Career Technical Education as a Pathway to Adult Success: National, State and Local Perspectives

Pathways to Adult Success Conference
October 23, 2019

Panelists

- **Austin Estes,** Senior Policy Associate, Advance CTE
- **Tiara Booker-Dwyer**, Assistant State Superintendent, Division of Career and College Readiness, Maryland Department of Education
- **M. Eric Williams,** Assistant Director and Lead Instructor, Department of Paramedicine, Jones County Junior College, Ellisville, MS
- **James Stockdale,** Academy Coordinator, William J. "Pete" Knight High School, Palmdale, CA

Our Vision for CTE

Career Technical Education is an educational option that provides learners with the knowledge and skills they need to be prepared for **college, careers and lifelong learning.** CTE gives purpose to learning by emphasizing **real-world skills** and practical knowledge within a selected career focus.

Our vision is to transform and expand CTE so that each learner – of any background, age and zip code – is prepared for career and college success.

Strategic Priorities

- *All CTE programs are held to the highest standards of excellence.*
- *All learners are empowered to choose a meaningful education and career.*
- *All learning is personalized and flexible.*
- *All learning is facilitated by knowledgeable experts.*
- *All systems work together to put learner success first.*

SHIFT FROM VOCATIONAL EDUCATION TO CTE

THEN VOCATIONAL EDUCATION	vs.	NOW CAREER TECHNICAL EDUCATION
for a Few Students	vs.	for ALL STUDENTS
for a Few "Jobs"	vs.	for ALL CAREERS
Terminal	vs.	LIFE-LONG LEARNING

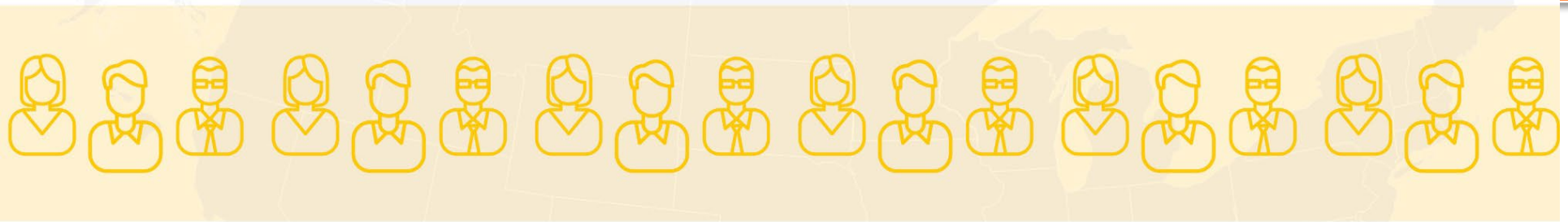
SHIFT FROM VOCATIONAL EDUCATION TO CTE

THEN VOCATIONAL EDUCATION	vs.	NOW CAREER TECHNICAL EDUCATION
In lieu of Academics	vs.	ALIGNS & SUPPORTS ACADEMICS
6 to 7 "Program Areas"	vs.	16 CAREER CLUSTERS® 79 CAREER PATHWAYS
High-School Focused	vs.	HIGH SCHOOL & POSTSECONDARY ALIGNMENT

CTE IN THE U.S.

ADVANCE CTE
State Leaders Connecting Learning to Work

11.9 MILLION LEARNERS PARTICIPATING IN CTE *(2016–17)*



8.28 MILLION at SECONDARY LEVEL

3.63 MILLION at POSTSECONDARY LEVEL

3.58 MILLION
CONCENTRATORS

1.91 MILLION
CONCENTRATORS

What Does the Research Tell Us?

"Dosage" matters

- Each upper-level CTE course a student completes is associated with a 2 percent increase in wages (Kreisman and Stange, 2019)
- CTE concentrators in Arkansas who completed 3+ CTE credits were more likely to graduate high school, enroll in college, be employed and earn higher wages (Dougherty, 2016)

Work-based learning is correlated with higher job quality

- Students who participate in "relationship-focused" work-based learning have higher job quality at age 29 than their peers (Ross et al, 2018)

Credentials help students transition into high-wage employment

- In Indiana and Florida, earning a credential is correlated with higher wages for workers who earn at least $20,000 annually and are at least 24 years old (ExcelInEd and Burning Glass, 2019)

Majors matter

- Associate's degree holders who studied STEM earn $60,000 annually. This is more than bachelor's degree holders who majored in the humanities and liberal arts (Carnevale and Cheah, 2018)

State Priorities for CTE

- Perkins V Implementation
- Program Quality
- Data and Accountability
- Equity

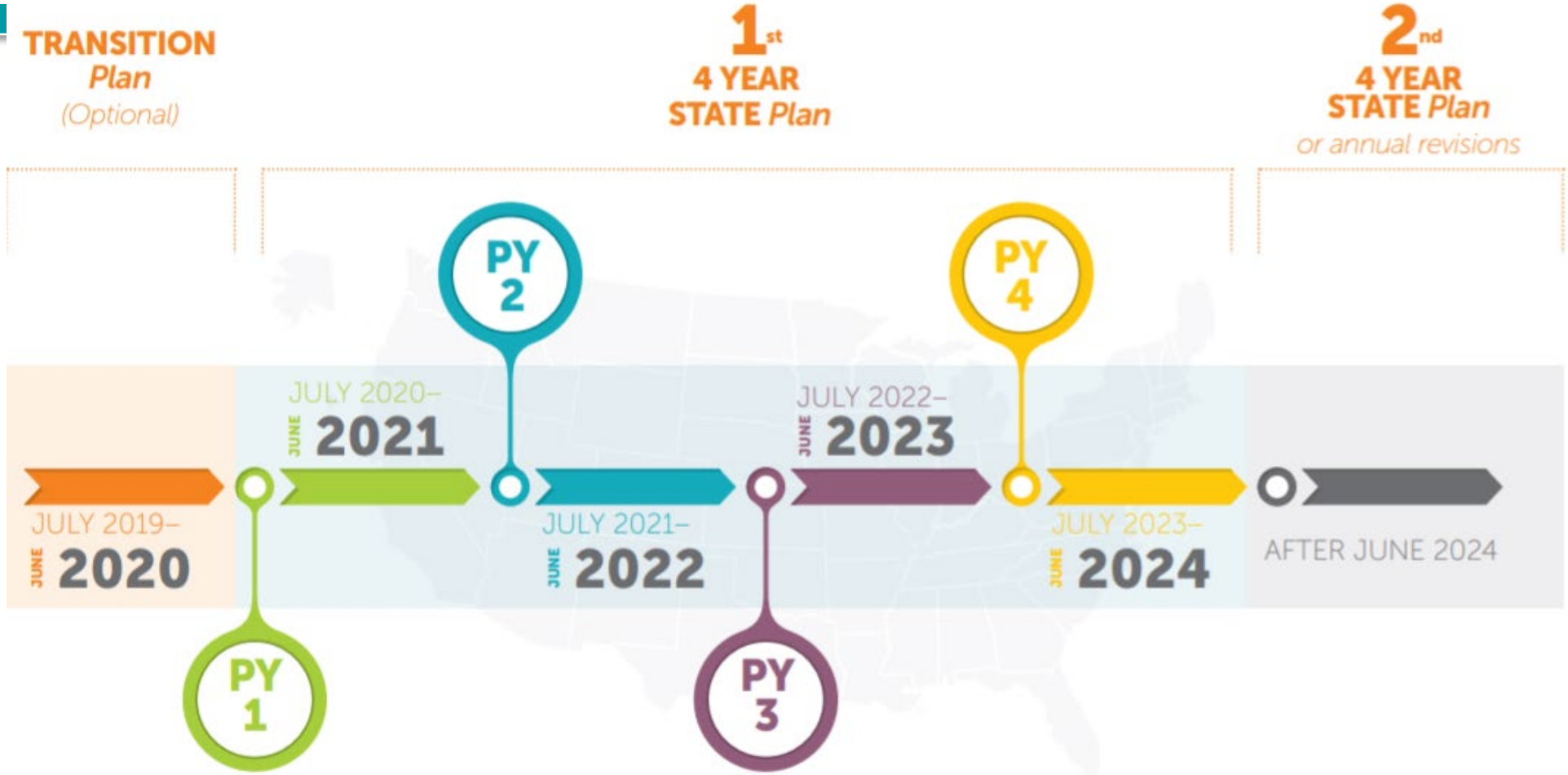
Strengthening Career & Technical Education for the 21st Century Act

- Federal investment in CTE system (~$1.3 billion)
- Reauthorized in July 2018

PERKINS V

PERKINS V TIMELINE

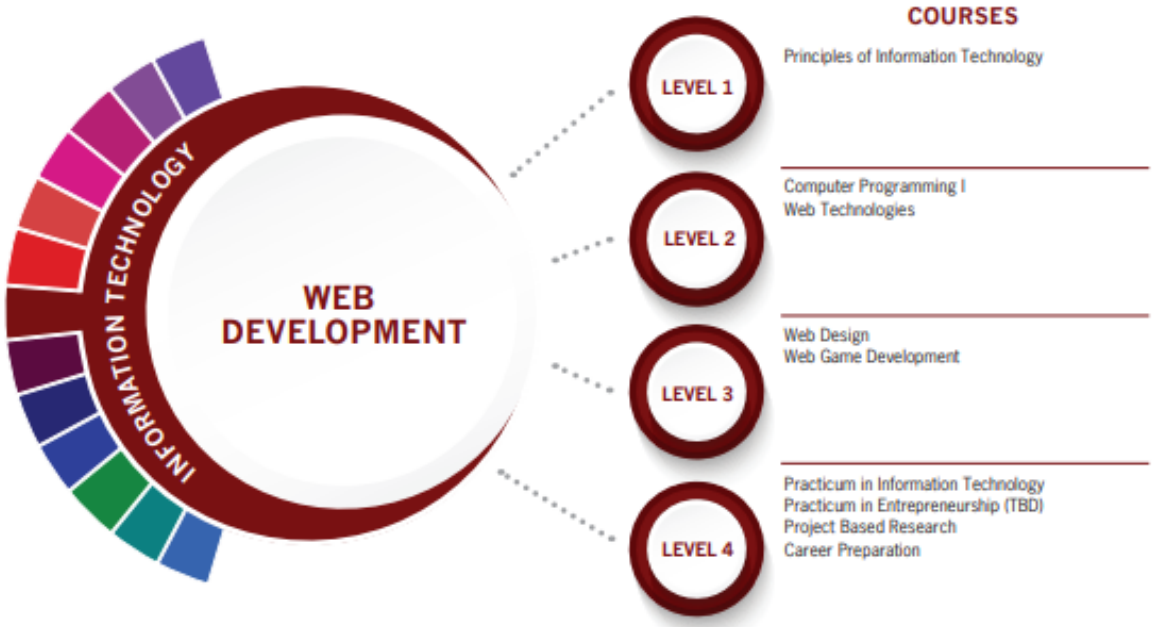
ADVANCE CTE
State Leaders Connecting Learning to Work



Programs of Study

The term 'program of study' means a coordinated, nonduplicative sequence of academic and technical content at the secondary and postsecondary level that—

- Incorporates challenging State academic standards,
- Addresses academic, technical and employability skills,
- Is aligned with the needs of industries,
- Progresses in specificity,
- Has multiple entry and exit points, and
- Culminates in the attainment of a recognized postsecondary credential.



Source: Texas Education Agency

Industry certifications and postsecondary credentials

Web Development Program of Study in Texas

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Associate Java SE 8	AEM 6 Developer	Computer Programming/Programmer, General	Web/ Multimedia Management and Webmaster	Computational Science
WD Certified Web Design Certification	Certified Webmaster Professional	Computer Science		
Microsoft Technology Associate Introduction to Programming Certifictions	Adobe Campaign Developer	Web Page, Digital/Multimedia and Information Resources Design		Information Science/ Studies
App Development with Swift Certification Level 1	IBM Certified Solution Developer - OpenSocial	Computer Systems Networking and Telecommunications		
Additional industry based certification information is available from the TEA CTE website.				
For more information on postsecondary options for this program of study, visit TXCTE.org.				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Computer Network Architects	$111,633	1,079	39%
Web Administrators, Computer Occupations	$85,197	1,616	20%

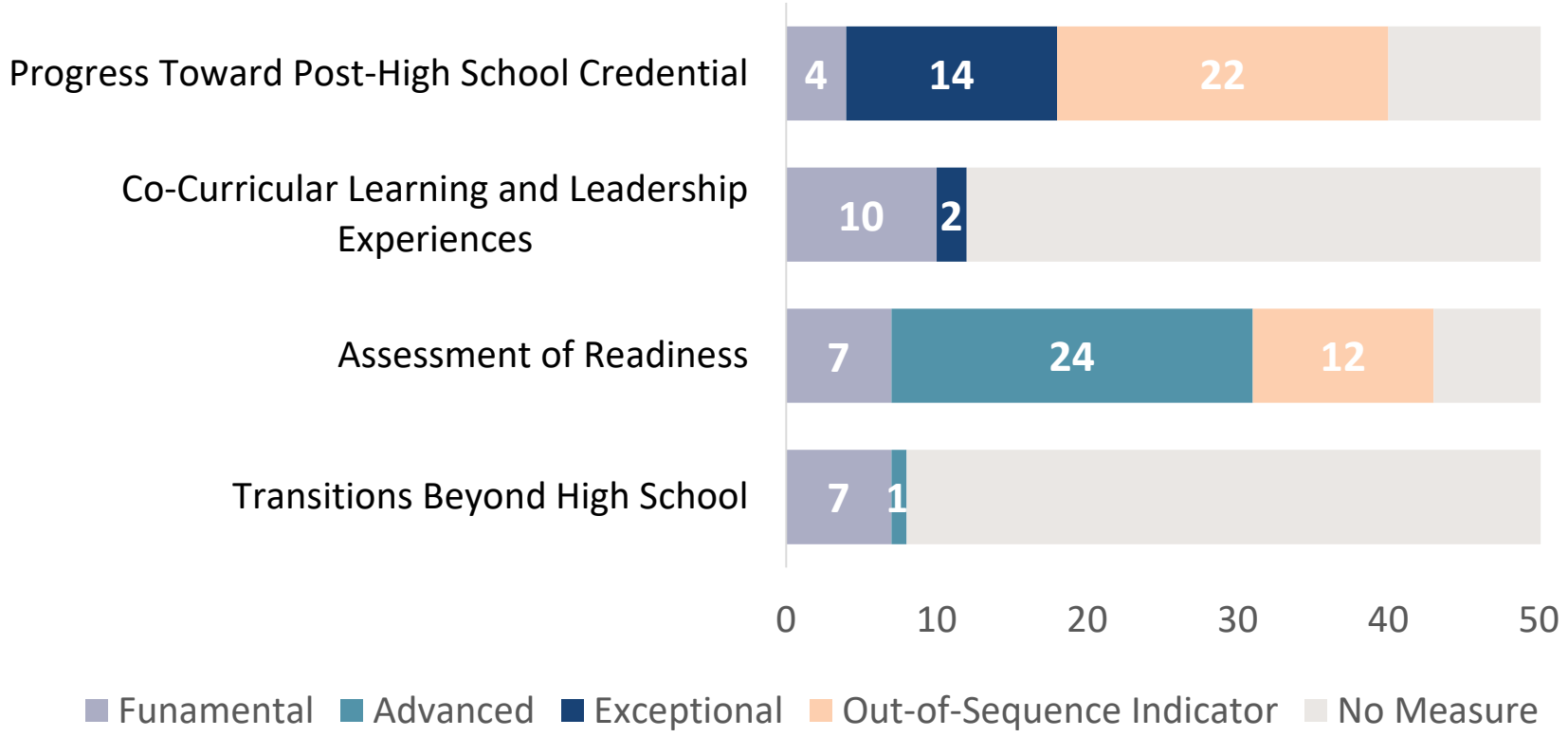
Demonstrated economic demand

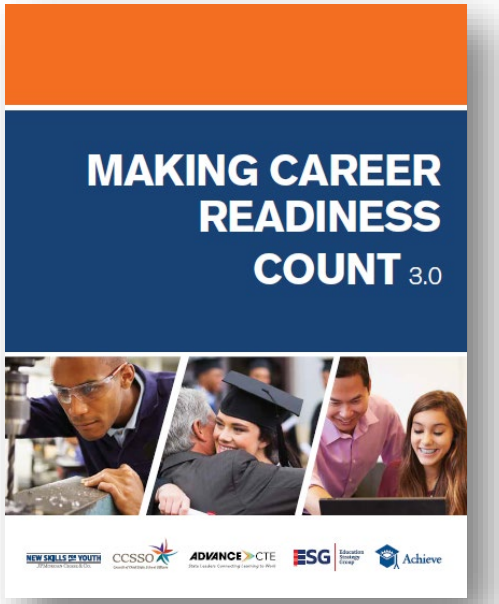
WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES	
Exploration Activities: Join TSA Participate in a coding or computer programming club Create a web page	**Work Based Learning Activities:** Get an Oracle or CISCO Certification

Work-based Learning Opportunities

Source: Texas Education Agency

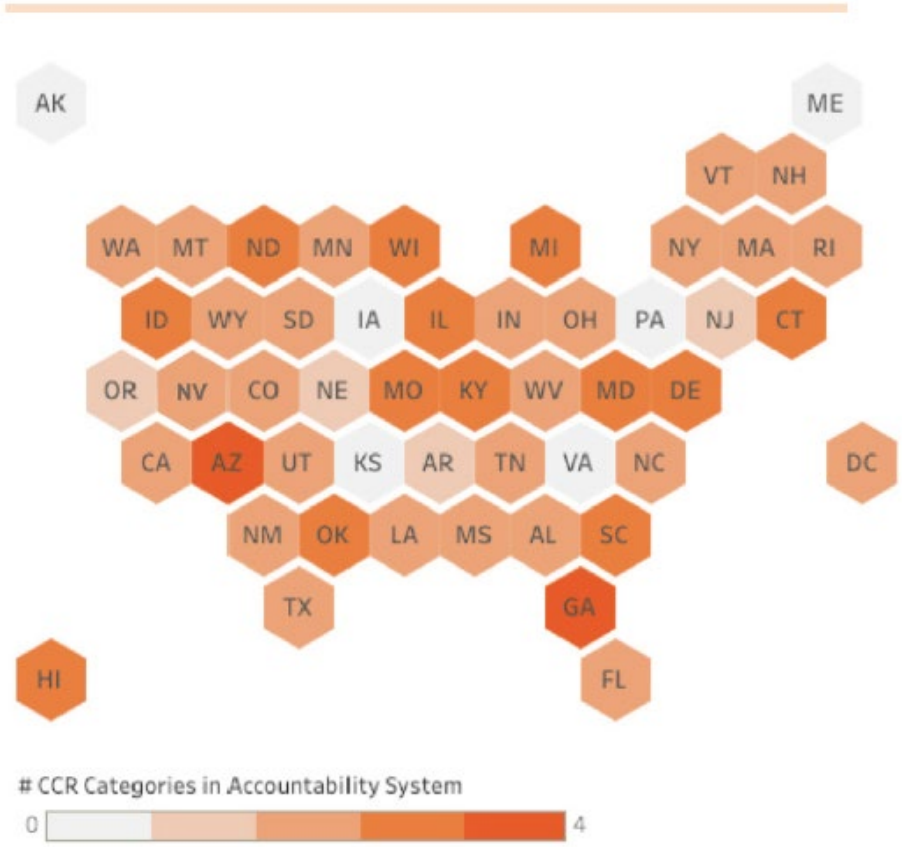
Measuring Career Readiness in High School





https://careertech.org/resource/making-career-readiness-count-2019

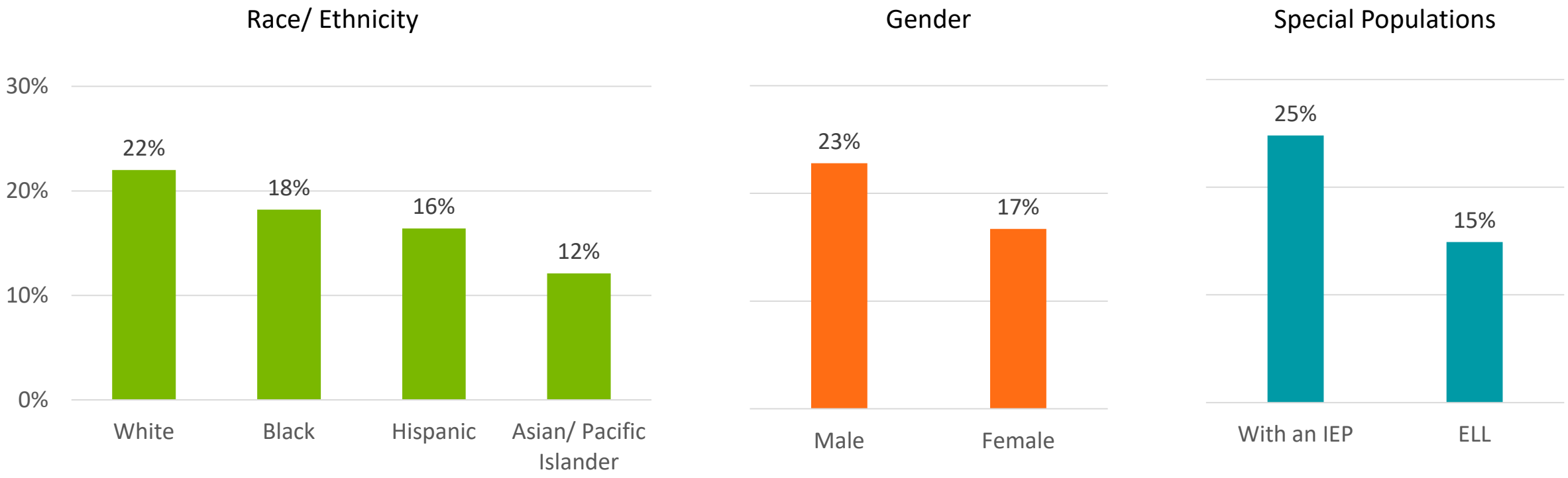
Measuring Career Readiness in High School



Many states are counting multiple measures of career readiness

Equity in CTE

Percent of High School Graduates who Achieved 3-Credit Concentrator Status (2013)



Source: https://nces.ed.gov/surveys/ctes/tables/h201.asp and https://nces.ed.gov/surveys/ctes/tables/h202.asp

Equity in CTE

- Persistent challenges
  - Use of data to identify and address access and performance gaps
  - Removing barriers to *access* (such as transportation or financial burden) and *success* (persistence, completion)
  - Confronting the stigma against CTE
  - Encouraging nontraditional program completion for students based on gender
  - Developing occupational identity at an early age
  - Increasing learners' access to social capital

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www.careertech.org

Follow us at @CTEWorks

Maryland Career and Technical Education (CTE)

Ensuring Quality and Promoting Success

October 23, 2019

Pathways to Adult Success Conference

MARYLAND STATE DEPARTMENT OF EDUCATION

EQUITY AND EXCELLENCE

Division of Career and College Readiness

Three Branches with One Purpose:
To establish a foundation for students to engage in challenging academic and technical education that will allow for success in postsecondary study and careers.

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Career and Technical Education

Preparing students for the workforce and postsecondary study.

Leadership Development

Fostering the growth of effective leaders.

School Improvement

Raising the quality of education.

Vision for Career and Technical Education

Each student has access and the opportunity to engage in career programs of study that

- ✓ align to high-skill, high-wage, and/or in-demand careers;
- ✓ lead to earning industry-recognized and/or postsecondary credentials that will allow entrance and/or advancement in a specific career cluster; and
- ✓ provide career-based learning experiences that require the application of academic and technical knowledge and skills in a work setting.

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Key Shift For CTE In Maryland:

Expanding the Reach and Scope of Career Guidance

Allowing Perkins Funds to Be Used as Early as Grade 5 for Career Awareness and Guidance

Leveraging Business and Industry Partners to Provide Career Counseling

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Key Shift For CTE In Maryland:

Aligning CTE Programs of Study to:

- ✓High-wage,
- ✓High-skill, and/or
- ✓In-demand careers

High-Wage Careers

Careers that exceed the state average annual wage. The 2018 average annual wage in Maryland was $58,770.

High-Skill Careers

1. Requires previous work-related skills, knowledge, or experience of one or more years;
2. Requires over a year of training;
3. Requires state or federal licensing or industry-recognized certification; or
4. Requires a recognized postsecondary credential or degree.

In-Demand Careers

Careers with a growth rate over ten years of at least 7% or a two-year occupational projected growth of 2.5%.

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Key Shift For CTE In Maryland:

Promoting Innovative Practices to Reshape Where, When, How, and to Whom CTE Is Delivered

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Requiring each CTE program of study to:

- ✓ provide the opportunity for students to participate in work-base learning experiences;
- ✓ provide the opportunity for student to earn college credit and/or industry credentials;
- ✓ prepare students with disabilities and other student groups for occupations that will lead to self-sufficiency; and
- ✓ provide equal access and supports for students with disabilities and other student groups to successfully complete the program of study.

Increase Student Access to High-wage, High-skill, or In-demand Careers

42% of High School Students are Enrolled in CTE

Highest Enrolled Programs:

- ✓ Human Resource Services
- ✓ Business Management Finance
- ✓ Information Technology
- ✓ Manufacturing Engineering and Technology

Arts, Media, and Communications

Business Management and Finance

Construction and Development

Consumer Services, Hospitality and Tourism

Environmental, Agriculture and Natural Resources

Health and Biosciences

Human Resource Services

Information Technology

Manufacturing, Engineering and Technology

Transportation Technologies

Career Research and Development

Apprenticeship Maryland

Key Shift For CTE In Maryland:

Strengthen the CTE Teacher and Faculty Pipeline

Aligning Curricula to Academic and Industry Standards

Improving Instructional Supports for CTE Educators

Supporting School Systems in the Recruitment of CTE Teachers

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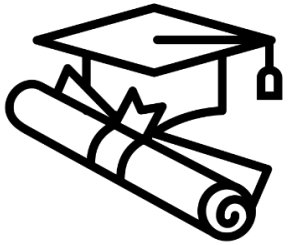
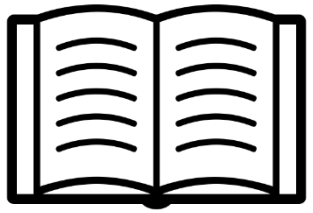
Key Shift For CTE In Maryland:

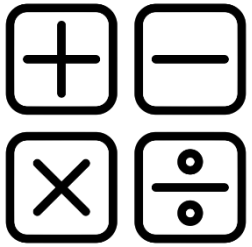
Improving CTE Program Quality Measures



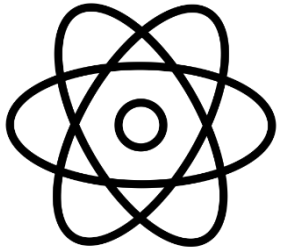
Four-Year Graduation Rate



Academic Proficiency Reading/Language Arts

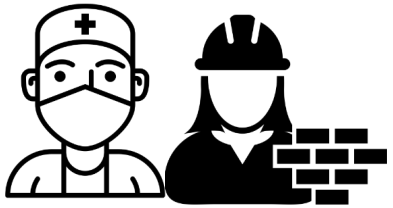


Academic Proficiency Math

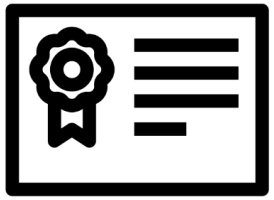


Academic Proficiency Science

Postsecondary Placement



Non-traditional Program Enrollment



Postsecondary Credential Attainment

Technical Skill Attainment

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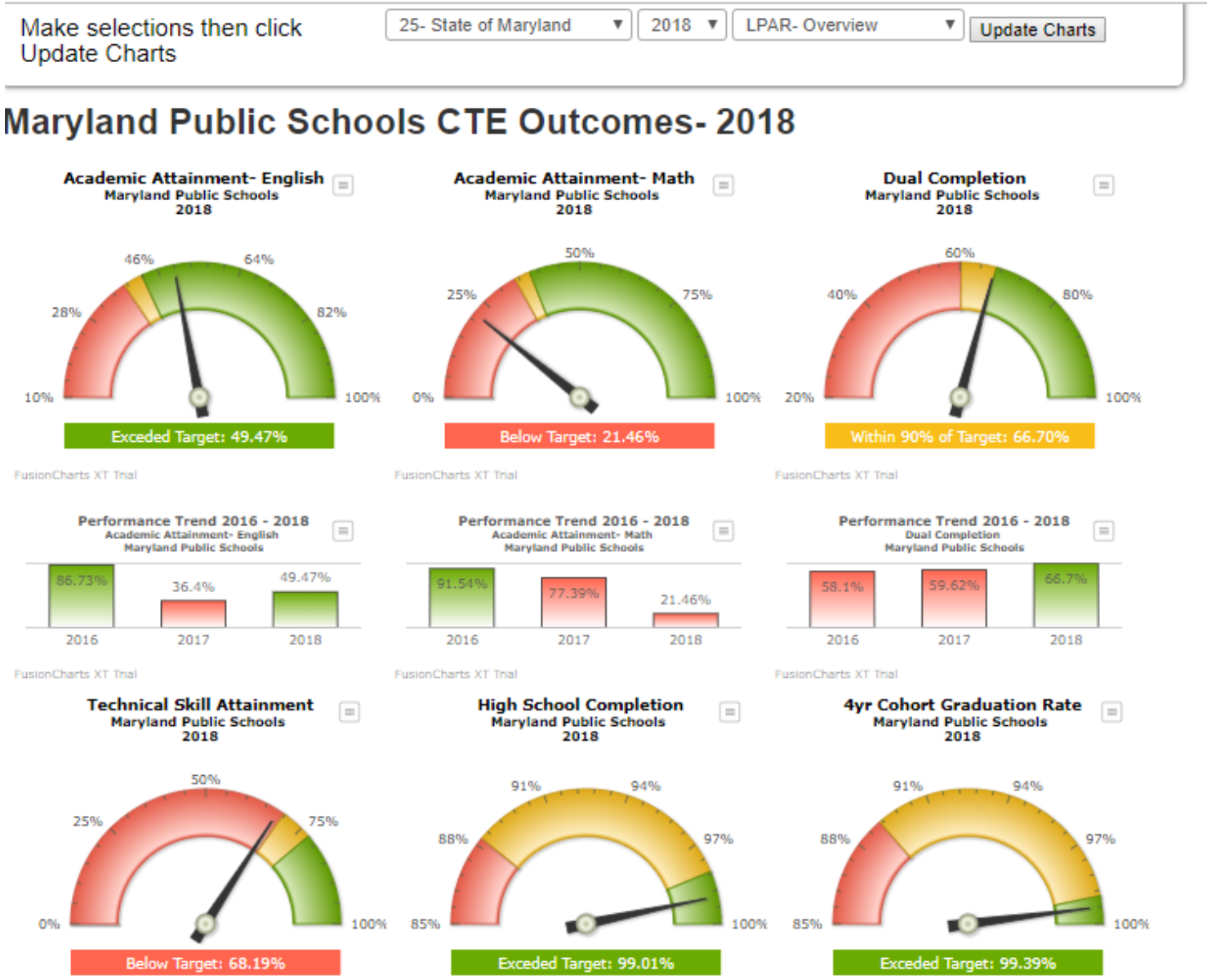
Key Shift For CTE In Maryland:

Improved CTE Dashboards Coupled with Targeted Professional Learning Experiences



https://www.mdctedata.org

Establishing Target and Trend Performance Scores to Prioritize Need

Target & Trend Performance Score (TPS) = Target Performance + Trend Performance

Priority Ranking	
Value	Definition
0,1,2	Low Priority
3	Medium Priority
4,5	High Priority

=

Target Performance	
Value	Definition
0	Targets met for all three years
1	Targets met for two years only
2	Target met for one year only
3	Target met for no years/ no data provided for all three years

+

Trend Performance	
Value	Definition
0	Continuous positive trend
1	Oscillating (inconsistent) trend
2	Continuous negative trend

Target and Trend Performance Score Example

Target & Trend Performance Score (TPS) = Target Performance + Trend Performance

Table 1: Cluster (Name)	1S1: Academic Proficiency – Four-Year Graduation Rate			
Student Group	2016 (40%)	2017 (50%)	2018 (52%)	Target & Trend Performance Score (TPS)
CTE Students	%	%	%	
Male	24	48	56	1
Female	53	23	22	4
Hispanic/Latino	54	55	58	0
American Indian/Alaska Native	23	24	25	3
Asian	23	22	21	5
Black/African American	53	40	63	2
Native Hawaiian/ Other Pacific Islander	46	37	62	2
White	52	48	55	1

Data is Fictitious for Example Use Only

CTE Needs Assessment and Local Application

A Holistic Review of CTE in the School System and Community College

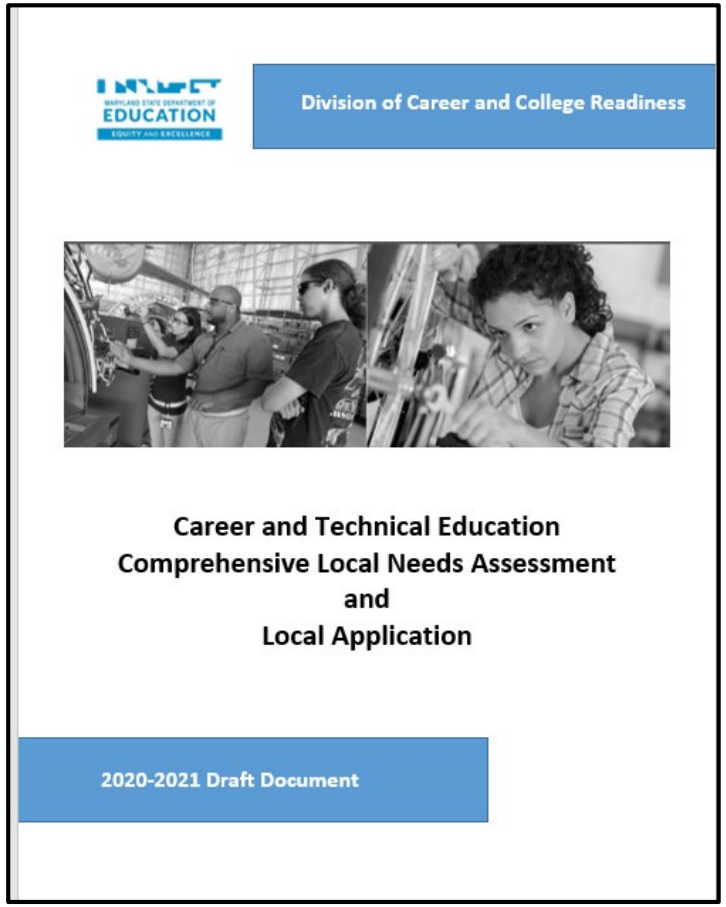
Needs Assessment

- Comprehensive Review of Data
- Identifies Areas of Promise and Opportunities for Growth

Local Application

- One Year Plan of Action to Address Identified Needs

Community Colleges and School Systems Must Work Together to Address Regional Workforce Needs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Division of Career and College Readiness

Career and Technical Education
Comprehensive Local Needs Assessment
and
Local Application

2020-2021 Draft Document

Key Shift For CTE In Maryland:

Establishing a CTE Advisory Committee

Charge: Provide guidance and direction for the statewide system of CTE.

Members will include representatives from:

- Local School Systems
- Postsecondary Institutions
- Business and Industry
- Chamber of Commerce
- Department of Labor
- Economic Development
- Workforce Development Board
- Maryland Higher Education Commission
- Maryland Career and Technical Administrators Association

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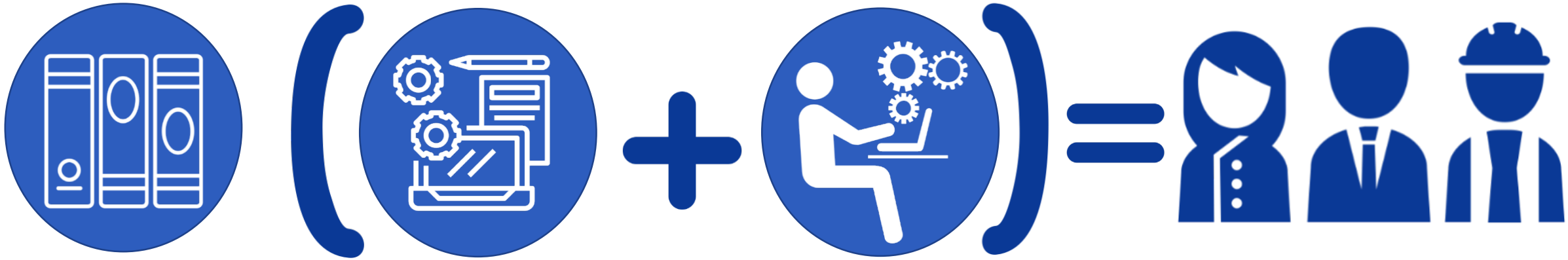
Equation for CTE Success



Academic Press (**Technical Skills** + **Career-Based Learning Experiences**) = **Workforce Ready**

Thank You

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EQUITY AND EXCELLENCE

Knight High School Digital Design & Engineering Academy

Knight High School Digital Design & Engineering Academy

Who we are:

- School within a school, 4 year cohorted program
- 250-300 students in school of 3,000
- Engineering emphasis
- Located in Palmdale, CA near plant 42 and Edwards Air Force Base
- Key industry partners include Northrop Grumman, Lockheed Martin, NASA, and Air Force Research Laboratories

Knight High School Digital Design & Engineering Academy

Key Student Successes

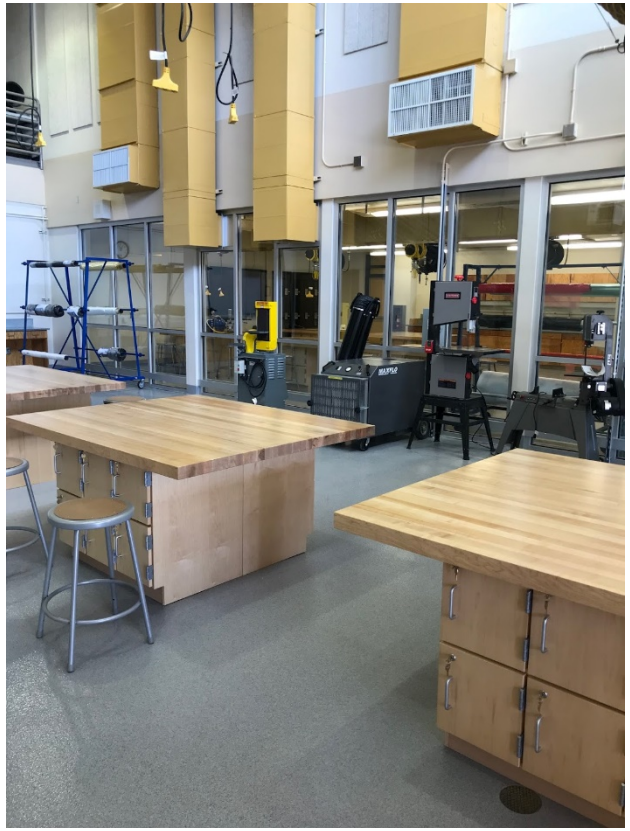
- Over the last 9 years, 96-100% of our seniors graduated and transitioned to either 4 yr college, community college, certificate program, military, or employment.
- In a highly transient aerospace sector, we have been able to help meet local workforce needs by providing stable, skilled, local talent to our industry partners
- Program transitioned from a handful of girls in the program at the onset, to a consistent 50/50 ratio of male/female students over the last 3 years

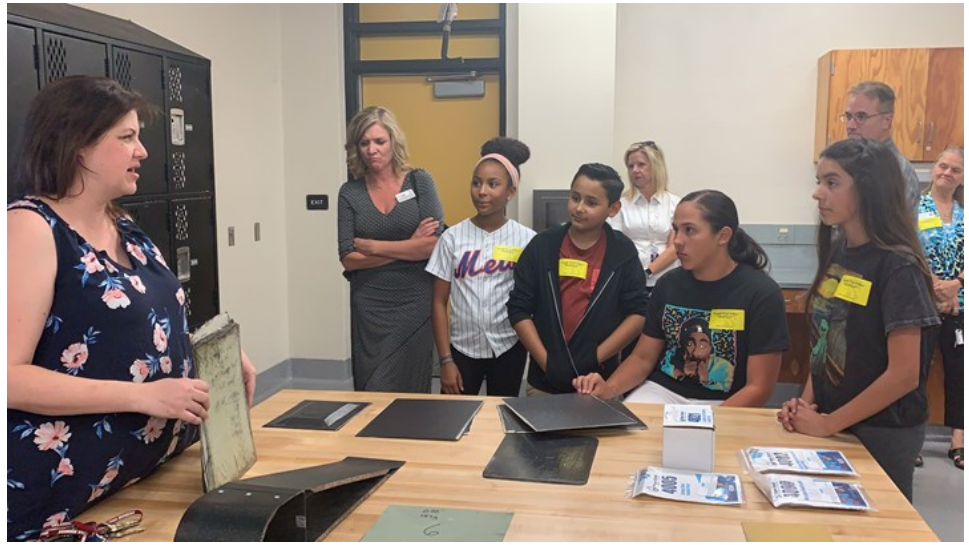
Knight High School Digital Design & Engineering Academy

Key pieces of the puzzle

- Every student has mentors
- Beyond the theoretical, including makerspace and composites lab
- Genuine workplace skills taught… even when it hasn't been done before
- Building connections and networks early
- Application of knowledge with competitions

Knight High School Digital Design & Engineering Academy





ACADEMY DIGITAL DESIGN & ENGINEERING

Knight High School Digital Design & Engineering Academy

ACADEMY DIGITAL DESIGN & ENGINEERING

Knight High School Digital Design & Engineering Academy

Where'd all of those Girls come from?!!!

ACADEMY DIGITAL DESIGN & ENGINEERING

Knight High School Digital Design & Engineering Academy

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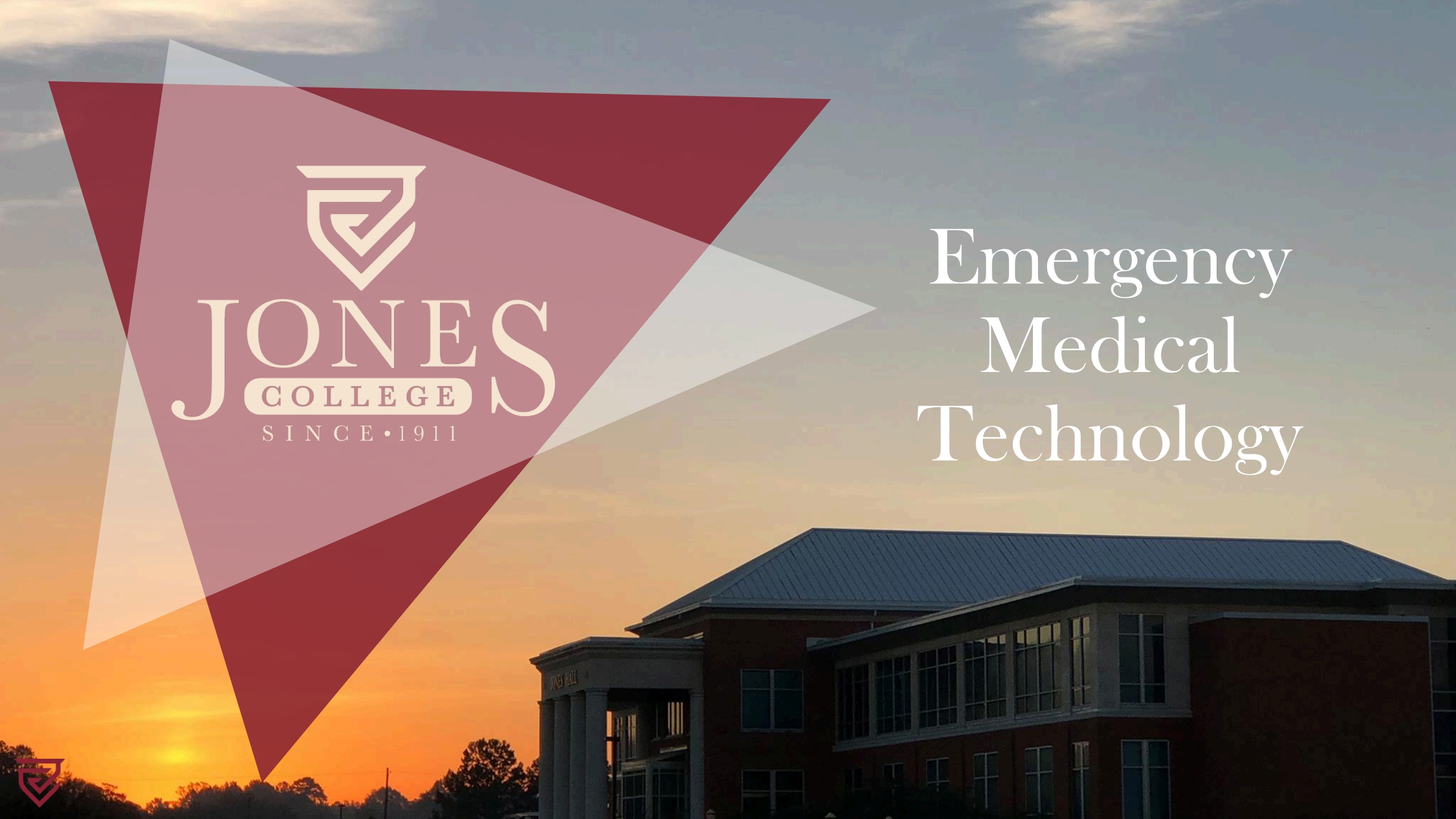
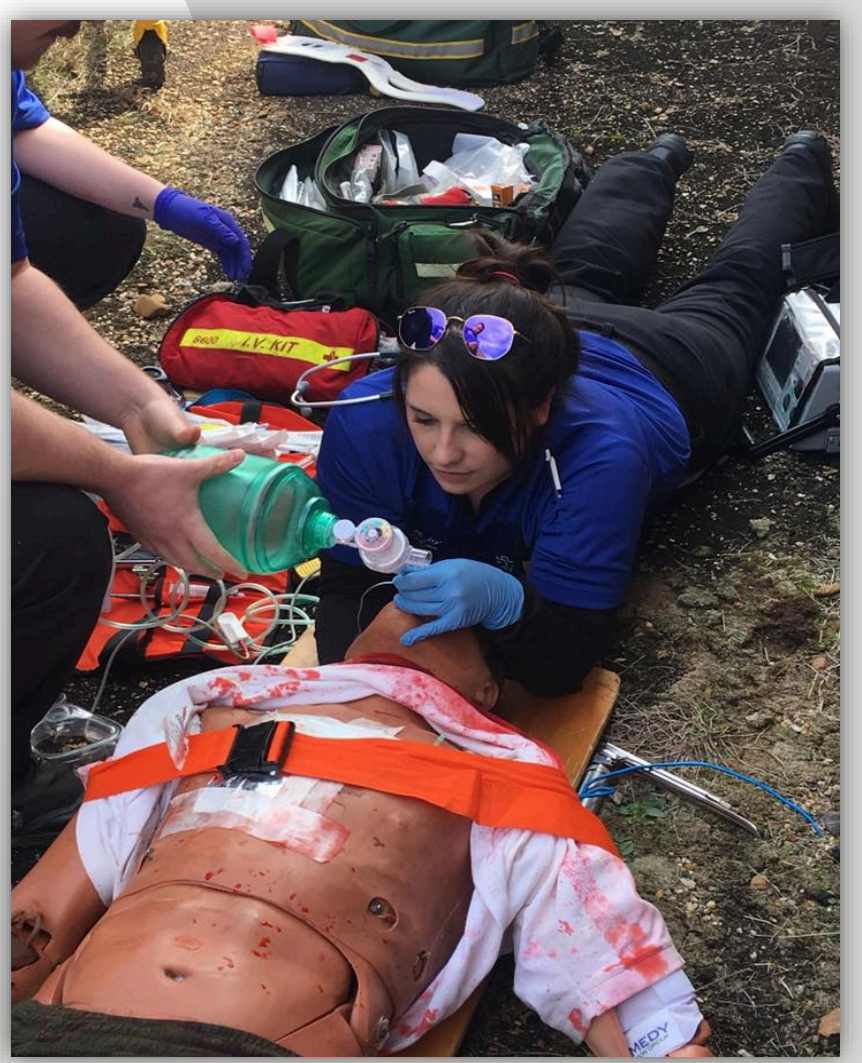


Emergency Medical Technology

Our Students



Our Service

Health Fair helps save life

The JCJC Paramedic Student volunteers that attended the 2016 Jasper County Senior Citizens Day/Health Fair were Heath Benson, Jeremy Tindol, Clay Bell, Greg Beech, Stephen Benson, Hannah Talavera, Ashley Purvis, and Josh Goldman.

Eight Jones County Junior College Paramedic students recently attended the Jasper County Senior Citizens Day event, marking the second year the program has participated.

The students performed free 12-Lead cardiac monitoring on over 50 volunteers. At times, the wait was up to 20 minutes to be seen. This is a valuable service due to the ability to detect early problems with associated with heart disease and arrhythmias.

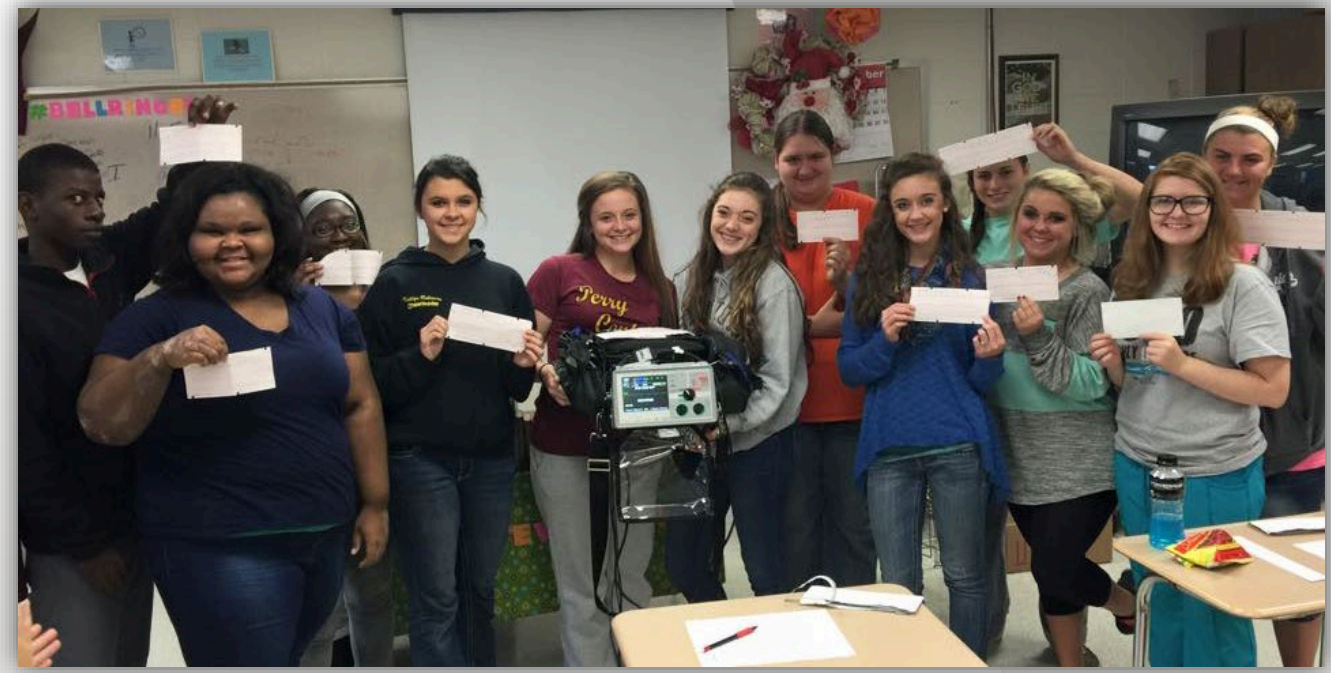
Old 12 Lead ECGs are the only thing that can assist physicians in diagnosing certain medical conditions of the heart. The students were also on hand to answer any questions that the volunteers about medical issues.

Last year, Judy Russell of Jasper County was one of the participants to be screened, and an anomaly was detected in her heart. She took the

Program Faculty Eric Williams reunites with Judy Russell who underwent cardiac surgery after the ECG screening in 2015.

Our Partners

Our Future



Our Pleasure

Jacob Shepherd recommends Jones College EMT-Paramedic.
June 10 ·

Great group of instructors that demand nothing but the best out of each student! This is why we achieved the pass rates that we have. I'm beyond proud to call myself a #Jonesmedic.

gray.lewis4ever
Active 4h ago

Had a water rescue today when a 57 y/o m was caught in a boat propeller. The smell of a cadaver lab is all around me in my ambulance at the moment and I remember benji going over organs during autopsies. Also was able to teach my partner where some of the organs where due to the propeller shredding his abdomen, and entire left leg. She was fascinated at how big the liver was in comparison to the body. Another reason why I love Jones, I'm able to teach others and save lives at the same time!

September 03, 7:29 AM

This makes me smile! Thank you for being such a great ambassador for our program and an outstanding medic!

John Runnels reviewed Jones College EMT-Paramedic — 5★
August 5, 2017 ·

This program, in my opinion, is the best program. Great instructors and great preceptors. They prepare the students for success.

Laken Nicole Brunson reviewed Jones College EMT-Paramedic — 5★
September 26, 2015 ·

Wouldn't wanna spend my time learning to be an EMT anywhere else! Amazing instructors, best all around!

Clifton Tice recommends Jones College EMT-Paramedic.
September 11, 2018 ·

Smarter than the average medic

Q&A