

Georgia CTAE

House Rural Development Council

Chattahoochee Technical College

August 20, 2019

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U.S. Department of Education

Dr. Casey K. Sacks
Deputy Assistant Secretary
Office of Career, Technical, &
Adult Ed.
Washington, DC



US Education: What would you say Georgia's vision for Economic Development is, specifically in terms of alignment with CTAE?

Georgia Business & Industry:

- **Preparing students for quality jobs** & filling those quality jobs with quality students.
- **Workforce preparedness** should be part of the K-12 mission – we are beginning to see that in GA.
- CTAE is needed for **ALL students** not just “CTAE students”.
- Pipeline development must **start early**, middle school.
- Provide students with **work opportunities** while in school.

Questions

1. What changes have been made to improve **course alignment**?
2. What plans have been made to meet the **needs of students**?
3. If CTAE cannot meet the needs for specific courses or classrooms, how can **partnerships with local technical colleges** so that students are equipped with more resources & opportunities?
4. Do you feel that local systems have the **resources** available **to** adequately **understand the needs of** their **local industry**?
5. What **computer science courses** are offered in rural Georgia?
6. What **solutions** do you see **for** the limited amount of **apprenticeships** in rural Georgia?

1. What changes have been made to improve course alignment?

GaDOE CTAE – quality courses – aligned to **local** & state workforce needs (17 Career Clusters, 134+ pathways, 400+ courses) – broad based



Many jobs starting salary out of high school... \$60,000

Level A Technician at Mercedes, high school graduate + 3-4 years working at dealership & continuing training, salary \$104,000

Course alignment . . .

- 42 Programs Of Study (POS) between GaDOE CTAE, TCSG & USG –update with curriculum improvement and industry input
- Part of Perkins V Transition Plan - 2 new POS this year with TCSG
 - Construction – electrical with registered apprenticeship program
 - Audio video & film – from camera operations & script writing to technical jobs on the set (gaffers, special effects, etc.)

Program of Study: Industrial Maintenance



This Program of Study may serve as a graduation guide for the next four plus years, along with other career planning and educational materials. Courses listed in this model may include recommended coursework and should be individualized to students' educational and career goals. Each graduation plan needs to meet minimum high school graduation requirements. Dual Enrollment courses can be high school academic and/or career technical education courses.

Secondary: Manufacturing - Industrial Maintenance					Postsecondary		
Course/Grade	Ninth	Tenth	Eleventh	Twelfth	TCC	Diploma or AAS	Bachelor of Science
English	9 th grade Lit/ Composition	10 th grade Lit/ Composition	American Lit/ Composition	World Lit/Composition / British Lit	Entrance or Exit Point IF11 Industrial Fluid Power Technician TCC - IDSY 1170 Industrial Mechanics - IDSY 1190 Fluid Power - IDSY 1195 Pumps and Piping Systems - IDSY 1110 Industrial Motor Controls I	Completion of IF11 Industrial Fluid Power Technician TCC leads to IST4 Industrial Systems Technology diploma or IS13 Industrial Systems Technology degree.	Entrance or Exit Point The University System of Georgia offers students' higher education options at 30 institutions throughout the state, providing a wide range of academic programming including certificates and associate, baccalaureate, masters, doctoral and professional degrees. https://apps.usg.edu/ords/f?p=118:1:0:::
Mathematics	Coordinate Algebra / Algebra I	Analytic Geometry / Geometry	Advanced Algebra / Algebra II	Pre-calculus			
Science	Physical Science	Biology	Chemistry	Physics			
Social Studies	Psychology	World History	US History	Government (½ unit) Economics (½ unit)			
Pathway Completer	Industrial Mechanics	Fluid Power and Piping Systems	Electrical Motor Controls	Work-Based Learning, Youth Apprenticeship, or Capstone Project			
Industry Recognized Credential (Pathway Completer)		Visit the End of Pathway Assessment Page (see note below)					
Required/ Selective Electives	Health & Personal Fitness (can be taken in grades 9-12)	Intro to Digital Technology	Embedded Computing	AP Chemistry			
	Modern Language/Latin 2 units required for admissions to Georgia University System Colleges/Universities For a listing of Modern Language/Latin courses offered at your high school, please contact your advisor, counselor, or curriculum handbook.		Other Electives For a listing of other elective courses offered at your high school, please check with your advisor, counselor, or curriculum handbook.				

NOTE: Students have many options to ENTER and EXIT from their academic studies into the workforce. When a student graduates from high school, they are eligible to choose one of many ENTRANCE POINT options: 1. Enroll in either a 2 or 4 year post-secondary program; 2. Enroll in an apprenticeship program or the military; or 3. Enter the workforce using technical skills learned in high school. When a student finishes a 2- or 4-year degree program, they may choose to EXIT and 1. Enroll in an apprenticeship program or the military; 2. Enroll in a professional university degree program; or 3. Enter the workforce using technical skills learned.

Industrial Maintenance Career Pathway Completers - Industry Credentialing for High School Students

Upon completion of sequenced courses in the Industrial Maintenance Career Pathway, students are eligible to complete the Industry-Recognized student credential for fulfillment of the End of Pathway Assessment. Secondary students completing the Industrial Maintenance pathway will be able to sit for the National Industry Credentialed assessment offered on-line from NCCER and NIMS. Once mastery is reached, students will receive recognition for completion and use this credential in conjunction with their job or continuing training. For specific assessment information, refer to: <http://bit.ly/GAManufacturing>

Developed 1-31-2017; Revised 5-23-2018

Sample High Demand Careers in Georgia

Occupation Specialties	Level of Education Needed	Georgia Average Salary	Annual Average Openings in Georgia	2014 – 2024 Employment Outlook
Industrial Machinery Mechanics	Postsecondary Certificate	\$45,888	424	High Demand, High Skill
Maintenance Workers, Machinery	Diploma, some postsecondary	\$41,166	66	High Demand, High Skill
Millwrights	Diploma, some postsecondary	\$48,030	65	High Demand, High Skill

GDOL Labor Market Explorer

Go to [GAFutures](http://GAFutures.org) at www.gafutures.org for more information about your education and career planning, including valuable financial information (grants and scholarships including HOPE Program, grants and loans, FAFSA, and CSS forms).

Career Enhancement Opportunities	Career-Related Education Activities <input type="checkbox"/> Career Awareness <input type="checkbox"/> Career Exploration <input type="checkbox"/> Instructional Related <input type="checkbox"/> Connecting <input type="checkbox"/> Work-Based Learning <ul style="list-style-type: none"> • Employability Skill Dev. • Cooperative Education • Internship • Youth Apprenticeship • Clinicals 	Postsecondary Options: <ul style="list-style-type: none"> • 4-Year Universities/Colleges • 2-Year Colleges • Technical Colleges • State Registered Apprenticeships • Special Purpose Schools • On-the-Job Training • Military 	Earning Postsecondary Credits While in High School A vital way to get ahead and realize you can pass college courses is by earning postsecondary credits as a high school student. Georgia offers a dual credit program titled Dual Enrollment. You need to talk with your parents, school counselor, or advisor about the proper courses to take each year in high school and dual credit. Students completing the course work in this Plan, will have earned/completed an Industry Credential, Technical Certificate of Credit (TCC), Associates of Applied Science Degree, and/or Bachelor's Degree .
	Postsecondary Transition <ul style="list-style-type: none"> • Students who will continue their education in a Program of Study at one of the University System of Georgia institutions should prepare to take the ACT or SAT for admissions. Tests for admissions may vary from institution to institution. Contact the selected institution for specific testing information. Additional admissions information can be found at Staying On Course. (www.usg.edu/assets/student_affairs/documents/Staying_on_Course.pdf) • Students who will continue their education in a Program of Study at one of the Technical College System of Georgia institutions should prepare to complete a placement exam. • Students who will continue their education and training in the US Military should take the ASVAB assessment. • Students should utilize electronic college and career databases to select the most appropriate postsecondary opportunities to match their selected career field, including registered apprenticeships. • Georgia's dual-credit programs have been combined into one program entitled Dual Enrollment, in which high school students may earn their high school course credits while taking college courses. 		
Related Pathway Occupations <ul style="list-style-type: none"> • Millwright • Machinery Maintenance Workers 		Other Related Occupations	
* ONET Online			

Industrial Maintenance Pathway Description

Industrial machinery mechanics and maintenance workers maintain and repair factory equipment and other industrial machinery, such as conveying systems, production machinery, and packaging equipment. Millwrights install, dismantle, repair, reassemble, and move machinery in factories, power plants, and construction sites.

Workers in this occupation must follow safety precautions and use protective equipment, such as hardhats, safety glasses, and hearing protectors. Most work full time. However, they may be on call and work night or weekend shifts. Overtime is common.

Industrial machinery mechanics and maintenance workers and millwrights typically need a high school diploma. However, industrial machinery mechanics need a year or more of training after high school, whereas maintenance workers typically receive on-the-job training that lasts up to a year. Most millwrights go through a 4-year apprenticeship.

Employment of industrial machinery mechanics and maintenance workers and millwrights is projected to grow 17 percent from 2012 to 2022, faster than the average for all occupations. The need to keep increasingly sophisticated machinery functioning and efficient will drive demand for these workers. Job prospects for qualified applicants should be very good.

Compare the job duties, education, job growth, and pay of industrial machinery mechanics and maintenance workers and millwrights with similar occupations.

2. What plans have been made to meet the needs of students?

- 385,431 High School CTAE students
- 271,064 Middle School CTAE students
- 74 New or modified facilities for CTAE labs
 - 56 Rural
 - 18 Non-rural



FY 18 data

meeting needs of students . . .

- 471 Industry Certified Programs
 - 218 Rural
 - 253 Non-Rural
- Active business & industry advisory council
- 18,396 Work-based learning students (FY 18)
- 9 CTSOs
 - 32 Rural State Officers 34 Non-Rural State Officers
 - 2 Rural National Officers 2 Non-Rural National Officers



meeting needs of students . . .

Distinguished Leadership Skills Seal
Awarded to high school graduates who:

- Complete two years of membership in a state-recognized Career and Technical Student



Career Ready

DIPLOMA SEAL



A signal to employers
that a student is prepared
to participate in the workforce

Proud supporters of the Career Ready Diploma Seal:





























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Career Ready Diploma Seal

Richard Woods, Georgia's School Superintendent | Georgia Department of Education | Educating Georgia's Future



Georgia Department of Education

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Steering Committee Chair

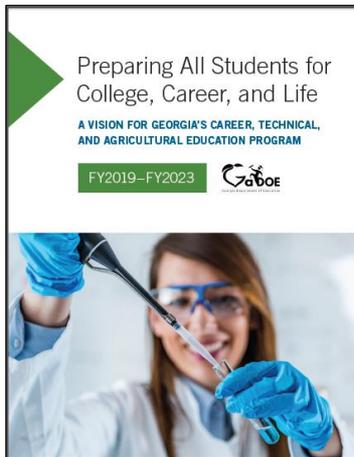
Amy Hutchins Georgia Power

CTAE Strategic Planning Committee

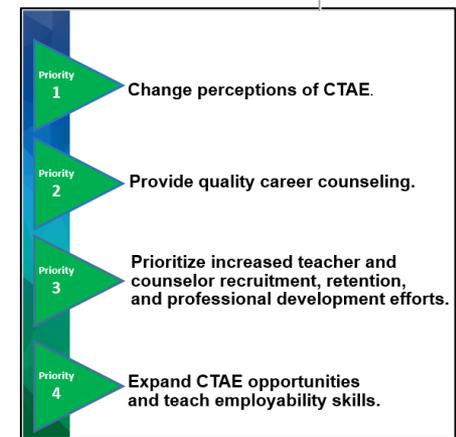
Kelly Almond	Fulton County Schools	Erika Moore	TAG Education Collaboration
Latesa Bailey	Kia Motors Manufacturing Georgia	Erin O'Briant	O'Briant Group
Gilbert Barrett	White County Farmers Exchange	Mark Peavy	Technical College System of Georgia
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Ray Bowen	Georgia Association of Manufacturers	Cindy Quinlan	Brookwood High School
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The following staff from the Georgia Department of Education assisted with the strategic planning effort: Scott Chafin, Dwayne Hobbs, Chip Bridges, Trudy Smith, and Cheryl Clemmons.

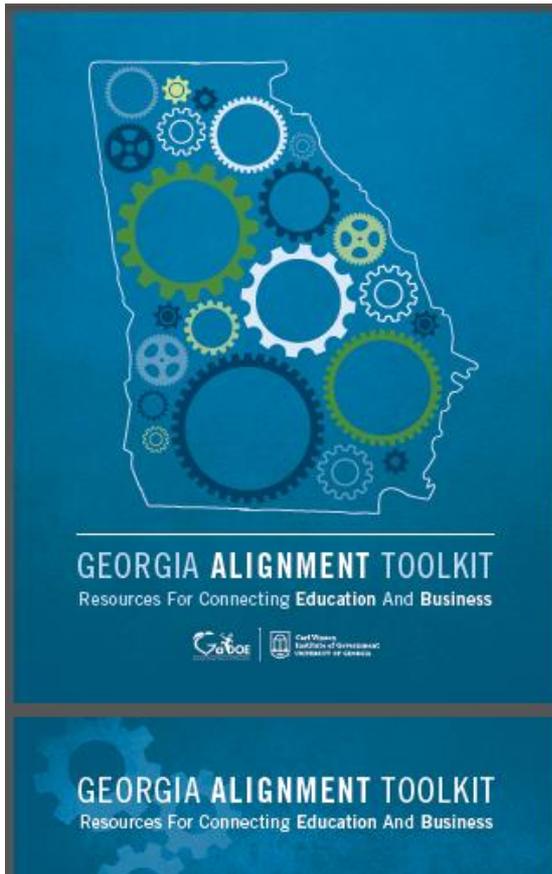
Facilitation, strategic guidance, research, and plan writing were provided by Greg Wilson, David Tanner, and Rebecca McIver of the Carl Vinson Institute of Government at the University of Georgia. Editing and design assistance were provided by Karen DeVivo and Jake Brower.



Five-Year CTAE Strategic Plan Driven by Business and Industry



meeting needs of students . . .



Georgia Alignment Toolkit

Seven Case Studies

WHY CTAE

“The mission of CTAE is to educate Georgia’s future workforce by engaging students in experiences that will prepare them for workplace success. Through CTAE, students see the relevance of their high school efforts to their future career goals One of these accomplishments is the graduation rate of 96% for CTAE completers as compared to 80.6% for Georgia’s overall graduation rate.”¹

Georgia Department of Education
2017 CTAE Annual Report

3. If CTAE cannot meet the needs for specific courses or classrooms, how can partnerships be created with local technical colleges so that students are equipped with more resources and opportunities?

- Partnerships between local technical colleges & CTAE already in place all over the state that can be replicated.
- Examples are located in the Georgia Alignment Toolkit
 - Health Care at Fayette County Schools
 - Teaching as a Profession with GSU
 - Nursing at Chattahoochee Tech
 - Timber Harvesting at Coastal Pines Tech

4. Do you feel that local systems have the resources available to adequately understand the needs of their local industry?

- Some systems have more resources than others. Some have more experience working with local industry than others.
- Part of my responsibility as the State CTAE Director of Georgia, is to see that all systems are provided resources and training to understand the needs of their local industry.

Resources for understanding local industry needs:

- Georgia Alignment Toolkit & Training
 - How do you efficiently & effectively coordinate education and workforce needs in your community?
 - How do you figure out what local employers need & prepare your students to meet those needs?
 - How can we best prepare our students for career success after high school?
- Labor Market Information Training
- Root Cause Analysis Training
- Data Driven Decision-Making Training
- Business & Industry Advisory Council Training
- Georgia Career Pipeline <http://gacareerpipeline.gadoe.org/>
- Perkins V & the Comprehensive Local Needs Assessment

5. What computer science courses are offered in rural Georgia?

High School Courses

- 10 Information Technology (IT) pathways
- 18 Courses in the IT pathway
- 7 of the IT courses also count as math, science, foreign language
- 2,014 Total IT pathway completers
 - 984 Rural
 - 1030 Non-Rural

Virtual Computer Courses

- 77 Rural
- 305 Non-Rural

Dual Enrollment IT Courses

- 104 Rural Georgia Students
- 154 Non-rural Georgia Students

FY 18 data

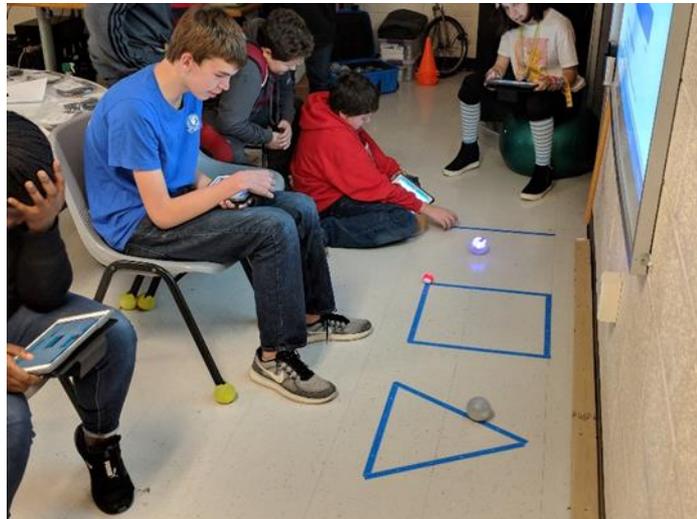
computer science courses offered in rural Georgia . . .

Middle School Courses

- Foundations of Computer Programing
- Foundations of Secure Information Systems
- Foundations of Interactive Design

Drones, robots, 3D printers, tablets, professional development, etc.

Middle School Coding Grants



FY 19 data

FY 19 MS Coding Grants \$500,000

Jasper County

Appling County

Jefferson County

Taliaferro County

Whitfield County

Dougherty County

Ben Hill

Warren County

Thomas County

Griffin-Spalding

Wheeler

Liberty

E3 Grant – Entrepreneurship for Rural Georgia Schools – FY19

Program-based enterprise

1	Wilkes County	Washington-Wilkes Comprehensive High School
2	Warren County	Warren County High School
3	Ware County	Ware County High School
4	Brantley County	Brantley County High School
5	Meriwether County	Greenville High School
6	Evans County	Claxton High School
7	Berrien County	Berrien High School
8	Stephens County	Stephens County High School
9	McDuffie County	Thomson High School

6. What solutions do you see for the limited amount of apprenticeships in rural Georgia?

Youth Apprenticeship Program
Students: 2896

Internship
Students: 8016

Cooperative Education
Students: 3526

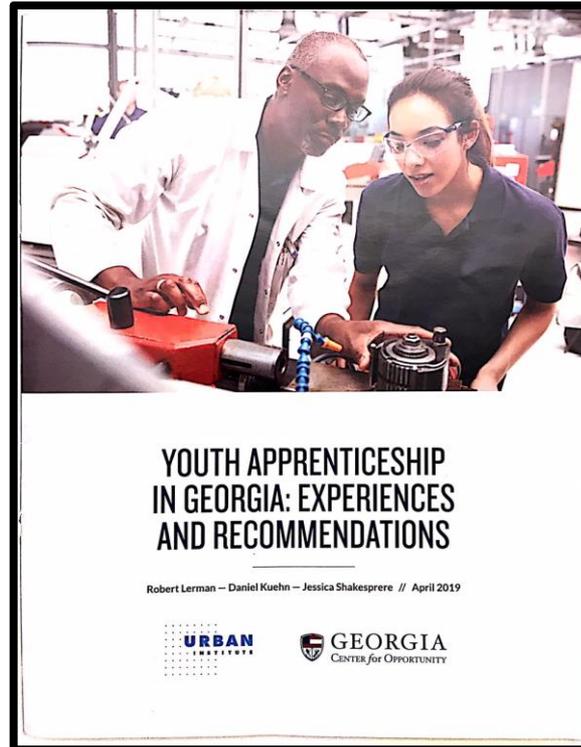
Employability Skill Development
Students: 3958

Great Promise Partnership
Students: 205

Totals
Students: 18,396

Superintendent Woods requested waiver to allow HS students to participate in German Apprenticeship.

Georgia CTAE Leads the Nation in WBL



Current apprentices and employers see significant value in YAP, but less than 2% of high school juniors & seniors participate.

Greatest Barrier: low number of employers willing to hire youth apprentices

Recommendations

Expand program to serve more students.

Link to registered apprenticeship program.

Explore IRAP (industry recognized apprenticeship program)

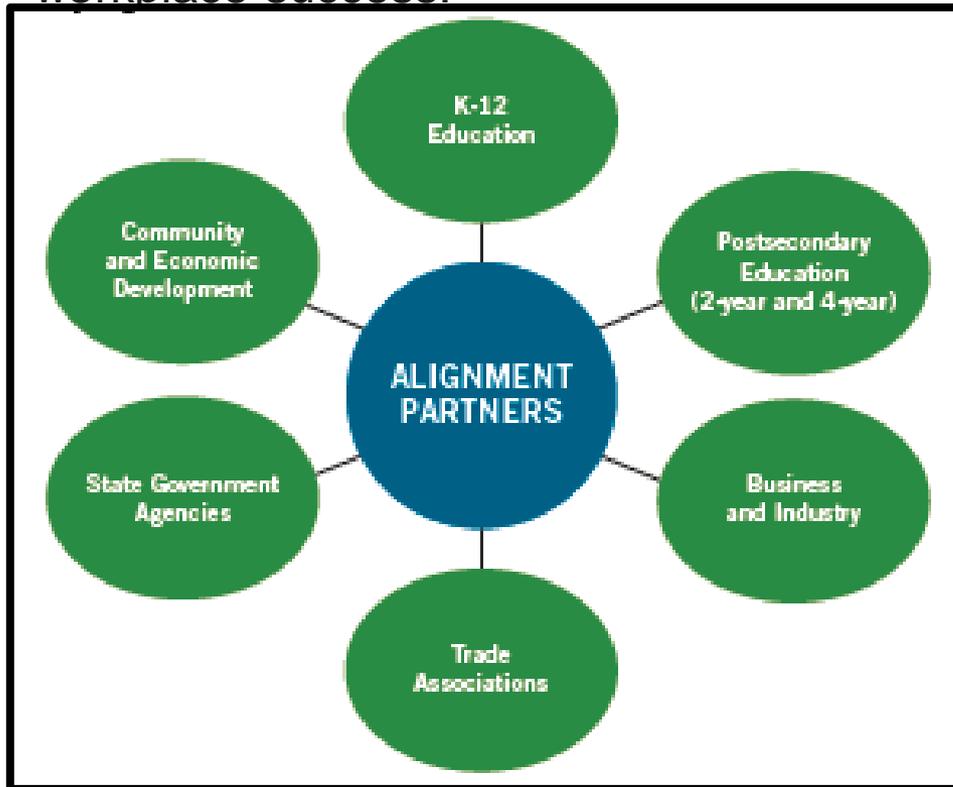
Expand state YAP staff to oversee existing programs and develop alternatives.

4 of these 8 were high school WBL students & are moving to full apprentice with Carroll Daniel Construction . . .



MISSION

To educate Georgia's future workforce by providing experiences for Georgia students that will prepare them for workplace success.



Collaboration and alignment of partners are key to accomplishing our mission.



Questions?

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