



Richard Woods
Georgia's School Superintendent
"Educating Georgia's Future"

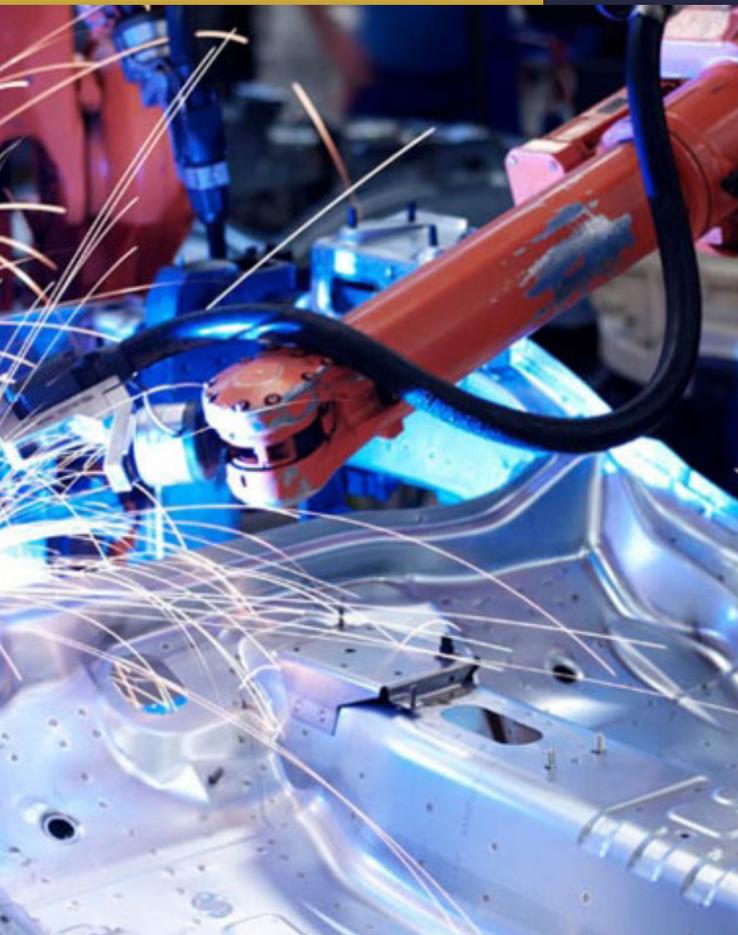
ANNUAL REPORT 2017

CTAE

Career, Technical and
Agricultural Education

CTAE

Georgia's Pathways to Future Workforce





Georgia Department of Education

Richard Woods
Georgia's School Superintendent
"Educating Georgia's Future"



Dear Friends and Colleagues,

It is my pleasure to present this report on the Georgia Department of Education's Career, Technical, and Agricultural Education programs. I am always excited for the opportunity to spotlight this highly successful program because it benefits schools, students, businesses, and industries across the state. In my travels across Georgia, I have witnessed firsthand how CTAE programs are preparing students to enter the workforce, serve in the military, take on an apprenticeship or pursue higher education through the Technical College System of Georgia or University System of Georgia.

CTAE is a real-life study in supply-meets-demand. Key business and industry leaders in our state have come to us seeking qualified, talented workers with skillsets that meet their needs. Our teachers and administrators have responded by forging relationships with them, getting their input, and developing coursework that delivers the tools students need to enter high-demand roles.

Time and again I hear how CTAE helps students see the relationship between their coursework and real-world application. The proof of increased engagement is in the data: of the students who complete a Career Pathway, 96% of them graduate from high school. Students go on to technical colleges, four-year university programs, the military, apprenticeships, and sometimes, directly into a high-demand career.

Going forward, our CTAE programs will be guided by an added layer of coordination with a new CTAE Strategic Plan that helps determine the shape of things to come. Never before have our students been so well-prepared for real work with a real future.

Thank you for taking the time to read about our successes in CTAE. I deeply appreciate your interest and support.

Sincerely,

Richard Woods
State School Superintendent

**Georgia Department of
Education Vision:
*Educating Georgia's Future***

"Educating Georgia's Future"

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CTAE

Career, Technical and
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MESSAGE FROM CTAE DIRECTOR

A summary of the status and accomplishments of the secondary Career, Technical and Agricultural Education (CTAE) programs in the state of Georgia during the 2016-17 school year is contained in this annual report.

The role of education in supporting economic development has never been more important. Georgia continues to see success in economic development, with many site selection and expansion announcements and a growing economy. Recently, Georgia was named the number one state for business for the fourth year in a row by Site Selection magazine. The state's education system, including CTAE, is an integral part of Georgia's workforce development pipeline. CTAE exposes students to career options, teaches them high-demand skills, and prepares them for careers and postsecondary education.

This year has been a time to build upon the key message CTAE educators heard in the previous school year at the regional economic development meetings about the need to create and strengthen partnerships with the business community. The focus of Georgia CTAE for this year has been building deep, meaningful, and sustainable relationships with business and industry.

Several initiatives were implemented this year addressing business and industry partnerships which include:

- Business and Industry Advisory Committee Training for CTAE Educators
- Employability Skills Task Force
- Business and Industry Externship Guide for CTAE Educators and Counselors
- Manufacturing Day for Counselors
- Georgia Career Pipeline – connecting employers to Ga. Workforce

Stronger links with business and industry will improve student outcomes, assist teachers, and help employers find the talent they need.

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 thus resulting in many of the accomplishments contained in this annual report. One of these accomplishments is the graduation rate of 96% for CTAE completers as compared to 80.6% for Georgia's overall graduation rate. Another accomplishment is the increase in enrollment of both middle and high school CTAE courses. Soft skills are often learned through the Career Technical Student Organizations (CTSOs). Membership in 6 of the 8 traditional CTSOs saw an increase in FY 2017. A new CTSO, Georgia FIRST, was formed at the state level during FY 17 for students participating in the robotics program. Sixty percent of jobs require some type of post-secondary education. An increase in post-secondary options through the dual enrollment program was accomplished in FY 2017.

CTAE educators are doing an incredible job preparing students for workplace success and building the career pipeline. The job they do is certainly enhanced by creating and strengthening partnerships with the business community. We value business and industry partnerships and know that educating Georgia's future workforce takes the business community working together with our CTAE educators to create a strong career pipeline for Georgia.

I encourage you to take time to review all the accomplishments in this report for FY 2017.

Sincerely,



Barbara M. Wall, Ed.D.

Director of Career, Technical and Agricultural Education



Annual Report 2017

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CTAE Mission

To prepare students to be successful as they
transition to college and the workforce

Because strong schools are the only proven route to tomorrow's good jobs, we must focus efforts on producing well-prepared students who are life-, college-, and work-ready. Economic development begins with strong schools.

– Governor Nathan Deal, State of Georgia

Georgia Career, Technical and Agricultural Education

CTAE: Georgia's Pathways to Future Workforce

CTAE At-A-Glance

Georgia Department of Education

2016-2017 Georgia Career, Technical and Agricultural Education

Secondary Education—Grades 6-12

CTAE Programs

- 180 Local School Systems

Total Georgia Student Enrollment

- 565,652 Students in Grades 9-12
- 433,136 Students in Grades 6-8

Student Enrollment in CTAE Courses

(Students enrolled in one or more CTAE courses)

- 62.04% of all Students in Grades 9-12 Statewide (350,948 students)
- 55.46% of all Students in Grades 6-8 Statewide (240,224 students)

CTAE Enrollment by Gender in Middle and High Schools

- Male 52.32%
- Female 47.68%

CTAE Enrollment by Race

- Black 37.83%
- Hispanic 13.39%
- White 41.82%
- Other 6.96%

CTAE High School Concentrators

(Students completing 3 or more courses in a Program Area)

- 130,547 Students

Graduation Rate for CTAE Completers

- 96.00%

Student Enrollment is the **unduplicated count**: Each student is counted once, although he/she could be enrolled in more than one CTAE program area.

Data Source: Georgia Department of Education Website (2016-2017 CTAE Enrollment), data tables provided by the CTAE division, and Perkins' IV Consolidated Annual Report FY 2016-2017.

The CTAE mission is to educate Georgia's future workforce by providing experiences for Georgia students that will prepare them for workplace success. CTAE educators can't accomplish this alone. Partnerships MUST be formed with business and industry. Relationships must be developed based on trust and communication.

– Barbara M. Wall, Ed.D.

Director of Career,
Technical and Agricultural Education

Career, Technical and Agricultural Education (CTAE) provides Georgia's students with multiple pathways to participate in the future workforce. CTAE prepares students for their next step after high school—college, beginning a career, registered apprenticeships, or the military. Georgia CTAE pathway course offerings, and the new Educating Georgia's Future Workforce initiative, leverage partnerships with industry and higher education to ensure students have the skills they need to thrive in the future workforce. CTAE offers students more than 130 career pathways within the 27 Georgia Career Clusters. The CTAE curriculum includes national standards, CTAE standards, and Georgia Performance Standards, in addition to career development activities which allow students to make the connection between class activities and the workforce.

During FY 2017 over 240,224 middle school students (54% of all Georgia middle school students) and 350,948 high school students (62% of all Georgia high school students) participated in Georgia's Department of Education Career, Technical and Agricultural Education (CTAE) Career Cluster programs. CTAE pathways enable students to experience the workplace relevance of what they are learning in the classroom. CTAE students participate in local, state, regional, and national Career Technical Student Organization (CTSO) activities and events which support classroom instruction and laboratory experiences. All CTAE pathways focus on the following foundation skills required for employment success: Technical Skills; Academic Foundations; Communications; Problem Solving and Critical Thinking; Information Technology Applications; Organizational Systems; Safety, Health and Environment; Leadership and Teamwork; Ethics and Legal Responsibilities; Career Development; and Entrepreneurship.

A primary indicator of program success is the graduation rate of students participating in CTAE. In FY 2017, CTAE students who took a sequence of three or more classes in a single program area, graduated at a higher rate than all Georgia students. The graduation rate was 96% for CTAE completers as compared to a graduation rate of 80.6% for all students statewide.

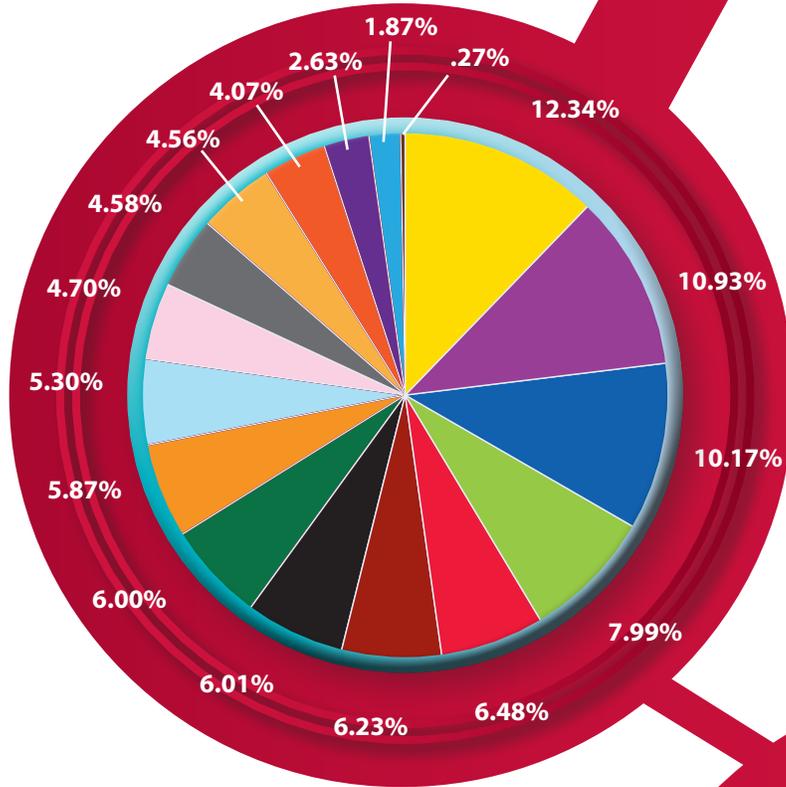
The Department of Education and CTAE work collaboratively with numerous entities to provide students the skills needed for success in the future workforce. This includes partnerships with business and industry. The Economic Development Partnership was formed in collaboration with the Georgia Economic Developers Association (GEDA) to:

- Better align and connect the economic development, education, and business communities
- Increase applied learning opportunities for students
- Increase community collaboration
- Recognize districts who excel in leveraging relationships to benefit the local community

The state career and technical education system includes programs offered at the middle and high school levels by the CTAE Division of the Georgia Department of Education (GaDOE) and at the postsecondary level by the Technical College System of Georgia (TCSG) and Georgia Board of Regents. Guidelines of the Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Perkins IV) align the CTAE program with academic indicators.



Chart: Percentage of High School Students (Grades 9-12) Enrolled in each CTAE Program Area in 2016-2017



Total CTAE Enrollment

Business Management and Administration (BMA)	71,778
Finance (FIN)	63,600
Information Technology (IT)	59,201
Health Science (HHS)	46,489
Government and Public Administration (GPS)	37,735
Human Services (HS)/Family and Consumer Sciences (FACS)	36,243
Agriculture, Food and Natural Resources (AGED)	34,963
Hospitality and Tourism (HT)	34,925
Arts, AV/Technology and Communications (AAVTC)	34,152
Science, Technology, Engineering and Mathematics (STEM)	30,835
Marketing (MKTG)	27,325
Manufacturing (MANG)	26,678
Architecture and Construction (AC)	26,557
Education and Training (ET)	23,660
Law, Public Safety, Corrections and Security (LPSCS)	15,322
Transportation, Distribution and Logistics (TDL)	10,886
Energy (NRG)	1,547

Total CTAE Enrollment

Business Management and Administration (BMA)	116,773
Science, Technology, Engineering and Mathematics (STEM)	89,162
Human Services (HS)/Family and Consumer Sciences (FACS)	52,993
Agriculture, Food and Natural Resources (AGED)	30,295
Arts, AV/Technology and Communications (AAVTC)	8,376
Health Science (HHS)	7,851
Marketing (MKTG)	4,933
Architecture and Construction (AC)	1,837
Law, Public Safety, Corrections and Security (LPSCS)	1,748
Transportation, Distribution and Logistics (TDL)	329

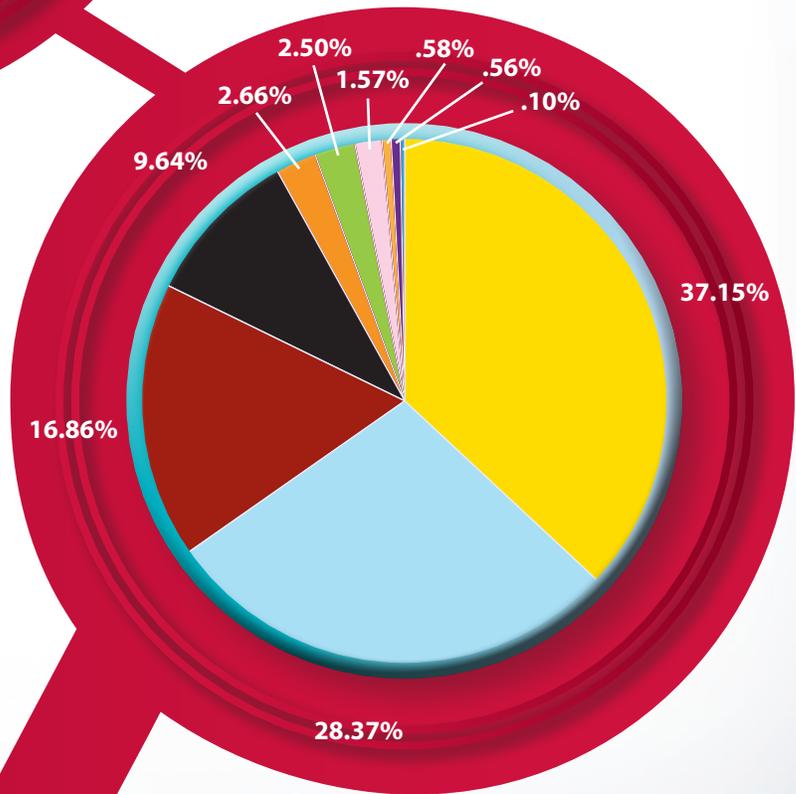


Chart: Percentage of Middle School Students (Grades 6-8) Enrolled in each CTAE Program Area in 2016-2017

Students need to be engaged and see the relevance of their education-- and CTAE makes that happen. CTAE connects Georgia's K-12 schools with business and industry, building a pipeline of qualified students who are ready to participate meaningfully in Georgia's industries and communities.
 - Richard Woods, Georgia's School Superintendent

Note: Student enrollment in each CTAE program area is an unduplicated count. A student could be counted more than once if enrolled in multiple programs.

CTAE Achievements in 2016-2017

Graduation Rate for CTAE Completers

- ▶ The FY 2017 graduation rate of 96.00% for CTAE Completers compares favorably with Georgia's overall graduation rate of 80.60%.
- ▶ The CTAE graduation rate of 96.00% is 2.4% above the State Target (92.5%) in FY 2017.
- ▶ The FY 2017 CTAE graduation rate (96.00%) increased as compared to the FY 2016 CTAE graduation rate (94.8%)

CTAE Postsecondary Transitions

- ▶ In FY 2017 a total of 35,862 students participated in Dual Enrollment, earning college credits, compared to 27,512 students in FY 2016 (a 30.35% increase).
- ▶ A total of 21,189 high school students dual enrolled in college-level CTAE courses at Georgia's technical colleges or other colleges with technical divisions in FY 2017.

CTAE Professional Learning Participation

- ▶ 209 CTAE Professional Learning Workshops were held during FY2017, with over 8,289 CTAE educators participating in a total of 50,032 professional learning contact hours.

Georgia STEM (Science, Technology, Engineering, and Math) Program

- ▶ In FY 2017 over 1,600 educators, including 650 CTAE teachers, participated in the CTAE Annual STEM Forum, a state-wide program to facilitate CTAE, math, and science teachers to collaborate and to learn about STEM initiatives, methods to implement STEM strategies in the classroom, and the statewide STEM Georgia Teachers Academies.
- ▶ Over 900 Georgia schools are currently working towards STEM Certification from the Georgia Department of Education. During FY 2017, 66 schools, including 13 high schools, 13 middle schools, and 38 elementary schools held STEM certification. These schools are required to have 50% female students in the STEM programs.

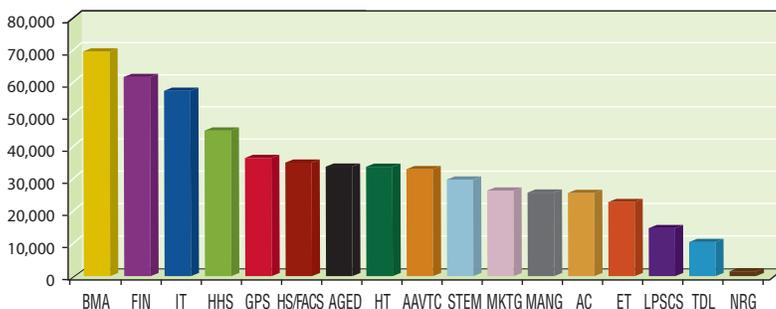
It is our goal to ensure that every single Georgia student graduated prepared--not just for higher education, should they pursue it, but for a meaningful career in the field of their choice. For that reason, employability skills are a matter of importance for every Georgia student, and every Georgia educator, and every Georgia business. Working together we can make sure each student who graduates from a Georgia high school is equipped for a successful future.

– Richard Woods, Georgia's School Superintendent

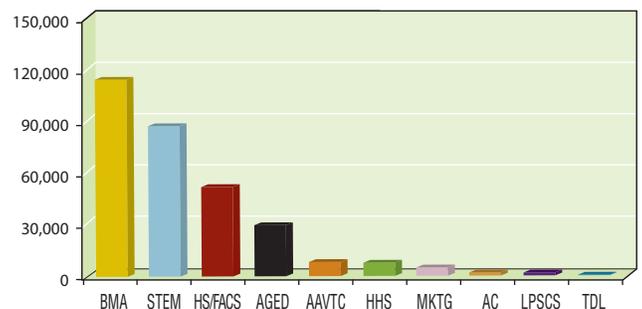
CTAE Program Achievements

- ▶ The total number of high school students enrolled in CTAE in FY 2017 (350,948 students) increased as compared to FY 2016 (344,971 students).
- ▶ The total number of middle school students enrolled in CTAE in FY 2017 (240,224 students) increased as compared to FY 2016 (232,854 students).
- ▶ 55.46% of all middle school and 62.04% of all high school students were enrolled in CTAE courses in FY 2017.
- ▶ In FY 2017, the number of CTAE students completing three or more classes in a program area (130,547 CTAE Concentrators) increased 8.9% as compared with 119,852 CTAE Concentrators in FY 2016.
- ▶ 49,911 pathway completers sat for the end of pathway assessments in FY 2017 as compared with 44,057 high school students in FY 2016 (a 13% increase).
- ▶ CTAE Career Clusters held 505 industry certifications in FY 2017 compared with 480 industry certifications in FY 2016 (a 5.21% increase).
- ▶ 32,292 high school students earned an industry credential in FY 2017 as compared with 26,522 high school students in FY 2016 (a 22% increase).
- ▶ Student unduplicated enrollment in Junior Reserve Officers Training Corps (JROTC) numbered 38,044 in FY 2017.
- ▶ Student membership in CTSOs increased during FY 2017 in the following Georgia Career Technical Student Organizations: Family, Career and Community Leaders of America (FCCLA) by 27.68%; Georgia SkillsUSA by 13.1%; Distributive Education Club of America (DECA) by 2.93%; Future Farmers of America (FFA) by 2.07%; Future Business Leaders of America (FBLA) by 2.03%; and Health Occupations Students of America (HOSA) by 1.38%.
- ▶ A new CTSO, Georgia FIRST, was formed during FY 2017 for students participating in the robotics program.
- ▶ 19,394 students participated in the Georgia Youth Apprenticeship Program (YAP) during FY 2017. This was a 9.56% increase as compared to FY 2016 (17,701 YAP students).
- ▶ 98.8% of employers would recommend the Georgia Youth Apprenticeship Program to other companies.
- ▶ 97.7% of employers participating in the Georgia Youth Apprenticeship Program agreed that students performed at the level expected, and 97.2% of employers agreed that students understand written instructions and materials at the level expected.
- ▶ 95.1% of employers agreed that students in the Georgia Youth Apprenticeship Program exhibit satisfactory communication (written and verbal) skills. 95% of employers agreed that students who participate in YAP exhibit satisfactory problem-solving skills, and 94.5% of employers agree that students demonstrate computer skills at the level expected.
- ▶ 96.9% of employers found the Georgia Youth Apprenticeship Program beneficial to their companies.

CTAE High School Program Enrollment: 2016-2017



CTAE Middle School Program Enrollment: 2016-2017



AGRICULTURE, FOOD AND NATURAL RESOURCES (AGED) 2016-2017



AGRICULTURE, FOOD and NATURAL RESOURCES (AGED) Career Cluster trains students for careers in the production, processing, marketing, financing, distribution, and development of agricultural commodities and resources. These commodities include food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

Student Enrollment in Grades 9-12 (Unduplicated Count)	Total 34,963 Male 21,887 (63%) Female 13,076 (37%)
Student Enrollment in Grades 6-8	30,295
Number of Industry-Certified Programs	29
Number of CTAE Teachers	427 High School Teachers 128 Middle School Teachers

*A teacher may teach in more than one Career Cluster.



Agriculture, Food and Natural Resources Career Pathways

- ✦ *Agribusiness Systems*
- ✦ *Agriculture Energy Systems*
- ✦ *Agriculture Leadership in Food Product Processing*
- ✦ *Agricultural Mechanics and Metal Fabrication*
- ✦ *Agriculture Leadership in Animal Production*
- ✦ *Agriculture Leadership in Aquaculture*
- ✦ *Agriculture Leadership in Forestry*
- ✦ *Agriculture Leadership in Horticulture*
- ✦ *Agriculture Leadership in Plant Science*
- ✦ *Agriculture Mechanics and Electrical Systems*
- ✦ *Agriculture Mechanics Systems*
- ✦ *Agriscience Systems*
- ✦ *Animal Production and Processing*
- ✦ *Animal/Mechanical Systems*
- ✦ *Companion Animal Systems*
- ✦ *Environmental Agriculture Systems*
- ✦ *Equine Science*
- ✦ *Food Animal Systems*
- ✦ *Food Products and Processing Systems*
- ✦ *Forest Mechanical Systems*
- ✦ *Forest/Renewable Energy*
- ✦ *Forestry and Animal Science*
- ✦ *Forestry Management Systems*
- ✦ *Forestry/Natural Resources Management*
- ✦ *Forestry/Wildlife Systems*
- ✦ *Horticulture and Animal Science*
- ✦ *Horticulture and Forest Science*
- ✦ *Horticulture Mechanical Systems*
- ✦ *Landscape Management Systems*
- ✦ *Plant and Floral Design Systems*
- ✦ *Plant and Floriculture Systems*
- ✦ *Plant and Landscape Systems*
- ✦ *Plant Mechanical Systems*
- ✦ *Veterinary Science*

ARCHITECTURE AND CONSTRUCTION (AC) 2016-2017

ARCHITECTURE and CONSTRUCTION (AC) Career Cluster trains students for careers in designing, planning, managing, and building structures.



Enrollment in Grades 9-12 (Unduplicated Count)	Total 26,557 Male 19,564 (74%) Female 6,993 (26%)
Student Enrollment in Grades 6-8	1,837
Number of Industry-Certified Programs	62
Number of CTAE Teachers	277 High School Teachers 9 Middle School Teachers

*A teacher may teach in more than one Career Cluster.

Architecture and Construction Career Pathways

- ✦ *Architectural Drawing and Design*
- ✦ *HVACR Electrical*
- ✦ *Carpentry*
- ✦ *Industrial Maintenance*
- ✦ *Electrical*
- ✦ *Machining Operations*
- ✦ *Fine Furniture-Cabinetmaking*
- ✦ *Masonry*
- ✦ *Heating, Ventilation, Air Conditioning & Refrigeration*
- ✦ *Plumbing*
- ✦ *Sheet Metal*
- ✦ *Welding*

ARTS, AV/TECHNOLOGY AND COMMUNICATIONS (AAVTC) 2016-2017

ARTS, AV/TECHNOLOGY and COMMUNICATIONS (AAVTC) Career Cluster trains students for careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content.



Arts, AV/Technology and Communications Career Pathways

- ✦ *Animation and Digital Media*
- ✦ *Audio Video Technology and Film*
- ✦ *Graphic Communication*
- ✦ *Graphic Design*



Enrollment in Grades 9-12 (Unduplicated Count)	Total 34,152 Male 19,435 (57%) Female 14,717 (43%)
Student Enrollment in Grades 6-8	8,376
Number of Industry-Certified Programs	44
Number of CTAE Teachers	342 High School Teachers 43 Middle School Teachers

*A teacher may teach in more than one Career Cluster.



BUSINESS, MANAGEMENT AND ADMINISTRATION (BMA) 2016-2017

BUSINESS, MANAGEMENT, and ADMINISTRATION (BMA) Career Cluster trains students for careers in planning, organizing, directing, and evaluating as well as owning and operating a successful business. Students learn computer skills required for future college and career plans.

Enrollment in Grades 9-12 (Unduplicated Count)	Total 71,778 Male 39,295 (55%) Female 32,483 (45%)
Student Enrollment in Grades 6-8	116,773
Number of Industry-Certified Programs	103
Number of CTAE Teachers	1,018 High School Teachers 419 Middle School Teachers

*A teacher may teach in more than one Career Cluster.



Business, Management and Administration Career Pathways

- ✦ *Business and Technology*
- ✦ *Entrepreneurship*
- ✦ *Human Resources Management*



EDUCATION AND TRAINING (ET) 2016-2017

EDUCATION and TRAINING (ET) Career Cluster prepares students in careers for planning, managing, and providing education and training services as well as related learning support services.



Education and Training Career Pathways

- ✦ *Early Childhood Care and Education*
- ✦ *Teaching as a Profession*

Enrollment in Grades 9-12 (Unduplicated Count)	Total 23,660 Male 2,687 (11%) Female 20,973 (89%)
Number of Industry-Certified Programs	26
Number of CTAE Teachers	294 High School Teachers

*A teacher may teach in more than one Career Cluster.



ENERGY (NRG) 2016-2017

ENERGY (NRG) Career Cluster prepares students for careers in the designing, planning, maintaining, generating, transmission, and distribution of traditional and alternative energy.

Enrollment in Grades 9-12 (Unduplicated Count)	Total 1,547 Male 1,276 (82%) Female 271 (18%)
Number of Industry-Certified Programs	<i>Note: Industry certification process in review</i>
Number of CTAE Teachers	30 High School Teachers

*A teacher may teach in more than one Career Cluster.



Energy Career Pathways

- ✦ *Energy and Power: Generation, Transmission and Distribution*
- ✦ *Energy Systems*



FINANCE (FIN) 2016-2017

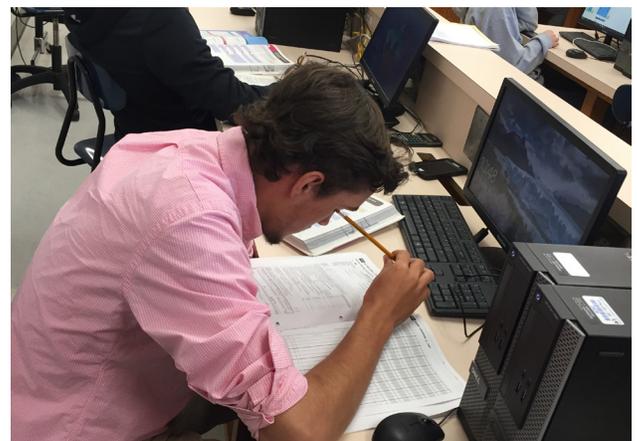
FINANCE (FIN) Career Cluster prepares students for careers in money management, including planning, investing, and spending. Students gain career development skills for the finance world with opportunities that expand beyond basic business skills into financial literacy, banking, investing, insurance, and risk management.

Enrollment in Grades 9-12 (Unduplicated Count)	Total 63,600 Male 38,148 (55%) Female 25,452 (45%)
Student Enrollment in Grades 6-8	116,773
Number of Industry-Certified Programs	103
Number of CTAE Teachers	979 High School Teachers 419 Middle School Teachers

*A teacher may teach in more than one Career Cluster.

Energy Career Pathways

- ✦ *Advanced Accounting*
- ✦ *Business Accounting*
- ✦ *Financial Services*



GOVERNMENT AND PUBLIC ADMINISTRATION (GPA) 2016-2017

GOVERNMENT and PUBLIC ADMINISTRATION (GPS) Career Cluster prepares students for careers in planning and performing government management and administrative functions at local, state, and federal levels, including national security, foreign service, revenue, and regulations.

Enrollment in Grades 9-12 (Unduplicated Count)	Total 37,735 Male 20,166 (53%) Female 17,569 (47%)
Number of Industry-Certified Programs	<i>Note: Industry certification process in review</i>
Number of CTAE Teachers	540 High School Teachers

*A teacher may teach in more than one Career Cluster.

Government and Public Administration Career Pathways

- ✦ **Public Management and Administration**
- ✦ **Junior Reserve Officers' Training Corps (JROTC)**
 - JROTC – Air Force 9,689
 - JROTC – Army 19,046
 - JROTC – Marines 2,258
 - JROTC – Navy 7,051



HOSPITALITY AND TOURISM (HT) 2016-2017

HOSPITALITY and TOURISM (HT) Career Cluster prepares students for careers in the management, marketing, and operations of restaurants and other food services, lodging, attractions, recreation events, and travel related services.

Enrollment in Grades 9-12 (Unduplicated Count)	Total 34,925 Male 16,931 (48%) Female 17,994 (52%)
Number of Industry-Certified Programs	<i>Note: Industry certification process in review</i>
Number of CTAE Teachers	468 High School Teachers 206 Middle School Teachers

*A teacher may teach in more than one Career Cluster.



Hospitality and Tourism Career Pathways

- ✦ **Culinary Arts**
- ✦ **Hospitality, Recreation and Tourism**
- ✦ **Sports and Entertainment Marketing**



HEALTH SCIENCE (HHS) 2016-2017

HEALTH SCIENCE (HHS) Career Cluster prepares students for careers in planning, managing, and providing services in therapeutics, diagnostics, health informatics, support areas, and biotechnology research and development.



Health Science Career Pathways

- ✦ *Biotechnology Research & Development*
- ✦ *Diagnostics - Clinical Lab*
- ✦ *Diagnostics - Phlebotomy*
- ✦ *Diagnostics - Non-Invasive Technology in Healthcare*
- ✦ *Health Informatics - Health Information Management/ Medical Office*
- ✦ *Health Informatics - Health Information Technology*
- ✦ *Support Services*
- ✦ *Therapeutic Services - Allied Health and Medicine*
- ✦ *Therapeutic Services - Dental Science*
- ✦ *Therapeutic Services - Emergency Medical Responder*
- ✦ *Therapeutic Services - Exercise Physiology*
- ✦ *Therapeutic Services - Patient Care*
- ✦ *Therapeutic Services - Pharmacy*
- ✦ *Therapeutic Services - Public Health*
- ✦ *Therapeutic Services - Public Safety Communications*
- ✦ *Therapeutic Services - Sports Medicine*
- ✦ *Therapeutic Services - Surgical Technology*

Enrollment in Grades 9-12 (Unduplicated Count)	Total 46,489 Male 10,652 (23%) Female 35,837 (77%)
Student Enrollment in Grades 6-8	7,851
Number of Industry-Certified Programs	73
Number of CTAE Teachers	571 High School Teachers 32 Middle School Teachers

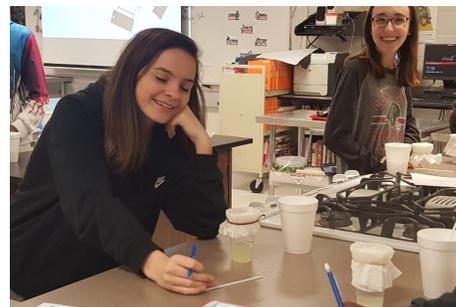
*A teacher may teach in more than one Career Cluster.



HUMAN SERVICES (HS)/FAMILY AND CONSUMER SCIENCES (FACS) 2016-2017

HUMAN SERVICES (HS)/FAMILY AND CONSUMER SCIENCE (FACS) Career Cluster prepares students for careers related to family and human needs, such as nutrition and food science, counseling and mental health services, family and community services, personal care, and consumer services.

Enrollment in Grades 9-12 (Unduplicated Count)	Total 36,243 Male 11,287 (31%) Female 24,956 (69%)
Student Enrollment in Grades 6-8	52,993
Number of Industry-Certified Programs	26
Number of CTAE Teachers	528 High School Teachers 206 Middle School Teachers



*A teacher may teach in more than one Career Cluster.



Human Services Career Pathways

- ✦ Food and Nutrition
- ✦ Housing and Community Management
- ✦ Interiors, Fashion, and Textiles
- ✦ Personal Care Services - Barbering
- ✦ Personal Care Services - Cosmetology
- ✦ Personal Care Services - Esthetics
- ✦ Personal Care Services - Nails



INFORMATION TECHNOLOGY (IT) 2016-2017

INFORMATION TECHNOLOGY (IT) Career Cluster prepares students for careers that create, use, modify, and engage technology skills in a rapidly changing digital world, including graphics, multimedia animation, web design, game and application development, networking, and computer repair.



Enrollment in Grades 9-12 (Unduplicated Count)	Total 59,201 Male 32,497 (55%) Female 26,704 (45%)
Number of Industry-Certified Programs	103
Number of CTAE Teachers	841 High School Teachers

*A teacher may teach in more than one Career Cluster.

Information Technology Career Pathways

- ✦ Computer Science
- ✦ Cybersecurity
- ✦ Game Design
- ✦ Health Information Technology
- ✦ Information Support and Services
- ✦ Internet of Things
- ✦ Networking
- ✦ Programming
- ✦ Web and Digital Design
- ✦ Web Development



LAW, PUBLIC SAFETY, CORRECTIONS AND SECURITY (LPSCS) 2016-2017

LAW, PUBLIC SAFETY, CORRECTIONS and SECURITY (LPSCS) Career Cluster prepares students for careers relating to emergency and fire services, legal services, protective services, and homeland security.



Enrollment in Grades 9-12 (Unduplicated Count)	Total 15,322 Male 7,376 (48%) Female 7,946 (52%)
Student Enrollment in Grades 6-8	1,748
Number of Industry-Certified Programs	Not Available
Number of CTAE Teachers	128 High School Teachers 9 Middle School Teachers

*A teacher may teach in more than one Career Cluster.



Law, Public Safety, Corrections, and Security Career Pathways

- ✦ Corrections Services
- ✦ Fire and Emergency Services - Emergency Medical Responder
- ✦ Fire and Emergency Services - Firefighting
- ✦ Fire and Emergency Services - Public Safety Communications
- ✦ Law Enforcement Services - Criminal Investigations
- ✦ Law Enforcement Services - Forensic Science
- ✦ Law Enforcement Services - Public Safety Communications
- ✦ Legal Services - Applications of the Law
- ✦ Legal Services - Legal Administrative Services
- ✦ Security and Protective Services

MANUFACTURING (MANG) 2016-2017

MANUFACTURING (MANG) Career Cluster prepares students for careers in the processing of materials into intermediate or final products and related professional and technical support activities, such as production control, maintenance, and process engineering.



Manufacturing Career Pathways

- ✦ Granite Technology
- ✦ Industrial Maintenance
- ✦ Manufacturing
- ✦ Mechatronics

Enrollment in Grades 9-12 (Unduplicated Count)	Total 26,678 Male 18,168 (68%) Female 8,510 (32%)
Number of Industry-Certified Programs	Note: Industry certification process in review
Number of CTAE Teachers	281 High School Teachers

*A teacher may teach in more than one Career Cluster.



MARKETING (MKTG) 2016-2017

MARKETING (MKTG) Career Cluster prepares students for careers in marketing that require anticipating, managing, and satisfying consumers demand for products, services, and ideas, as well as advertising and promotional techniques, business communication, and business development.



Enrollment in Grades 9-12 (Unduplicated Count)	Total 27,325 Male 13,941 (51%) Female 13,384 (49%)
Student Enrollment in Grades 6-8	4,933
Number of Industry-Certified Programs	65
Number of CTAE Teachers	244 High School Teachers 23 Middle School Teachers

*A teacher may teach in more than one Career Cluster.



Marketing Career Pathways

- ✦ Fashion, Merchandising and Retail Management
- ✦ Marketing and Management
- ✦ Marketing Communications and Promotions

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) 2016-2017

SCIENCE, TECHNOLOGY, ENGINEERING and MATHEMATICS (STEM) Career Cluster prepares students for careers in planning, managing, and providing scientific research and professional and technical services.

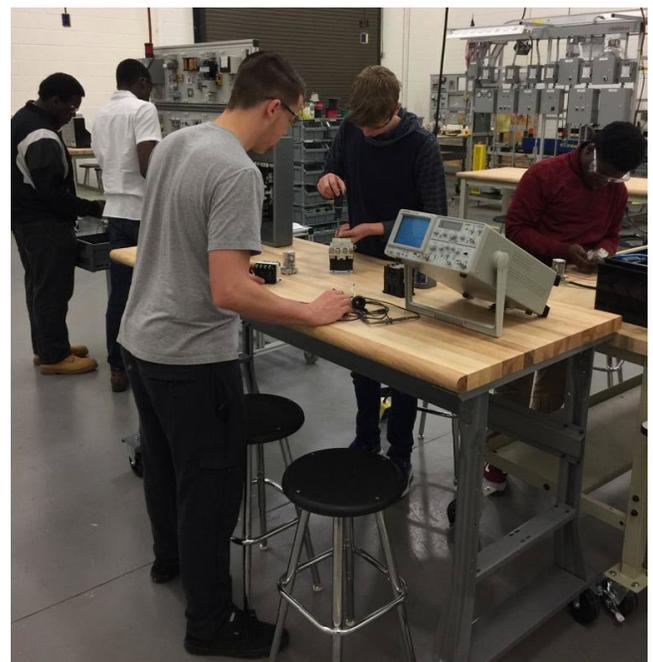


Enrollment in Grades 9-12 (Unduplicated Count)	Total 30,835 Male 24,510 (80%) Female 6,325 (20%)
Student Enrollment in Grades 6-8	89,162
Number of Industry-Certified Programs	47
Number of CTAE Teachers	330 High School Teachers 340 Middle School Teachers

*A teacher may teach in more than one Career Cluster.

Science, Technology, Engineering and Mathematics Career Pathways

- ✦ Electronics
- ✦ Engineering and Technology
- ✦ Engineering Drafting and Design

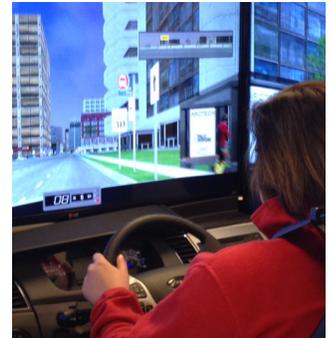


TRANSPORTATION, DISTRIBUTION AND LOGISTICS (TDL) 2016-2017

TRANSPORTATION, DISTRIBUTION and LOGISTICS (TDL) Career Cluster prepares students for careers in planning, managing, and moving people, materials, and goods by road, pipeline, air, rail, and water, as well as other related professional and technical support services.



Enrollment in Grades 9-12 (Unduplicated Count)	Total 10,886 Male 9,962 (91%) Female 1,024 (9%)
Student Enrollment in Grades 6-8	329
Number of Industry-Certified Programs	30
Number of CTAE Teachers	125 High School Teachers 2 Middle School Teachers



*A teacher may teach in more than one Career Cluster.

Transportation, Distribution & Logistics Career Pathways

- Aircraft Maintenance*
- Collision Repair-Non-Structural Analysis and Damage Repair*
- Flight Operations*
- Automobile Maintenance and Light Repair*
- Collision Repair-Painting and Refinishing*
- Marine Engine Technology*
- Automobile Service Technology*
- Distribution and Logistics*
- Master Automobile Service Technology*

COORDINATED CAREER ACADEMIC EDUCATION/PROJECT SUCCESS (CCA/PS) 2016-2017

COORDINATED CAREER ACADEMIC EDUCATION/PROJECT SUCCESS (CCA/PS) works with students who are at risk of dropping out of high school based on the Carl Perkins Federal Regulations. The students who are targeted receive assistance from a designated teacher as they continue throughout their high school career.

Enrollment in Grades 9-12 (Unduplicated Count)	Total 2,087 Male 1,039 (50%) Female 1,048 (50%)
Number of CTAE Teachers	232 High School Teachers

CAREER AND TECHNICAL INSTRUCTION (CTI) 2016-2017

CAREER AND TECHNICAL INSTRUCTION (CTI) provides support services to students with disabilities enrolled in Career, Technical and Agricultural Education classes. The goal of the secondary (grades 9-12) level services is to provide these students with job-entry skills at the completion of the CTAE experience.



Enrollment in Grades 9-12 (Unduplicated Count)	Total 4,980 Male 2,881 (58%) Female 2,099 (42%)
Number of CTAE Teachers	131 High School Teachers

*A teacher may teach in more than one program.



GEORGIA'S CAREER CLUSTER EDUCATIONAL PROGRAMS

<p>Agriculture, Food, and Natural Resources</p> <ul style="list-style-type: none"> Animal Production & Processing Animal/Mechanical Systems Agriculture Leadership in Animal Production Companion Animal Systems Veterinary Science Equine Science Food Animal Systems Forest / Renewable Energy Agriculture Leadership in Aquaculture Forest Mechanical Systems Agriculture Leadership in Forestry Forest / Natural Resources Management Forest Management Systems Forestry / Wildlife Systems Environmental Agriculture Systems Horticulture Mechanical Systems Agriculture Leadership in Plant Science Agriculture Leadership in Horticulture Landscape Management Systems Plant and Floral Design Systems Plant and Landscape Systems Plant and Floriculture Systems Agriculture Mechanics & Electrical Systems Agriculture Mechanics & Metal Fabrication Agriculture Energy Systems Agriculture Mechanics Systems Food Products & Processing Systems Agriculture Leadership in Food Product Processing Horticulture and Forest Science Plant Mechanical Systems Horticulture and Animal Science Forestry and Animal Science Agribusiness Systems Agri-science Systems
<p>Law, Public Safety, Corrections & Security</p> <ul style="list-style-type: none"> Fire and Emergency Services – Emergency Medical Responder Fire and Emergency Services – Public Safety Communications Fire and Emergency Services – Firefighting Corrections Services Law Enforcement Services – Criminal Investigations Law Enforcement Services – Forensic Science Law Enforcement Services – Public Safety Communications Security and Protective Services Legal Services – Applications of the Law Legal Services – Legal Administrative Services
<p>Transportation, Distribution & Logistics</p> <ul style="list-style-type: none"> Automobile Maintenance and Light Repair Automobile Service Technology Master Automobile Service Technology Flight Operations Aircraft Maintenance Distribution and Logistics Collision Repair – Painting and Refinishing Collision Repair – Non-Structural Analysis and Damage Repair Marine Engine Technology

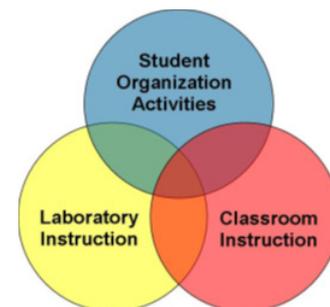
<p>Architecture & Construction</p> <ul style="list-style-type: none"> Architectural, Drawing & Design Carpentry Electrical Fine Furniture - Cabinemaking Heating, Ventilation, Air Conditioning, and Refrigeration HVACR – Electrical Industrial Maintenance Masonry Plumbing Machining Operations Sheet Metal Welding
<p>Finance</p> <ul style="list-style-type: none"> Advanced Accounting Business Accounting Financial Services
<p>Business, Management, & Administration</p> <ul style="list-style-type: none"> Business and Technology Entrepreneurship Human Resources Management
<p>Georgia Department of Education  Richard Woods, Georgia's School Superintendent <i>"Educating Georgia's Future"</i></p> <p>Government & Public Administration</p> <ul style="list-style-type: none"> Public Management & Administration JROTC – Air Force JROTC – Army JROTC – Marines JROTC – Navy
<p>Human Services/Family & Consumer Sciences</p> <ul style="list-style-type: none"> Personal Care Services – Cosmetology Personal Care Services – Barbering Personal Care Services – Esthetics Personal Care Services – Nails Food and Nutrition Housing and Community Management Interiors, Fashion & Textiles
<p>Advanced Academics, Fine Arts, & World Languages</p> <ul style="list-style-type: none"> Advanced Academics – English Language Arts; Mathematics; Science & Social Studies Fine Arts World Languages
<p>Hospitality & Tourism</p> <ul style="list-style-type: none"> Culinary Arts Hospitality, Recreation, & Tourism Sports & Entertainment Marketing

<p>Arts, AV/Technology & Communications</p> <ul style="list-style-type: none"> Audio Video Technology & Film Graphic Communication Graphic Design Animation and Digital Media
<p>Manufacturing</p> <ul style="list-style-type: none"> Industrial Maintenance Manufacturing Mechatronics Granite Technology
<p>Science, Technology, Engineering, Mathematics</p> <ul style="list-style-type: none"> Engineering and Technology Engineering Drafting and Design Electronics
<p>Education & Training</p> <ul style="list-style-type: none"> Early Childhood Care & Education Teaching as a Profession
<p>Energy</p> <ul style="list-style-type: none"> Energy Systems Energy & Power: Generation, Transmission, and Distribution
<p>Health Science</p> <ul style="list-style-type: none"> Diagnostics – Clinical Lab Diagnostics – Phlebotomy Diagnostics – Non-Invasive Technology in Healthcare Therapeutic Services – Public Health Therapeutic Services – Exercise Physiology Therapeutic Services – Sports Medicine Therapeutic Services – Allied Health and Medicine Therapeutic Services – Dental Science Therapeutic Services – Pharmacy Therapeutic Services – Emergency Medical Responder Therapeutic Services – Patient Care Therapeutic Services – Public Safety Communications Therapeutic Services – Surgical Technology Health Informatics – Health Information Management/Medical Office Health Informatics – Health Information Technology Biotechnology Research and Development Support Services
<p>Marketing</p> <ul style="list-style-type: none"> Marketing and Management Fashion, Merchandising & Retail Management Marketing Communications & Promotions
<p>Information Technology</p> <ul style="list-style-type: none"> Cybersecurity Game Design Health Information Technology Information Support & Services Internet of Things Networking Programming Computer Science Web & Digital Design Web Development

The Career and Technical Student Organizations (CTSOs) are a vital part of Career, Technical and Agricultural Education (CTAE). CTSOs play an integral role in preparing students to become members of society who hold productive leadership roles in their communities. These organizations provide motivation, leadership training, and career development opportunities for students enrolled in Career, Technical and Agricultural Education programs in middle and high schools. CTSOs enhance students' occupational, employability, and leadership skills through various activities such as conferences, award programs, service projects, and competitive events. These organizations conduct activities and events at the local, state and national levels in which students can participate and compete.

CAREER TECHNICAL STUDENT ORGANIZATIONS (CTSOs)		
	<p>Future Farmers of America (FFA) - The mission of the FFA is to make a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education.</p> <p>CTAE Program • Agriculture, Food & Natural Resources</p>	FY 2017 Membership 41,970
	<p>Future Business Leaders of America (FBLA) - FBLA brings business and education together in a positive working relationship through innovative leadership and career development programs.</p> <p>CTAE Program • Business, Management & Administration • Finance • Information Technology</p>	FY 2017 Membership 25,952
	<p>Family, Career and Community Leaders of America (FCCLA) - FCCLA promotes personal growth and leadership development through family and consumer sciences education. FCCLA focuses on the multiple roles of family member, wage earner and community leaders. Members develop skills for life through: • Character Development • Creative and Critical Thinking • Interpersonal Communication • Practical Knowledge • Career Preparation.</p> <p>CTAE Program • Education and Training • Hospitality and Tourism • Human Services/Family and Consumer Sciences</p>	FY 2017 Membership 23,000
	<p>Georgia Technology Student Association (GA TSA) - The Technology Student Association fosters personal growth, leadership, and opportunities in technology, innovation, design, and engineering. Members apply and integrate science, technology, engineering and mathematics concepts through activities, competitive events and programs integral to the curriculum.</p> <p>CTAE Program • Energy • Manufacturing • Science, Technology, Engineering and Mathematics</p>	FY 2017 Membership 22,074
	<p>Health Occupations Students of America (HOSA) - The mission of HOSA is to enhance the delivery of compassionate, quality health care by providing opportunities for knowledge, skill and leadership development of all health science technology education students, therefore, helping students to meet the needs of the health care community.</p> <p>CTAE Program • Health Science</p>	FY 2017 Membership 14,700
	<p>Distributive Education Club of America (DECA) - DECA prepares emerging leaders and entrepreneurs in marketing, finance, hospitality and management in high schools and colleges around the globe. DECA's core values and attributes are competence, innovation, integrity, and teamwork. These values are central to DECA's mission and purpose in classrooms around the world.</p> <p>CTAE Program • Hospitality and Tourism • Marketing</p>	FY 2017 Membership 12,630
	<p>Georgia SkillsUSA - SkillsUSA's mission is to help its members become world-class workers, leaders and responsible American citizens. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel.</p> <p>CTAE Program • Architecture and Construction • Arts, AV/Technology & Communications • Human Services/Family & Consumer Sciences • Law, Public Safety, Corrections & Security • Manufacturing • Transportation, Distribution and Logistics</p>	FY 2017 Membership 8,078
	<p>Career and Technical Instruction (CTI) - CTI provides meaningful leadership and employability experiences for students with disabilities through career, technical and agricultural education courses.</p> <p>CTAE Program • All</p>	FY 2017 Membership 4,980
	<p>Georgia FIRST (FIRST) - Georgia FIRST mission is to inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills that inspire innovation, and foster well-rounded life capabilities including self-confidence, communication, and leadership.</p> <p>CTAE Program • Science, Technology, Engineering and Mathematics</p>	FY 2017 Membership 3,000

Career and Technical Student Organizations are valuable tools for implementing technical and academic standards found in Georgia's curriculum. The diagram illustrates how the instructional program consists of three overlapping parts: classroom instruction, hands-on lab activities, and CTSO activities. Each element of the diagram is a distinct part of the CTAE division, but they are so fully intertwined that they cannot be fully separated if a complete program is to be offered.



Career, Technical and Agricultural Education (CTAE), a division of the Georgia Department of Education, is working to foster relationships, strong communication, and meaningful collaboration in the best interest of Georgia's students as they prepare for their role in the future workforce.



Educators and the community work collaboratively to help each student succeed.
– Richard Woods, Georgia's School Superintendent

CTAE

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