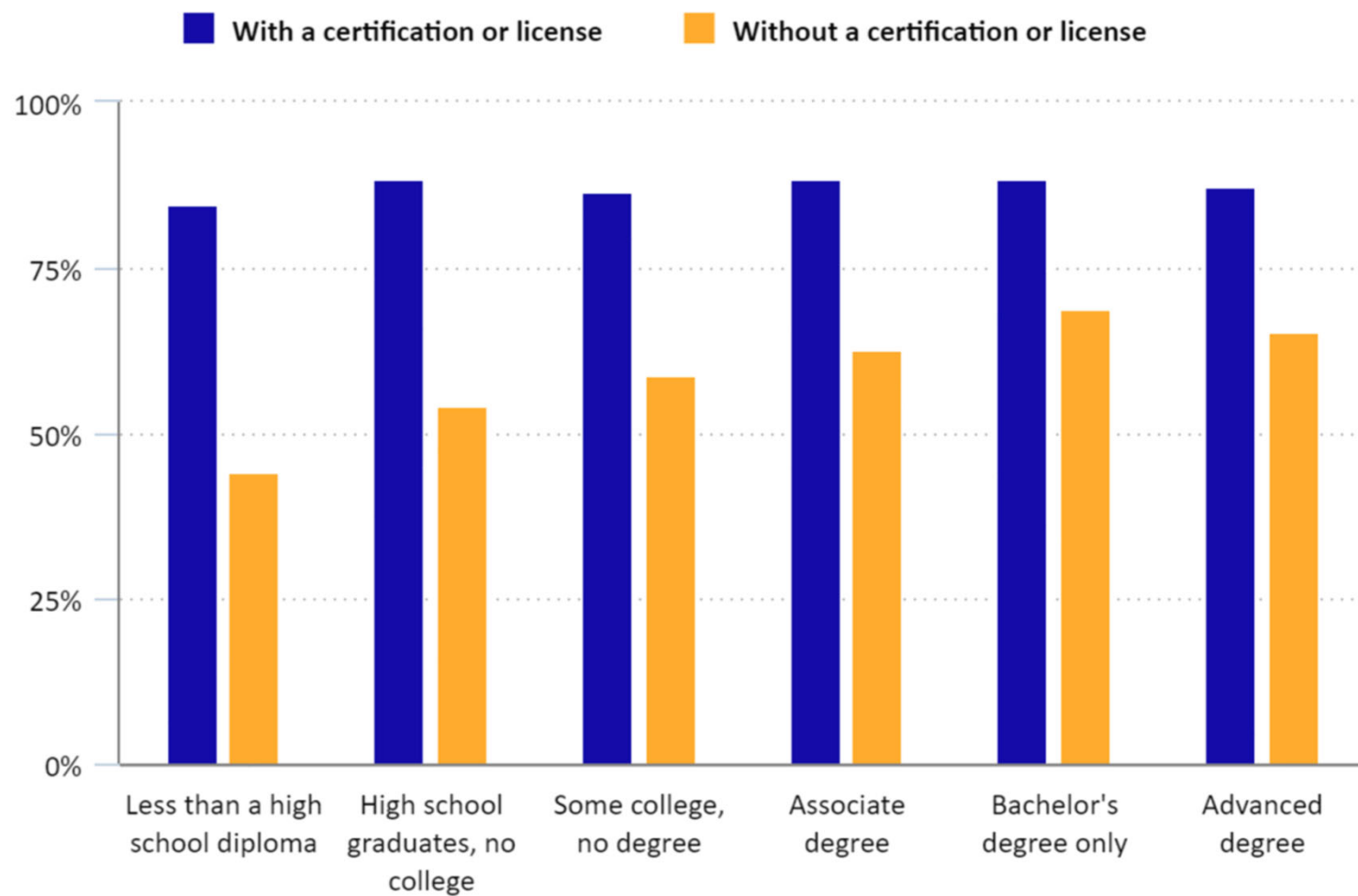
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Labor force participation rates of people 25 years and older, by professional certification and licensing status and educational attainment, 2018



Increase Accessibility



Pell Grants – form of need-based federal student aid available for COLLEGE students in the U.S. – Designed to help students with the most amount of financial need.

Family supporting livable wage begins with some type of credentialing

Pell Grants should be considered for high-quality certification/licensure programs that do not require college enrollment.

Technical- 2-Year, Military, or 4-year options

Industry Credentials, Certificates, & Licensures



Out of 142 million workers in the United States:



47 million workers have a Bachelor's degree

38 million workers have either a certification or a license

17 million workers report a certificate as their highest level of education

On average per year...

Certification holders earn: All **\$31,000** | Men **\$39,000** | Women **\$24,000**

Associate's degree holders earn **\$46,000**

Certifications/licenses and no other postsecondary credential earn **\$39,000**

Bachelor's degree holders earn **\$60,000**

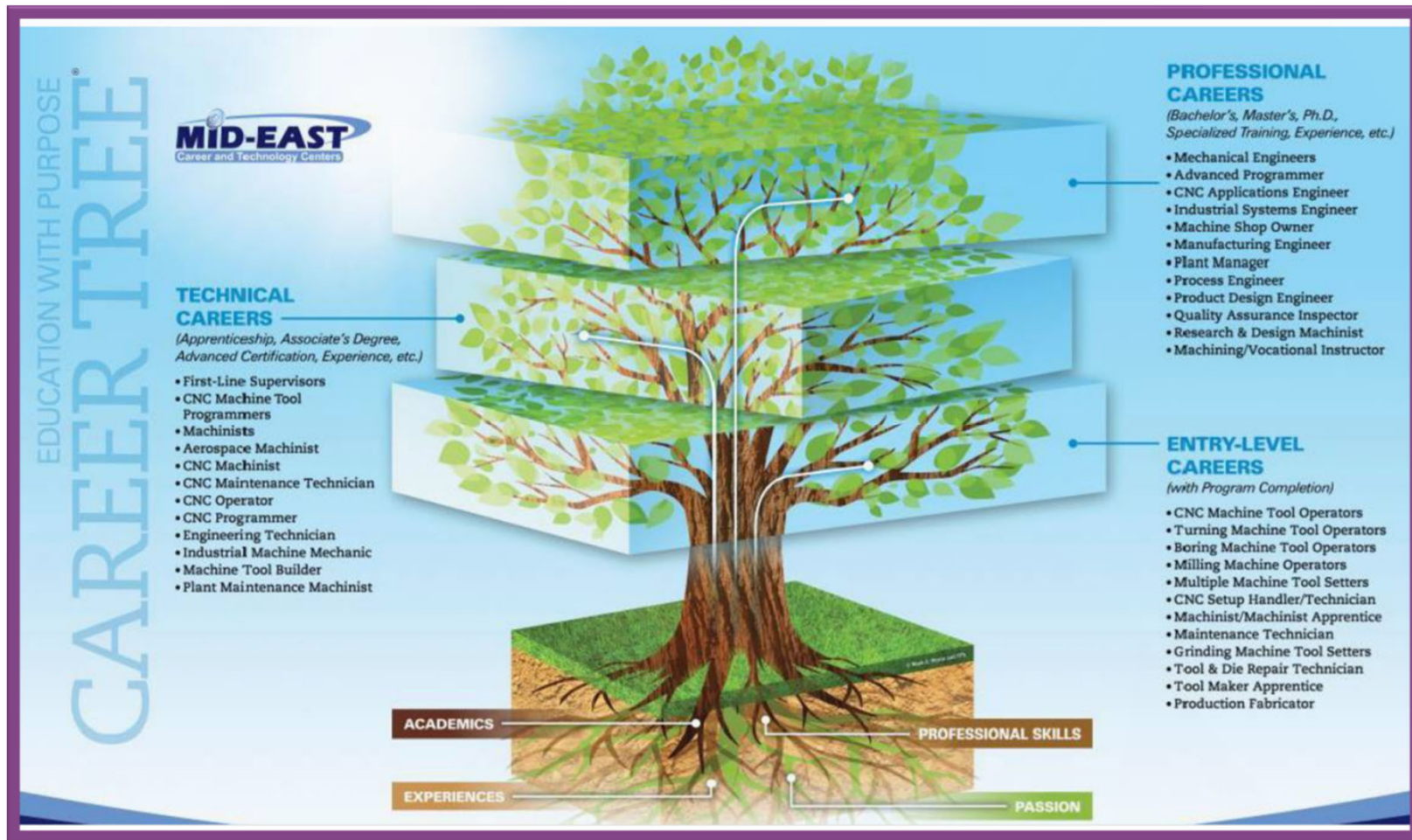


48% of job openings for certification-holders are in the healthcare industry

Source: Georgetown University Center on Education and the Workforce analysis of data from the U.S. Department of Education, Integrated Postsecondary Education Data System, 2013 and the U.S. Census Bureau, Survey of Income and Program Participation, 2008. Annual earnings are reported in 2014 dollars.

To view the documents these graphics are based on and to explore further, visit cew.georgetown.edu.

Technical Opportunities + More



How do we ensure family supporting livable wage?



Career
Destination

Education

Training

Skills

Experiences



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Perception is Reality

What is your child's perception of the world of work, based on your conversations at home?



Frequently Asked Questions

What is a CTE Ambassador?

A CTE Ambassador is a student who is “the face” of Career and Technical Education (CTE) in NISD. They champion their CTE program or academy and strive to gain a competitive advantage through this leadership opportunity.

How were CTE Ambassadors nominated?

CTE teachers at each of the four high school campuses nominated up to three students in their program.

What do students “get” out of being a CTE Ambassador?

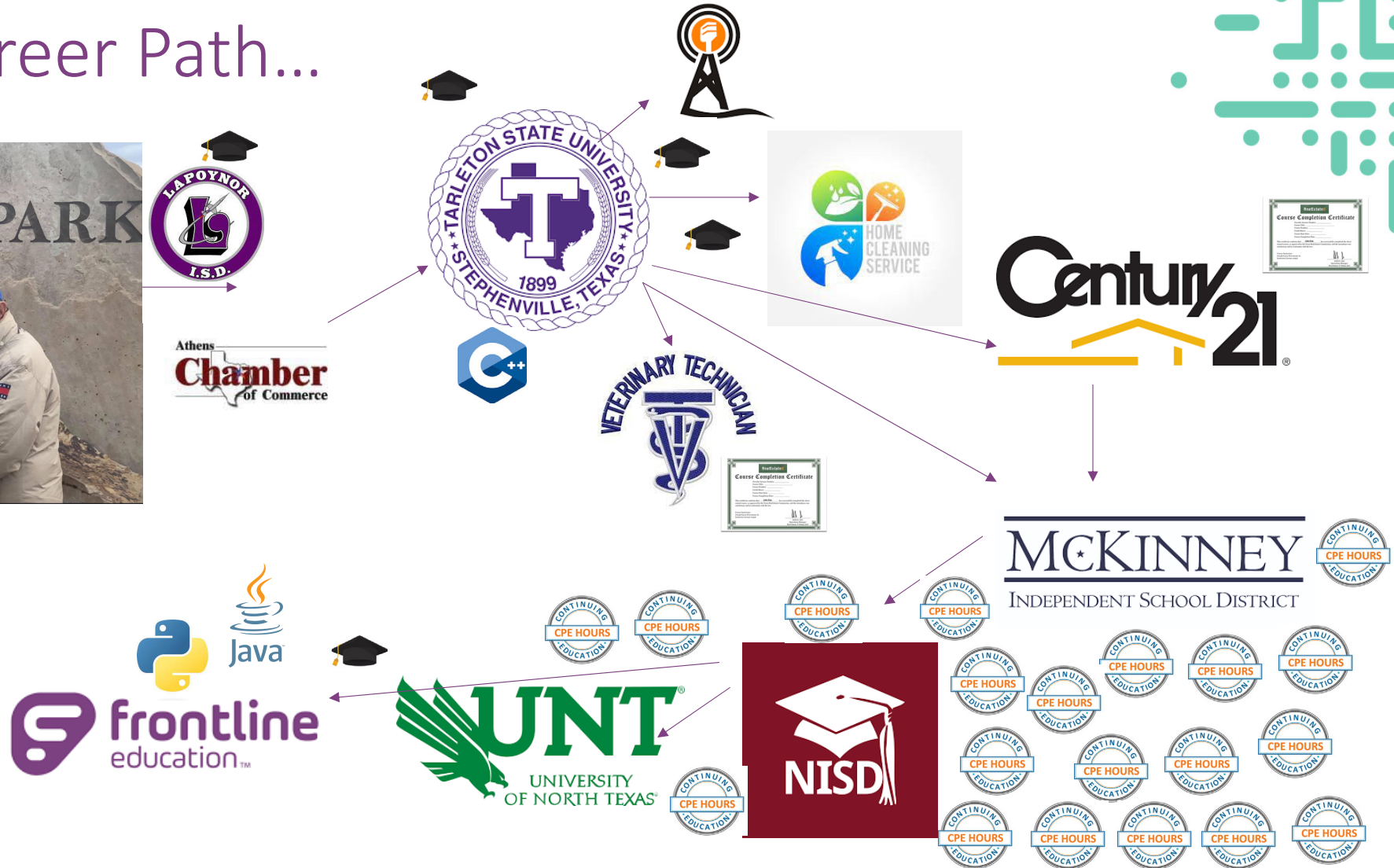
CTE Ambassadors develop professional skills such as networking, public speaking and leadership, accrue volunteer hours, and network and build friendships across NISD campuses.

What role do CTE Ambassadors play on your campus?

CTE Ambassadors can be beneficial to your campus in a variety of ways: by sharing their story with your teachers/students/parents, giving campus tours, hosting evening events such as CTE Showcase, serving on advisory teams, helping students develop their own competitive advantage.



My Career Path...



What Can you do?



- Mind your words and how you talk about the world of work around the young people in your lives.
- Encourage experiences
- Help young people establish their network while teaching the value of the network.
- Share your career path story



Call To Action:

Partnerships		
Know your local labor market and employers	Know your local CTE Directors- Serve when asked	Teacher Externships and
Ask employers to serve on advisory boards	Keep communication on-going	Student Internships



Call To Action:

Advocacy

Be certain that A-F
accountability will
not require
Program
completers tied to
an approved IBC

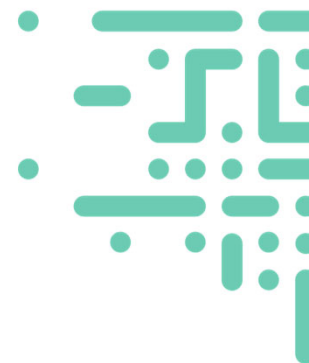
Complete labor
market surveys—
Let your districts
know about
credentials



Joint programs
with post-
secondary
institutions

PTECH, ECHS, &

T-STEM



Call To Action:

Live Locally! Compete Globally		
Embed professional skills evaluations in your curriculum 3 rd Grade	Provide mentors, design networks, or partner to develop the next generation of employee 3 rd Grade	Find a way to say Yes to each other!

“If you do not like change, you are going to hate being irrelevant.”



Call to Action



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