



CTE Education Series: Learn About LMI

College, Career, and Military Preparation
Division
Texas Education Agency
August 2019

Access Labor Market Information
Analyze Labor Market Information
Sequence Courses
Present Labor Market Information

Program of Study Implementation

Collaborate Through Industry Advisory Committees



- Introduction to Programs of Study
- Aligning Education and Workforce

- Labor Market Information
- Recommendations

- Collection of feedback
- Recommendations
- Refinement

- Recommendations for Course Sequencing based on knowledge and skills

- Approve Course Sequencing

Listening Tour Reach

17 regions visited

19 regions participated

59 school visits

1,218 educators, counselors, and administrators

59 Education Service Center staff

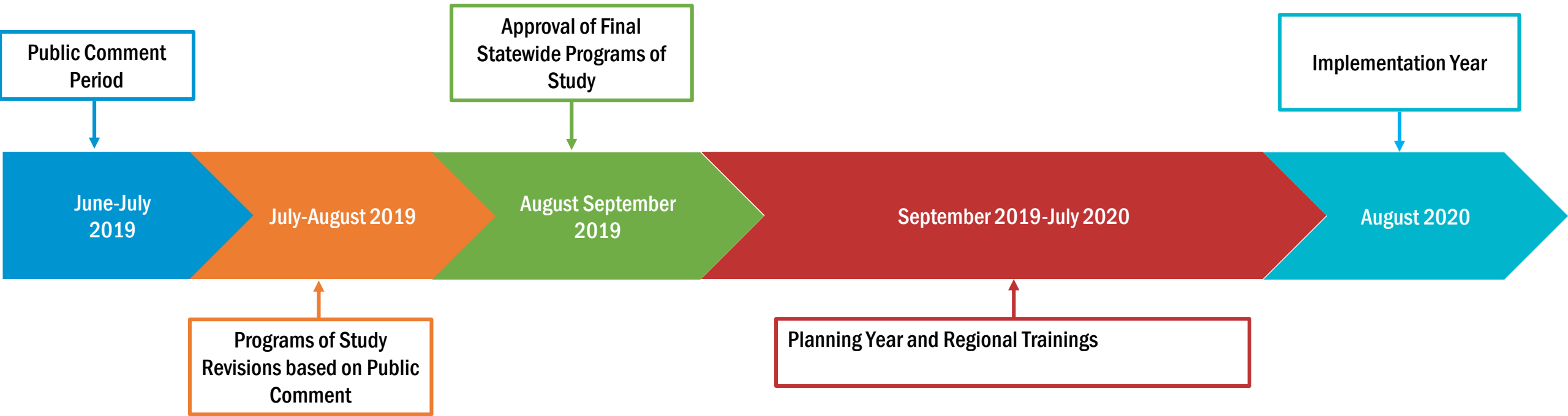
Total Engagement 1,277



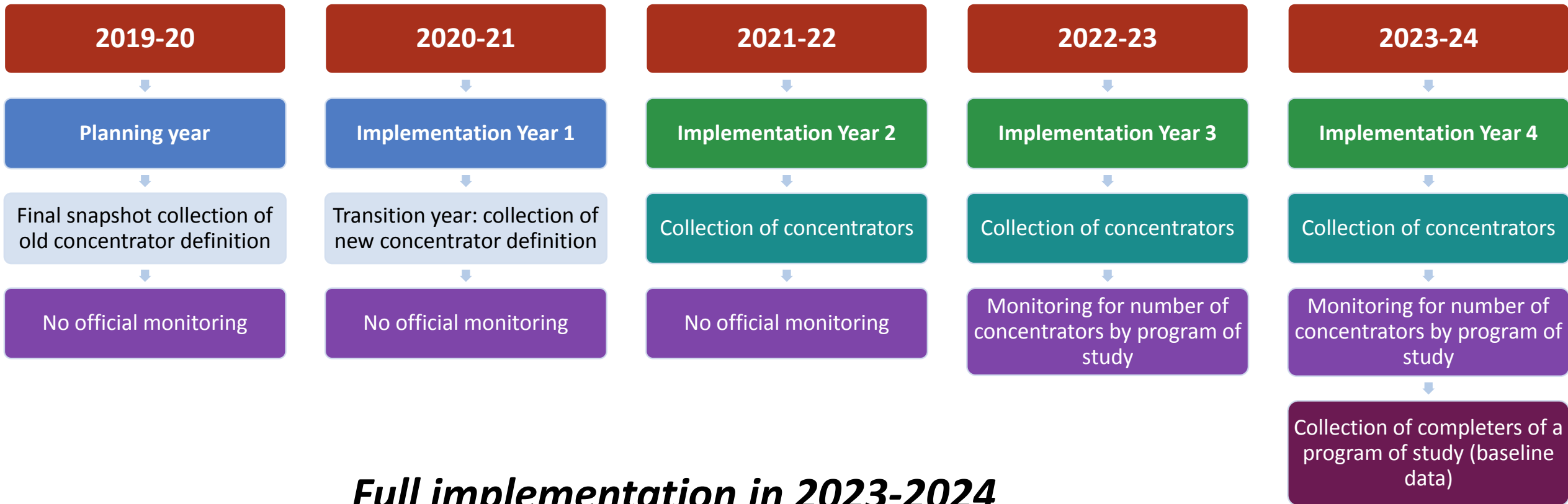
Course and Program Selections Current Practice



Programs of Study Timeline



Implementation Timeline



Program of Study Implementation Considerations

- Perkins funds can be used to **support** statewide or approved regional programs of study
 - State CTE Funds may be used to support all CTE courses.
- The **course sequences** within each program of study will be used for federal reporting of CTE concentrators
- The new federal definition for a CTE concentrator, as outlined in Perkins V, is the **completion of two courses** (for two or more credits) within a program of study
- Proposed definition for a CTE completer to be the **completion of three or more courses for four or more credits** including one level three or level four course

Debrief Questions

- **What is something you noticed about the statewide programs of study?**
- **What does the statewide programs of study initiative remind you of?**
- **What would it mean if every school district implemented multiple statewide programs of study?**
- **What will your next steps be?**

Program of Study Resources

Programs of Study Framework Document

- For use by School Administrators and counselors
- Each program of study has a framework document



POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ DIPLOMA	ASSOCIATE DEGREE	BACHELOR'S DEGREE	BACHELOR'S/ DOCTORAL PROFESSIONAL DEGREE	OCCUPATIONS	MEDIAN WAGE	ANNUAL OPERATING COSTS	% GROWTH
Culinary Fundamentals Cook	Culinary Cook	Food and Restaurant Management			FOOD SERVICE MANAGER	\$14,879	1,561	3%
Culinary Fundamentals Pastry Cook	Pastry Cook	Food and Restaurant Management			DEP. BAKERY/DEP. COOK	\$12,285	1,368	3%
Service Manager	Comprehensive Food Safety	Hospitality Administration/Management, Culinary Arts Administration/Management			FOOD SERVICE TECHNICIAN	\$14,387	238	1%
Management Professional	Culinary Food and Beverage Specialist	Culinary Arts/ Low Cooking	Culinary Services and Food Service Management	GENERAL ADMINISTRATOR/ MANAGER, CHEF	FOOD AND BEVERAGE MANAGER	\$14,879	1,561	3%

Additional industry-level certification information is available from the IACTE website.

For more information on postsecondary options for this program of study, visit IXCTE.org.

WORK-BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities: Family, Career, Community Leaders of America (FCCCLA), SkillsUSA, American Culinary Federation, Texas Culinary Institute, Culinary Institute of America, etc.

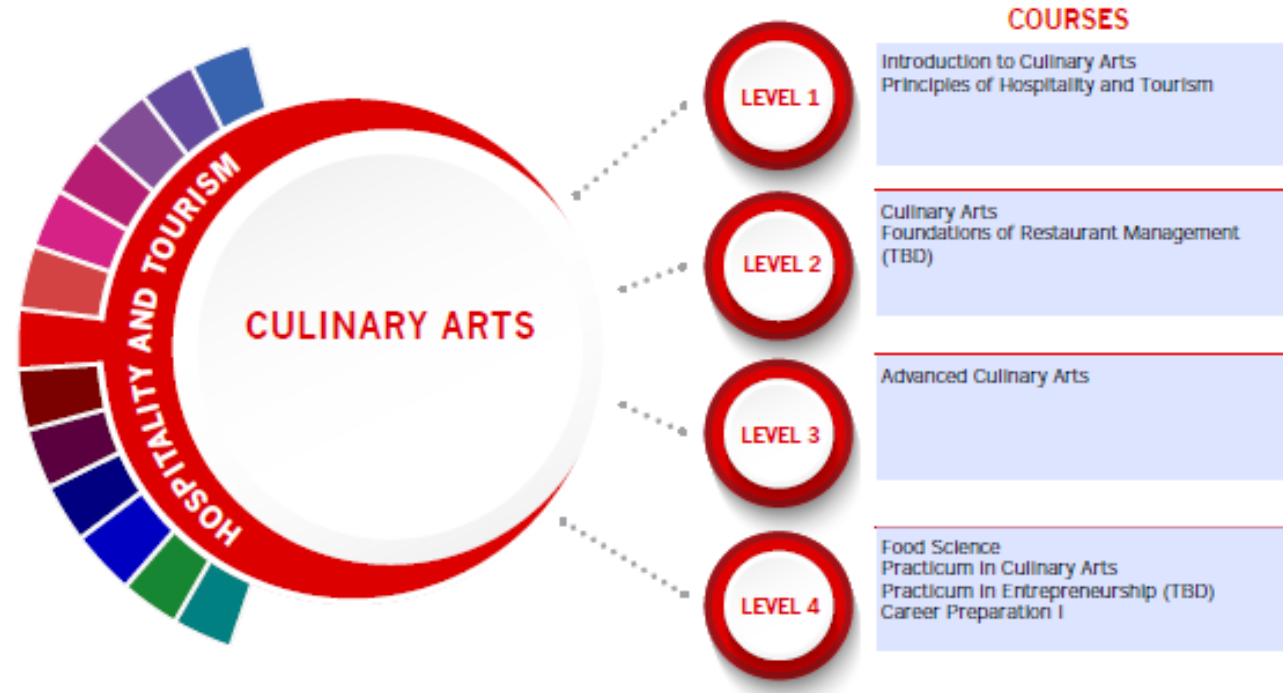
Work-Based Learning Activities: Participate in a career opportunity, participate in a shadowing experience, work as a volunteer, work on a team.

The Culinary Arts program of study introduces students to occupational and educational opportunities related to the planning, directing, or coordinating activities of a food and beverage organization or department. This program of study also equips opportunities involved in directing and participating in the preparation and cooking of food.

The Hospitality and Tourism Career Cluster focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, air/traffic, recreation, events, and travel-related services. Students acquire knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the Hospitality and Tourism Industry and acquire characteristics needed for success.

Successful completion of the Culinary Arts program of study will fulfill requirements of the industry and industry-approved statewide program of study - September 2018

- **Career Cluster**
- **Program of Study Name**
- **Course Sequences by Level**
 - Flexibility of courses by level
 - Completer definition: three or more courses for four or more credits with one advanced course



Program of Study Framework Document

- Postsecondary Options
- Labor Market Data
- Work-based Learning Opportunities

POSTSECONDARY OPTIONS

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE	OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Certified Fundamentals Cook	Certified Chef	Hotel and Restaurant Management			Food Service Managers	\$55,619	1,561	28%
Certified Fundamentals Pastry Cook	Foodservice Management Professional	Restaurant Culinary and Catering Management	Food Service Systems Administration/Management		Chef and Head Cooks	\$43,285	1,366	25%
ServSafe Manager	Comprehensive Food Safety	Hospitality Administration/Management, General			Food Science Technicians	\$34,382	236	11%
ManageFirst Professional	Certified Food and Beverage Executive	Culinary Arts/ Chef Training	Culinary Science and Food Service Management	Business Administration Management, General	Food and Beverage Managers	\$55,619	1,561	28%
Additional industry based certification information is available from the TEA CTE website.					WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES			
For more information on postsecondary options for this program of study, visit TXCTE.org.					Exploration Activities: Family, Career, Community Leaders of America (FCCLA), SkillsUSA, American Culinary Federation, Texas Restaurant Association	Work Based Learning Activities: Plan a catering event or work for a catering company; participate in a cooking course; work in a restaurant; cook at home		

Program of Study Framework Document

The Culinary Arts program of study introduces students to occupations and educational opportunities related to the planning, directing, or coordinating activities of a food and beverage organization or department. This program of study also explores opportunities involved in directing and participating in the preparation and cooking of food.



The Hospitality and Tourism Career Cluster® focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services. Students acquire knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the hospitality and tourism industry and examine characteristics needed for success.

Successful completion of the Culinary Arts program of study will fulfill requirements of the Business and Industry Endorsement.
Approved Statewide Program of Study - September 2019

- **Course Name**
- **Service ID**
- **Credits**
- **Required Prerequisites**
- **Grade Levels**

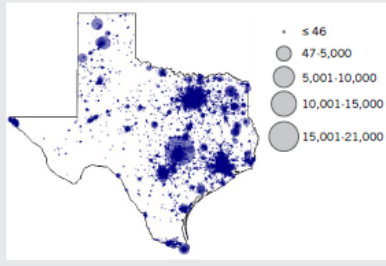
COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Introduction to Culinary Arts	13022550 (1 credit)	None	9-12
Principles of Hospitality and Tourism	13022200 (1 credit)	None	9-12
Culinary Arts	13022600 (2 credits)	None	10-12
Foundations of Restaurant Management	TBD	TBD	TBD
Advanced Culinary Arts	13022650 (2 credits)	PREQ: Culinary Arts	10-12
Food Science	13023000 (1 credit)	PREQ: 3 units of science, including Chemistry and Biology	11-12
Practicum in Culinary Arts	13022700 (2 credits) 13022705 (3 credits)	PREQ: Culinary Arts	11-12
Practicum in Entrepreneurship	TBD	TBD	TBD

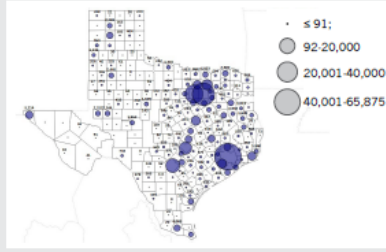
Program of Study Justification Example

MANUFACTURING

MANUFACTURING # OF EMPLOYEES



MANUFACTURING # OF NEW HIRES



CURRENT SECONDARY LANDSCAPE:



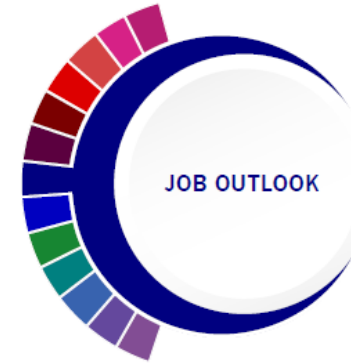
there were over **34,400 STUDENTS** enrolled in **MANUFACTURING COURSES** in **215** of the **254** counties during the **2017-2018** school year.⁴ The Manufacturing career cluster includes courses in design, machining, welding, and diversified production.⁵

The Achieve Texas Initiative began in 2005-2006 in alignment with the reauthorization of Perkins IV. Achieve Texas adopted **16 career clusters** and organized Career and Technical Education courses by these career clusters. Texas' occupations were grouped to create **122 programs of study**. Each program of study identified courses to develop occupational knowledge, skills, and competencies aligned to these occupations. Programs of study templates were released and served as a guide for districts to locally develop their coherent sequences of courses.

Perkins IV allowed states to define CTE concentrators. Texas determined this definition would be based upon the students' four-year plan to take two or more courses for three or more credits relating to a CTE program of study. A CTE concentrator status determines inclusion of student data in the federal accountability system.

⁴ Texas Education Agency (2019). Raw internal data. Unpublished.
⁵ Texas Education Agency (2015). Texas Essential Knowledge and Skills for Manufacturing. Retrieved from <http://collab.tea.state.tx.us/roles/teacher/2015/1301m.pdf>

MANUFACTURING



The Texas Workforce Commission reviewed the top growth occupations across key industries in 2018. The trends evidenced by this study note that many industries in Texas are dominated by a generation that is readying to retire.¹ A demographic shift such as this will require an increase in the skilled labor force, with no sign of the increased need slowing.

EMPLOYERS WILL NEED EMPLOYEES WITH EITHER:

- a bachelor's degree
- and specific technical skill training
- OR
- some form of post-secondary education,
- specific technical skill training, or
- additional on-the-job training.

Manufacturing industry employment in Texas reached 883,000 in September 2018, an increase of 4.9% from September 2016. This industry often experiences staffing issues due to the rapidly changing technologies and the need for some postsecondary training of employees.²

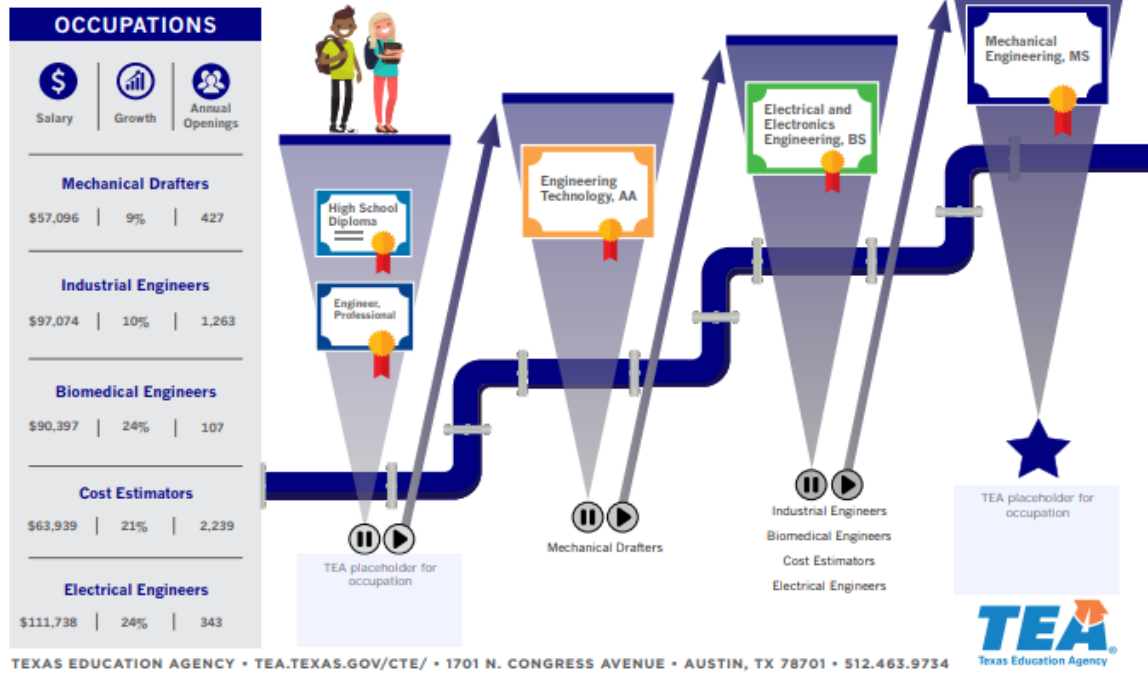
ADVANCED TECHNOLOGIES AND MANUFACTURING is one of the state's target industry clusters. The Advanced Manufacturing industry employs over 113,000³ Texans and has projected annual openings of 4,886³. The charts below illustrate the location of manufacturing firms in Texas, their employment numbers, and the number of new manufacturing hires by county.

¹ Texas Workforce Commission (2018, May). 2018 Annual Report. Retrieved from <https://twc.texas.gov/files/media/2018-annual-report-twc.pdf>
² Texas Workforce Commission (2017, November 07). Advanced Tech & Manufacturing. Retrieved from <https://business.texas.com/industry/advanced-tech-manufacturing/advanced-industry-workforce>

Program of Study Student Guide Example

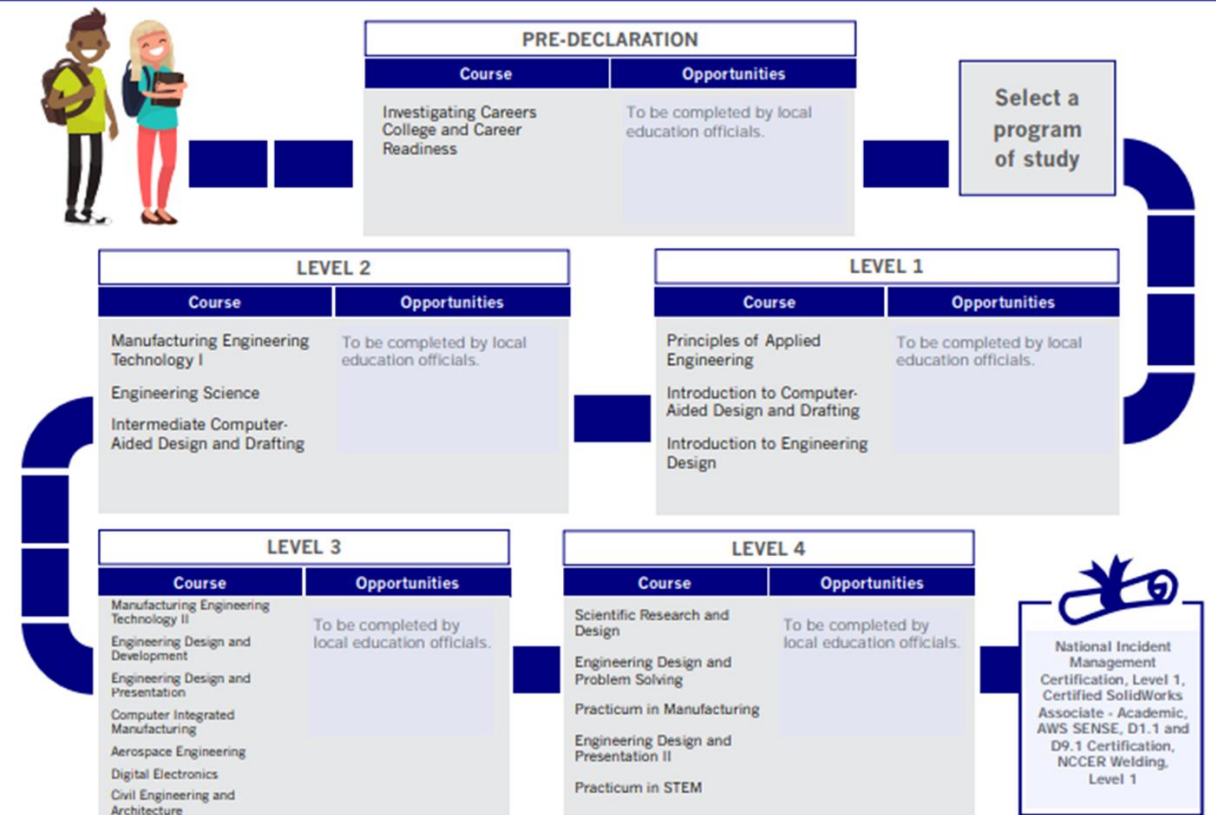
ENGINEERING

Programs of study are course sequences that prepare students with the knowledge and skills necessary for success in their chosen career. These sequences embed relevant, real world experiences and culminate in a postsecondary credential. The **ENGINEERING** program of study focuses on the design, development, and use of engines, machines, and structures. Students will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.



ENGINEERING

Successful completion of the Engineering program of study will fulfill requirements of the Business and Industry Endorsement.



Accessing the POS Resources

Popular Applications AskTED ECOS for Educators Grant Opportunities Secure Applications TEAL Login TSDS Help Desk

TEA Texas Education Agency Search

[A - Z Index](#) [Contact](#) [Employment](#) [Sign Up for Updates](#) [TEA Correspondence](#)

About TEA

Academics

Finance & Grants

Reports & Data

Student Testing & Accountability


Texas Educators

Texas Schools

House Bill 3 (HB 3)

Learn more about HB 3 and what it means for you.

LEARN MORE



House Bill 3 (HB 3)

A-F Accountability

Grad Toolkit

The Latest TEA News

The latest news from the Texas Education Agency is available through [news releases](#), [online correspondence](#), [mailing lists](#), and other posted information.

Student Testing & Accountability



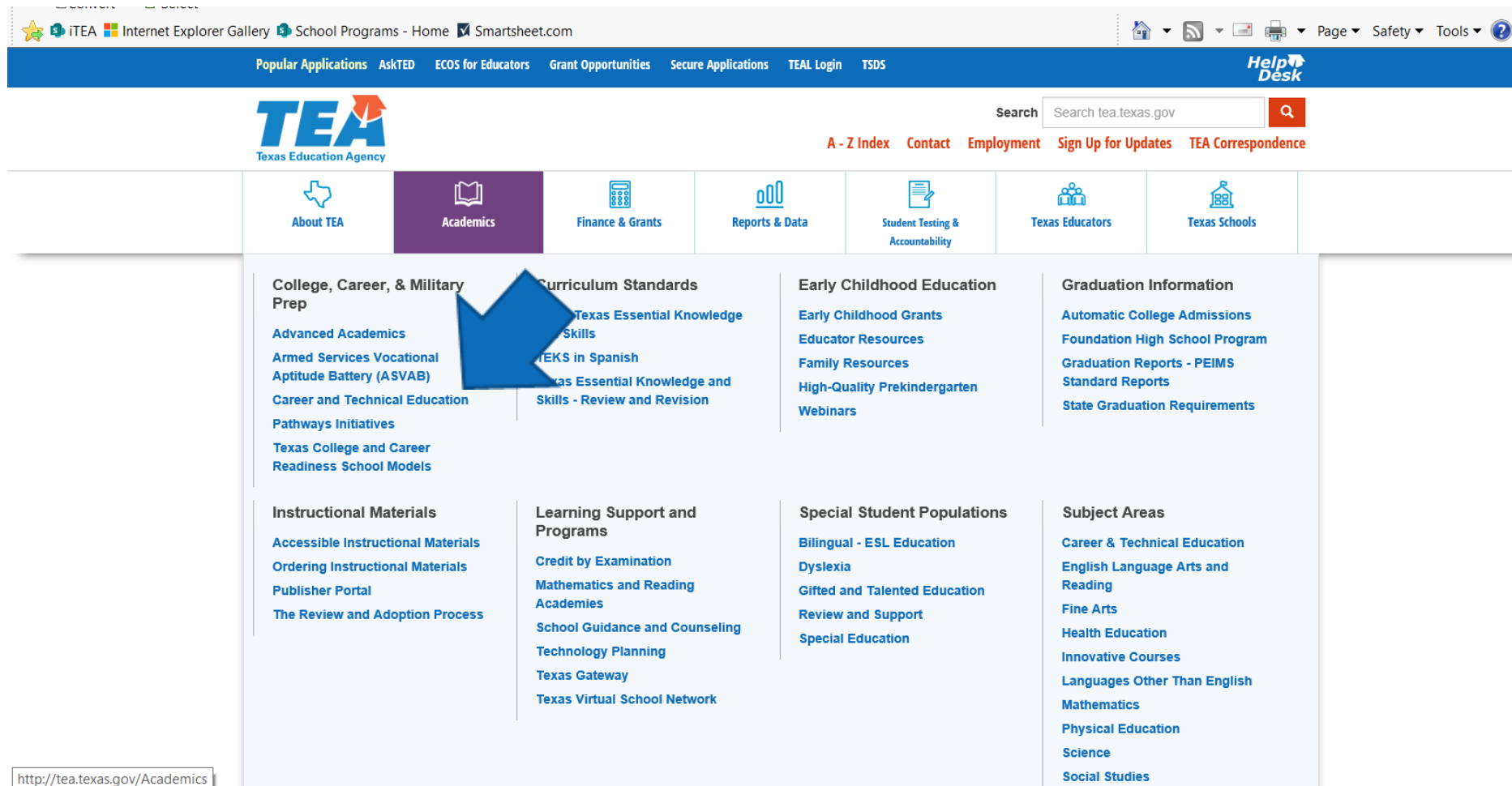
About



Texas Schools



Accessing the POS Resources



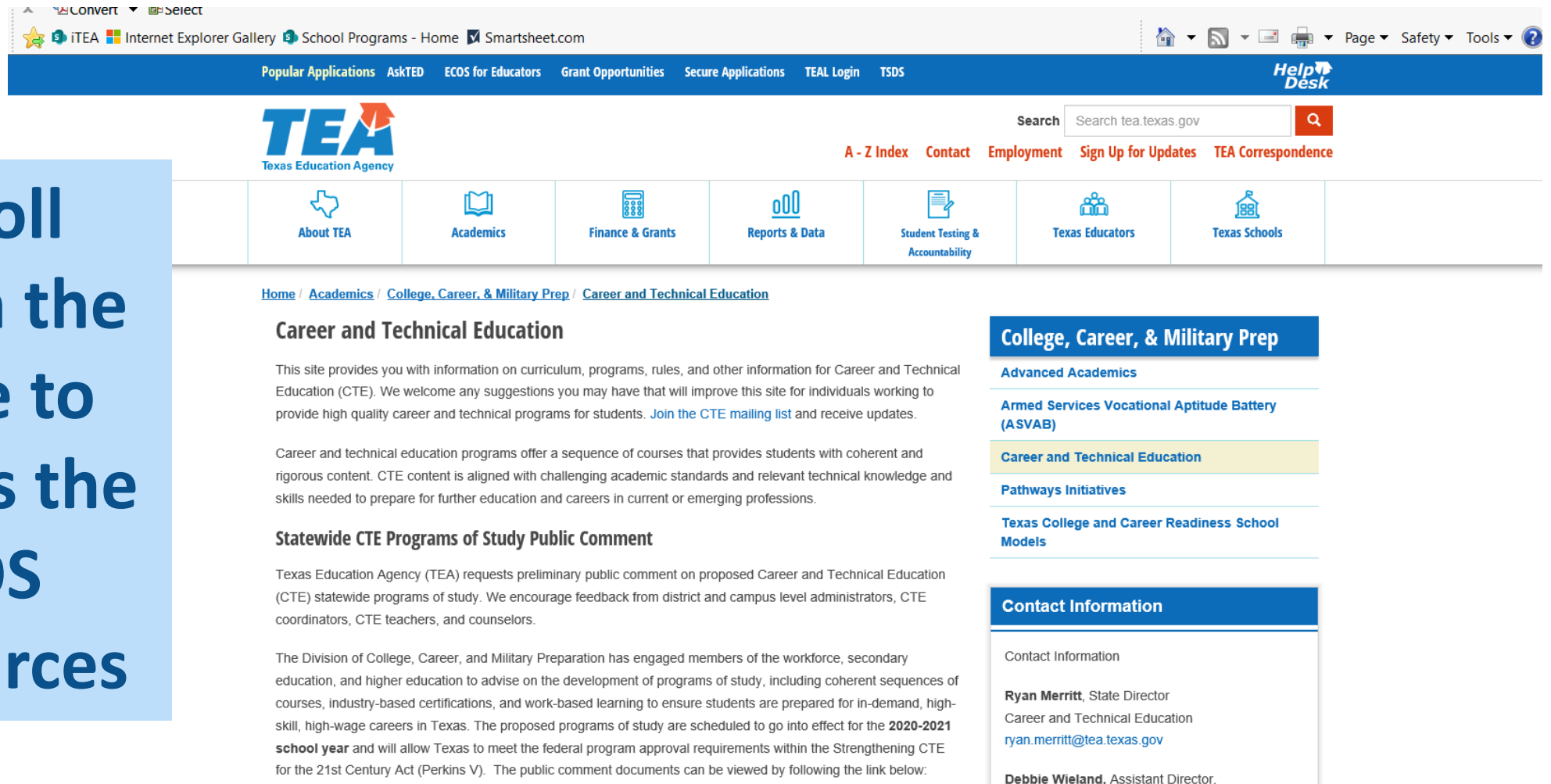
The screenshot shows the TEA website interface. At the top, there is a navigation bar with links for Popular Applications, AskTED, ECOS for Educators, Grant Opportunities, Secure Applications, TEAL Login, and TSDS. A search bar is located on the right side of the navigation bar. Below the navigation bar, the TEA logo is displayed on the left, and a search bar is on the right. A horizontal menu contains icons and labels for About TEA, Academics (highlighted with a blue arrow), Finance & Grants, Reports & Data, Student Testing & Accountability, Texas Educators, and Texas Schools. Below this menu, the Academics section is expanded, showing a grid of resource categories:

- College, Career, & Military Prep**
 - Advanced Academics
 - Armed Services Vocational Aptitude Battery (ASVAB)
 - Career and Technical Education Pathways Initiatives
 - Texas College and Career Readiness School Models
- Curriculum Standards**
 - Texas Essential Knowledge Skills
 - TEKS in Spanish
 - Texas Essential Knowledge and Skills - Review and Revision
- Early Childhood Education**
 - Early Childhood Grants
 - Educator Resources
 - Family Resources
 - High-Quality Prekindergarten Webinars
- Graduation Information**
 - Automatic College Admissions
 - Foundation High School Program
 - Graduation Reports - PEIMS Standard Reports
 - State Graduation Requirements
- Instructional Materials**
 - Accessible Instructional Materials
 - Ordering Instructional Materials
 - Publisher Portal
 - The Review and Adoption Process
- Learning Support and Programs**
 - Credit by Examination
 - Mathematics and Reading Academies
 - School Guidance and Counseling
 - Technology Planning
 - Texas Gateway
 - Texas Virtual School Network
- Special Student Populations**
 - Bilingual - ESL Education
 - Dyslexia
 - Gifted and Talented Education
 - Review and Support
 - Special Education
- Subject Areas**
 - Career & Technical Education
 - English Language Arts and Reading
 - Fine Arts
 - Health Education
 - Innovative Courses
 - Languages Other Than English
 - Mathematics
 - Physical Education
 - Science
 - Social Studies

At the bottom left of the screenshot, a browser address bar shows the URL: <http://tea.texas.gov/Academics>

Accessing the POS Resources

Scroll down the page to access the POS resources



The screenshot shows the TEA website interface. At the top, there is a navigation bar with links for Popular Applications, ASKTED, ECOS for Educators, Grant Opportunities, Secure Applications, TEAL Login, and TSDS. A search bar is located on the right side of the navigation bar. Below the navigation bar is the TEA logo and a search bar. A horizontal menu contains icons and labels for About TEA, Academics, Finance & Grants, Reports & Data, Student Testing & Accountability, Texas Educators, and Texas Schools. The main content area is titled "Career and Technical Education" and includes a breadcrumb trail: Home / Academics / College, Career, & Military Prep / Career and Technical Education. The main text describes the CTE resources and provides a link to the CTE mailing list. A sidebar on the right contains a "College, Career, & Military Prep" section with links for Advanced Academics, Armed Services Vocational Aptitude Battery (ASVAB), Career and Technical Education, Pathways Initiatives, and Texas College and Career Readiness School Models. A "Contact Information" section at the bottom of the sidebar lists Ryan Merritt, State Director, and Debbie Wieland, Assistant Director.

Local Workforce Labor Market Data Activity

TEA Texas Education Agency

JOBS FOR THE FUTURE

INDUSTRIES SORTED BY PROJECTED GROWTH IN THE NUMBER OF JOBS FROM 2014 TO 2024:
ALAMO WDA

Industry	2014 Jobs	2024 Jobs	Change	% Change	Mean Hourly Wage
Health Care & Social Assistance	140,840	184,990	44,150	31.3%	\$22.69
Accommodation & Food Services	110,120	141,570	31,450	28.6%	\$11.35
Educational Services, Public & Private	100,050	127,540	27,490	27.5%	\$23.37
Retail Trade	112,030	135,150	23,120	20.6%	\$15.40
Administrative & Waste Services	63,990	81,480	17,490	27.3%	\$17.54
Finance & Insurance	63,900	77,850	13,950	21.8%	\$30.80
Construction	47,840	61,180	13,340	27.9%	\$22.19
Other Services, Ex. Government	40,360	49,990	9,630	23.9%	\$16.63
Professional & Technical Services	45,490	51,910	6,420	20.7%	\$32.57
Information Technology	26,890	34,080	7,190	26.7%	\$42.37
Government	26,890	34,080	7,190	26.7%	\$28.34
Wholesale Trade	26,890	34,080	7,190	26.7%	\$24.62
Transportation & Warehousing	75,770	82,530	6,760	8.9%	\$24.62
	32,660	39,270	6,610	20.2%	\$21.79
	27,760	33,640	5,880	21.2%	

GUIDE TO READING THE TABLE

- **Industry:** Industries in the table (with the exception of information technology) are defined by the U.S. Bureau of Labor Statistics. Information technology is a set of occupations that cut across industries. The data for information technology included in the table is based on data for computer occupations (U.S. Bureau of Labor Statistics SOC code 15-0000).
- **2014 jobs:** Number of jobs in the industry in 2014.
- **2024 jobs:** Projected number of jobs in the industry in 2024.
- **Change:** Projected change in the number of jobs in the industry from 2014 to 2024.
- **% Change:** Projected percent change in the number of jobs in the industry from 2014 to 2024.
- **Mean hourly wage:** Mean wage for all jobs in the industry. Wages below a living wage for one adult supporting one child appear in red. In Alamo WDA, a living wage for a single adult is \$10.28, and a living wage for a single adult supporting one child is \$21.53. Living wage information is drawn from MIT's Living Wage Calculator (livingwage.mit.edu).

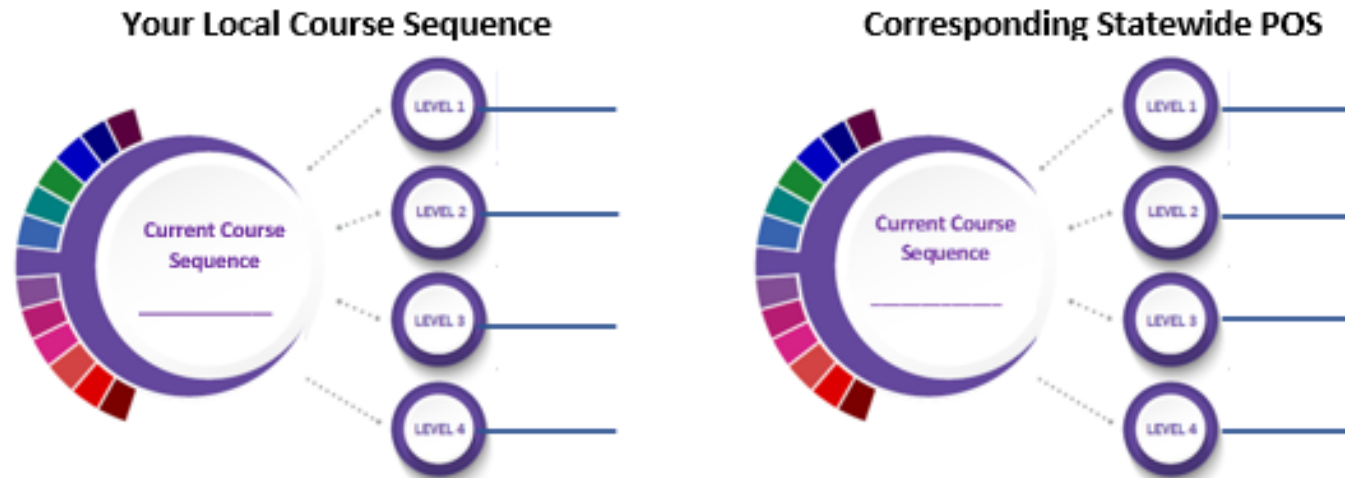
- Work in a team of three or four
- Select the programs you think should be implemented based on the definition of POS from Perkins V
- Determine justification for your selections
- Record your selections and justifications on the paper provided

Reflection Questions

Use the Post It notes at your table to answer the following questions and place them on the appropriate poster.

- 1. What are the benefits of implementing a statewide program of study?**
- 2. What are the barriers of implementing a statewide program of study?**
- 3. Who should be involved in the decision making of which programs of study to offer in your school district?**

How does what you are offering compare to the statewide programs of study?



Compare one of your currently offered course sequences to one of one of the POS that should be offered in your region based on LMI.

Directions:

- Select one of the course sequences that you currently offer and write the name of it in the center of the graphic on the left.
- List the courses that are included in the sequence your offer in the spaces next to each level
- Identify the corresponding Statewide POS and write the name of the POS in the center of the graphic on the right. List the courses that are included in the POS in the space next to each of the levels.
- Compare your list of courses to the statewide program of study sequence of courses. On your list:
 - Place a check to the right of each course that is included in the statewide program of study
 - Circle any course you listed that is not included in the statewide program of study
 - Highlight a level 3 or 4 course
- Determine a course that can replace each of the circled courses.
- Ensure you have a level 3 or 4 course. If not, what course could be offered?
- Answer the reflection questions below on the back of this page and be prepared to share your responses:
 - What changes will need to take place in your example above to align with a statewide program of study?
 - What course sequences currently being offered align with the POS supported by regional LMI?
 - What statewide programs of study are not currently being offered in your LEA?
 - What are your ahh ha's?

Why Programs of Study?

Why Programs of Study?

Strong vertical linkages between secondary and postsecondary credentials offer students broader opportunities to succeed in a globally competitive workforce.










Workforce Changes

- High school diploma no longer sufficient
- Rooted in global shift from industrial to knowledge economy
- Increased need for postsecondary credentials
- High-skill, high-wage and in-demand careers
- 800,000 jobs lost in 2008 and the majority created since the Great Recession require education/credentials beyond high school

TEA Strategic Priorities

Every child, prepared for success in college, a career or the military.

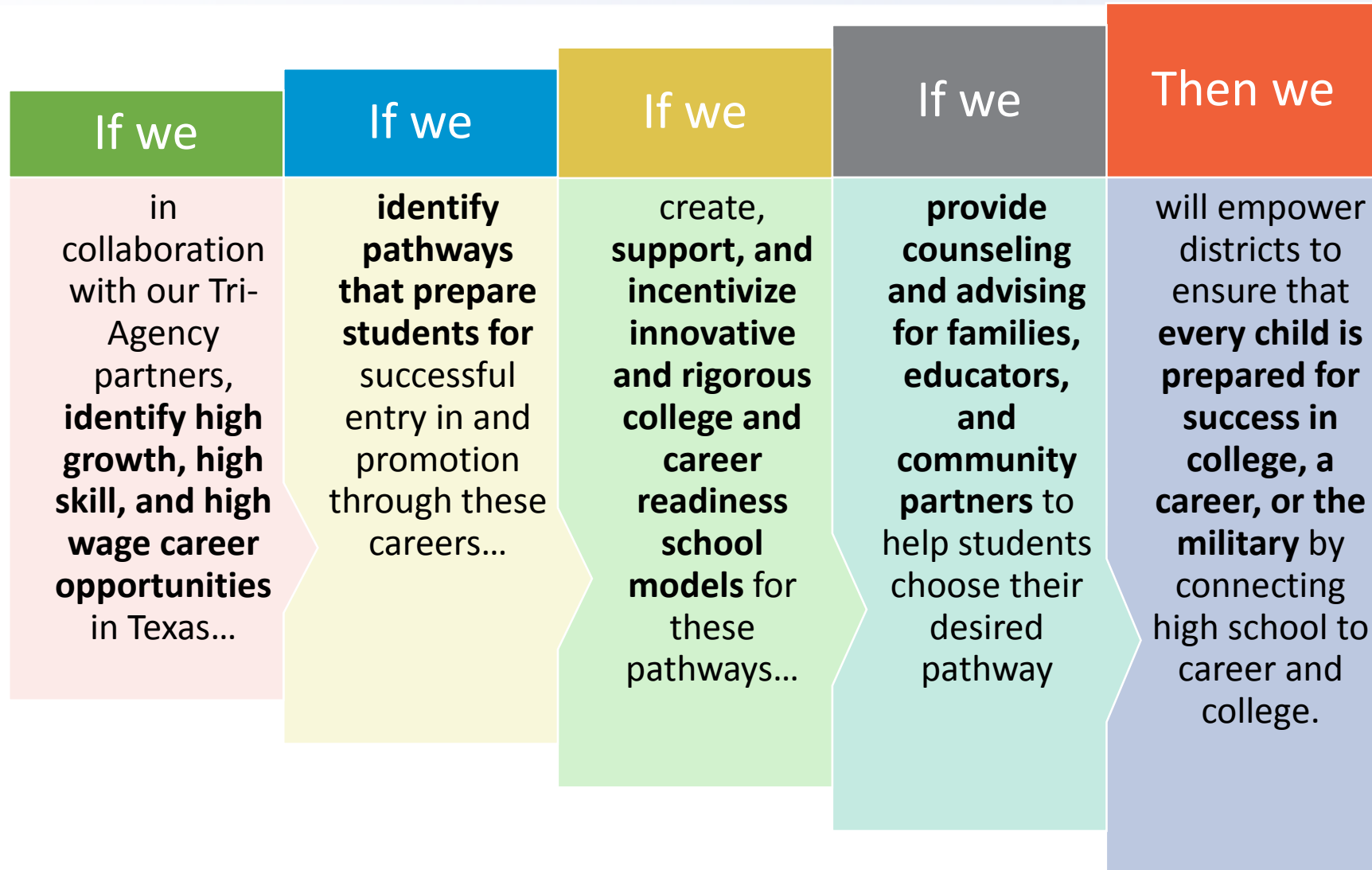
Strategic priorities					
	Recruit, support and retain teachers and principals	Build a foundation of reading and math	Connect high school to career and college	Improve low-performing schools	
	Enablers		Increase transparency , fairness and rigor in district and campus academic and financial performance		
			Ensure compliance , effectively implement legislation and inform policymakers		
		Strengthen organizational foundations (resource efficiency, culture, capabilities, partnerships)			



Connect high school
to career and college

We will empower districts to ensure that **every child is prepared for success in college, a career, or the military** by connecting high school to career and college.

CCMP Strategic Plan: Theory of Action



Benefits of Programs of Study



Provides students a career path with **opportunities** to continue directly into **postsecondary** and the **workforce**



Aligns **education** to the **regional economy** building off of the diverse needs of the Texas' economy



Allows for better **data collection** and reporting of CTE concentrators for districts

Benefits of Programs of Study



Creates stronger TEKS by conducting a **gap analysis** between course standards and job skills



Allows for **flexibility** in alignment of teacher certifications to the course sequencing

Why Programs of Study?

According to a recent national survey, **85 percent** of parents and students believe getting a **college degree is important**, but even more believe it is important to have a **meaningful career.** (1)



Shoulder Partner Discussion

- **Discuss with your shoulder partner the advantages for providing students with programs of study that lead to in demand, high wage occupations.**
- **On the paper provided, list the advantages that you identified (be sure to include your observations from the video that you recorded on post it notes)**
- **Be prepared to share your list of advantages.**

- **3 things you learned today**
- **2 colleagues (name and position) you would like to share the information with**
- **1 thing for which you still need additional information**



Please complete this evaluation.

https://tea.co1.qualtrics.com/jfe/form/SV_5ojU2VtWsjXcieV

