Georgia CTAE

House Rural Development Council
Chattahoochee Technical College
August 20, 2019
Barbara M. Wall, Ed.D.
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 be created 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.

<table>
<thead>
<tr>
<th>Course/Grade</th>
<th>Secondary: Manufacturing - Industrial Maintenance</th>
<th>Postsecondary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ninth</td>
<td>Tenth</td>
</tr>
<tr>
<td><strong>English</strong></td>
<td>9th grade Lit/Composition</td>
<td>10th grade Lit/Composition</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>Coordinate Algebra / Algebra I</td>
<td>Analytic Geometry / Geometry</td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td>Physical Science</td>
<td>Biology</td>
</tr>
<tr>
<td><strong>Social Studies</strong></td>
<td>Psychology</td>
<td>World History</td>
</tr>
<tr>
<td><strong>Pathway Completer</strong></td>
<td>Industrial Mechanic</td>
<td>Fluid Power and Piping Systems</td>
</tr>
<tr>
<td><strong>Industry Recognized Credential (Pathway Completer)</strong></td>
<td>Visit the End of Pathway Assessment Page (see note below)</td>
<td></td>
</tr>
<tr>
<td><strong>Required/Selective Electives</strong></td>
<td>Health &amp; Personal Fitness (can be taken in grades 9-12)</td>
<td>Intro to Digital Technology</td>
</tr>
<tr>
<td>Modern Language/Latin</td>
<td>2 units required for admittance to Georgia University System Colleges/Universities</td>
<td>For a listing of Modern Language/Latin courses offered at your high school, please contact your advisor, counselor, or curriculum handbook.</td>
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**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 the Postsecondary 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.


**Developed 1-31-2017; Revised 5-23-2018**
Sample High Demand Careers in Georgia

<table>
<thead>
<tr>
<th>Occupation Specialties</th>
<th>Level of Education Needed</th>
<th>Georgia Average Salary</th>
<th>Annual Average Openings in Georgia</th>
<th>2014 – 2024 Employment Outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Machinery Mechanics</td>
<td>Postsecondary Certificate</td>
<td>$45,688</td>
<td>424</td>
<td>High Demand, High Skill</td>
</tr>
<tr>
<td>Maintenance Workers, Machinery</td>
<td>Diploma, some postsecondary</td>
<td>$41,166</td>
<td>66</td>
<td>High Demand, High Skill</td>
</tr>
<tr>
<td>Millwrights</td>
<td>Diploma, some postsecondary</td>
<td>$46,030</td>
<td>65</td>
<td>High Demand, High Skill</td>
</tr>
</tbody>
</table>

Go to GAfutures 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).

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 efficiently 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.

- Industrial Machinery Mechanics
- Maintenance Workers, Machinery
- Millwrights

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.

Career-Related Education Activities
- Career Awareness
- Career Exploration
- Instructional Related
- Connecting
- Work-Based Learning
- Employability Skill Dev.
- Cooperative Education
- Internship
- Youth Apprenticeship
- Clinicals

Postsecondary Options:
- 4-Year Universities/Colleges
- 2-Year Colleges
- Technical Colleges
- State Registered Apprenticeships
- Special Purpose Schools
- On-the-Job Training
- Military

Postsecondary Transition
- 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

- Millwright
- Machinery Maintenance Workers

Other Related Occupations

*ONET Online
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
  - 2 Rural National Officers
  - 34 Non-Rural State Officers
  - 2 Non-Rural National Officers
meeting needs of students . . .

Career Ready Diploma Seal
meeting needs of students . . .

Steering Committee Chair
Amy Hutchins  Georgia Power

CTAE Strategic Planning Committee
Kelly Almond  Fulton County Schools  Erika Moore  TAG Education Collaboration
Letteca Bailey  Kia Motors Manufacturing Georgia  Erin O'Brien  O'Briant Group
Gilbert Barrett  White County Farmers Exchange  Mark Keegel  Technical College System of Georgia
Lakisha Bonner  Fayette County Board of Education  Debby Phillips  Georgia Apartment Industry Education Foundation
Ray Bowen  Georgia Association of Manufacturers  Cindy Quinlan  Brookwood High School
Tim Brown  Marletta City Schools  Mark Scott  Houston County Board of Education
Craig Camuso  CSX Transportation  Kevin Shea  Georgia Department of Economic Development
Roy Collins  Hennessy Automotive  Scott Sheler  Construction Education Foundation of Georgia
Stuart Countess  Kia Motors Manufacturing Georgia  Jimmy Stokes  Georgia Association of Educational Leaders
Matthew Gambill  Georgia Association for Career, Technical and Agricultural Education  Brian Tam  Tam’s Backstage
Phillip Gibson  Georgia BioScience Training Center  Barbara Wall  State CTAE Director
Ben Hames  Georgia Department of Economic Development Workforce Division  Lynne Wilson  CTAE Resource Network
Jamie Jordan  Georgia Department of Economic Development Workforce Division  Larry Winter  State Board of Education
Michael Yarbrough  Dekalb County Police Department

The following staff from the Georgia Department of Education assisted with the strategic planning effort:
Scott Chaffin, 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 Devine and Jake Brower.

Five-Year CTAE Strategic Plan
Driven by Business and Industry

Prepared by:

Richard Woods, Georgia’s School Superintendent | Georgia Department of Education | Educating Georgia’s Future
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.”

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
- 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 Programming
- Foundations of Secure Information Systems
- Foundations of Interactive Design

Middle School Coding Grants

FY 19 data

<table>
<thead>
<tr>
<th>FY 19 MS Coding Grants $500,000</th>
</tr>
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<tbody>
<tr>
<td>Jasper County</td>
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<tr>
<td>Appling County</td>
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<tr>
<td>Jefferson County</td>
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<tr>
<td>Taliaferro County</td>
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<tr>
<td>Whitfield County</td>
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<tr>
<td>Dougherty County</td>
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<tr>
<td>Ben Hill</td>
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<tr>
<td>Warren County</td>
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<tr>
<td>Thomas County</td>
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<tr>
<td>Griffin-Spalding</td>
</tr>
<tr>
<td>Wheeler</td>
</tr>
<tr>
<td>Liberty</td>
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</tbody>
</table>

Drones, robots, 3D printers, tablets, professional development, etc.
E3 Grant – Entrepreneurship for Rural Georgia Schools – FY19

Program-based enterprise

<table>
<thead>
<tr>
<th></th>
<th>County</th>
<th>School Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wilkes County</td>
<td>Washington-Wilkes Comprehensive High School</td>
</tr>
<tr>
<td>2</td>
<td>Warren County</td>
<td>Warren County High School</td>
</tr>
<tr>
<td>3</td>
<td>Ware County</td>
<td>Ware County High School</td>
</tr>
<tr>
<td>4</td>
<td>Brantley County</td>
<td>Brantley County High School</td>
</tr>
<tr>
<td>5</td>
<td>Meriwether County</td>
<td>Greenville High School</td>
</tr>
<tr>
<td>6</td>
<td>Evans County</td>
<td>Claxton High School</td>
</tr>
<tr>
<td>7</td>
<td>Berrien County</td>
<td>Berrien High School</td>
</tr>
<tr>
<td>8</td>
<td>Stephens County</td>
<td>Stephens County High School</td>
</tr>
<tr>
<td>9</td>
<td>McDuffie County</td>
<td>Thomson High School</td>
</tr>
</tbody>
</table>
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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