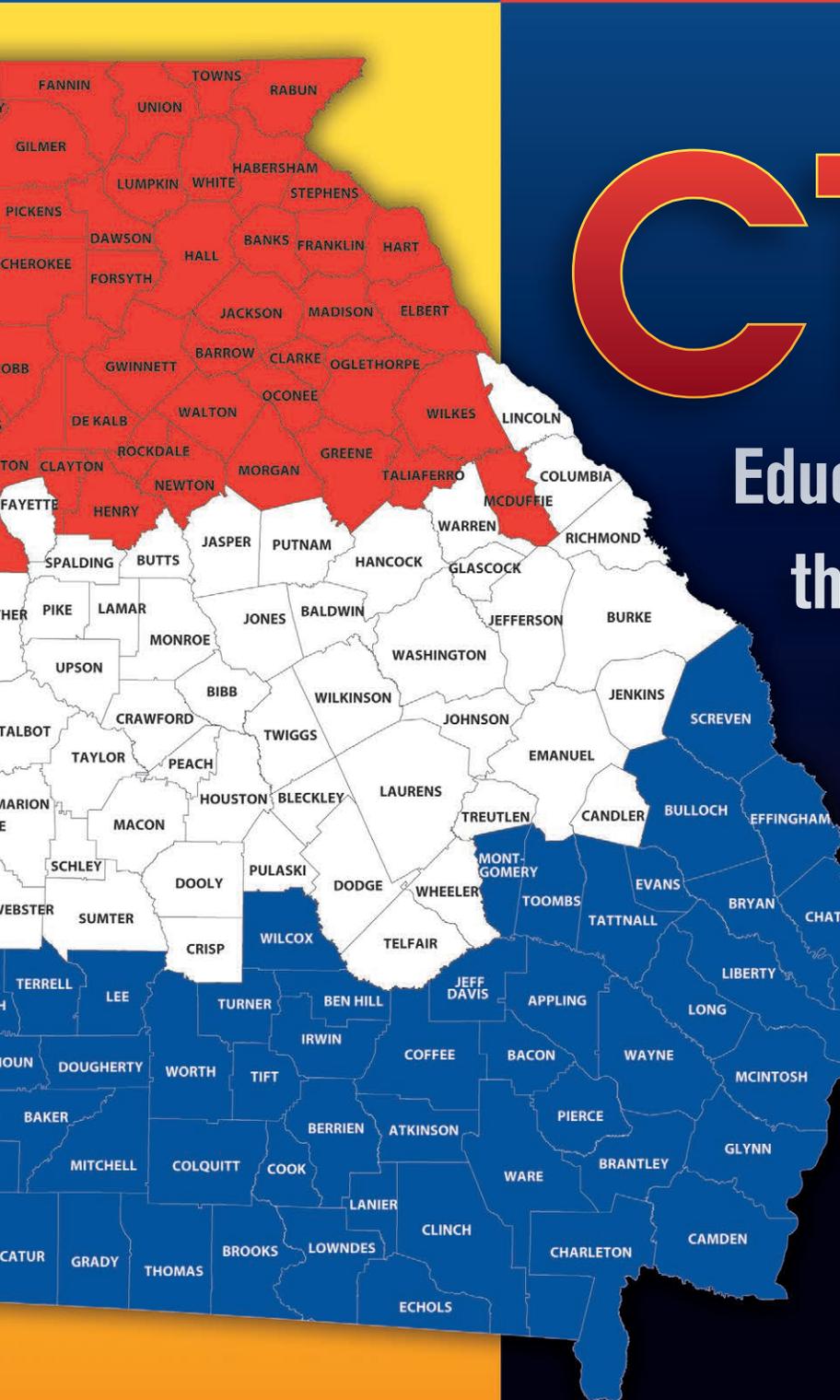


Dr. John D. Barge
State School Superintendent
"Making Education Work for All Georgians"

CTAE

Career, Technical and
Agricultural Education

ANNUAL REPORT 2011

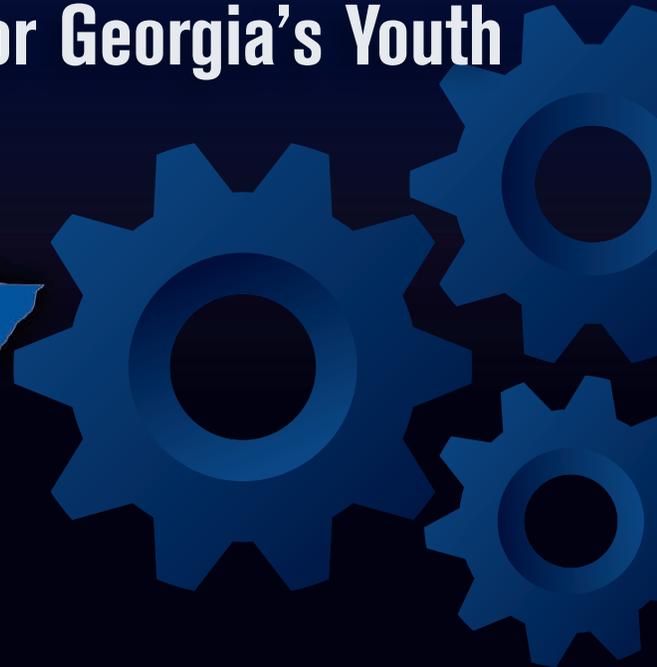


CTAE

Education

that Works

for Georgia's Youth





Dr. John D. Barge, State School Superintendent



Dear Friends and Colleagues,

Thank you for your interest in learning more about the Georgia Department of Education's Career, Technical, and Agricultural Education (CTAE) programs. Our ongoing work continues to be focused on developing relevant career pathways aligned to the 21st century workplace. We are guided by our vision - *Making Education Work for All Georgians*. I strongly believe that we can accomplish that vision by providing students with the vast array of opportunities offered through our Career Cluster Pathway initiative.

One of the most fundamental obligations of any society is to prepare its young people to lead productive lives as adults. To help our students be successful in today's world of work, we must offer them the opportunity to gain a solid foundation of knowledge and skills before they leave high school. Our goal is to provide students, beginning with the elementary grades, with the appropriate preparation, career exploration, and supports necessary for success. Unfortunately, far too many students leave high school without a diploma because they can't see a connection between their program of study and tangible opportunities in the labor market. In Georgia, we are working diligently to address this critical issue.

Our vision of Making Education Work for All Georgians also benefits the business and industry communities because our Career Cluster Pathways are aligned to their workforce needs. We are also transforming student work-based learning opportunities and working to increase the number of students who graduate from high school with an industry certification credential.

Students who follow our Career Cluster Pathways are not only prepared for their chosen careers, but also are provided with a real-life connection to what is being taught in our core classes of mathematics, social studies, science, and English. Additionally, our pathways promote critical thinking and problem solving -- important skills for our nation's future leaders.

By blending core academics with our CTAE programs, I believe we are creating a road map to success for all students. I am proud to provide more details about our initiatives through this annual report. Your continued interest in our work will be appreciated as we move forward in our vision for *Making Education Work for All Georgians*.

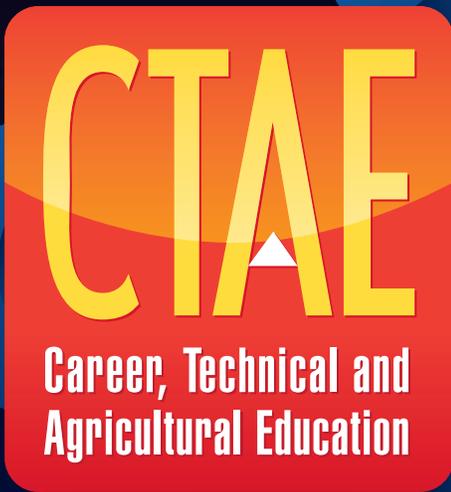
Sincerely,

John D. Barge, Ed.D

"Making Education Work for All Georgians"

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Annual Report 2011

Message from CTAE Director



This annual report briefly summarizes the status of secondary Career, Technical and Agricultural Education (CTAE) in the state of Georgia, during the 2010-2011 school year. A major purpose of CTAE is to create college and career ready programs that are relevant and rigorous for college bound students, as well as career education programs that make students employable. The Georgia Department of Education CTAE division administers programs to ensure that all students who graduate from a high school in Georgia are college and career ready. Career, Technical and Agriculture Education programs are delivered in the local high schools throughout the 180 school systems in Georgia.

In the 2011 school year, the graduation rate for CTAE concentrators was 90.3%, approximately 9.3% higher than the State's USDOE established target of 81%, or Georgia's overall graduation rate of 81%. The majority of CTAE programs experienced increase student enrollment in 2011. The Career and Technical Student Organizations (CTSOs) initiatives that enable students to display leadership and technical skills inside and outside the classroom grew by 1,436 students. Our Youth Apprenticeship Program continues to be recognized and appreciated by employers throughout the state. We will continue to engage our business and industry partners in the creation of new curriculum standards. Career, Technical and Agriculture Education is truly the education that works for Georgia's youth.

I want to use this opportunity to thank all local and state CTAE staff, parents, employers and students for their involvement and efforts in promoting CTAE related activities. To the members of the Georgia Legislature, members of the State School Board, and our State School Superintendent, thank you for supporting CTAE initiatives in Georgia. Your efforts are making the difference in the lives of students. CTAE will continue to be a catalyst for success in the life of Georgia's Youth.

Sincerely,

A handwritten signature in black ink that reads 'David Turner'.

David Turner, Director
Career, Technical and Agriculture Education

CTAE Mission

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

Georgia Department of Education Vision:

Making Education Work for All Georgians

Georgia Career, Technical and Agricultural Education...

Career Cluster Pathways that Work for Georgia's Youth

CTAE At-A-Glance

Georgia Department of Education

2010-2011 Georgia Career, Technical and Agricultural Education

Secondary Education—Grades 6-12

CTAE Programs

- 180 Local School Systems

Total Georgia Student Enrollment

- 520,411 Students in Grades 9-12
- 416,453 Students in Grades 6-8

Student Enrollment in CTAE Classes

(Students enrolled in one or more CTAE courses)

- 61.47% of all Students in Grades 9-12 Statewide (319,900 students)
- 50.07% of all Students in Grades 6-8 Statewide (208,525 students)

CTAE Enrollment by Gender in Middle and High Schools

- Male 51.78%
- Female 47.22%

CTAE Enrollment by Race

- Black 40.32%
- Hispanic 9.68%
- White 44.43%
- Other 5.58%

CTAE High School Concentrators

(3 or more classes in a Program Area)

- 80,727 Students

Graduation Rate for CTAE Concentrators

- 90.3%

Diploma Type Earned by CTAE High School Completers

(38,008 students)

- College Prep 17.51%
- Technical/Career 40.04%
- Dual Seal 42.44%

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

Over 50 Career Pathways, designed by Georgia Career, Technical and Agricultural Education (CTAE) provide a wide spectrum of career choices for Georgia students to make their education work for them as they achieve successful, profitable careers that support the Georgia economy. CTAE works to ensure that students:

- Graduate from high school
- Experience success in college and/or professional careers
- Are competitive with their peers throughout the United States and the world

With a 90.3% graduation rate in FY 2011 for CTAE High School Concentrators (students who take a sequence of three or more classes in a single program area), CTAE students graduate at a rate higher than all Georgia high school students (81%). CTAE students may graduate with industry-recognized credentials or a certificate at the postsecondary level, have marketable career skills, and are prepared for employment, further training, and postsecondary education.

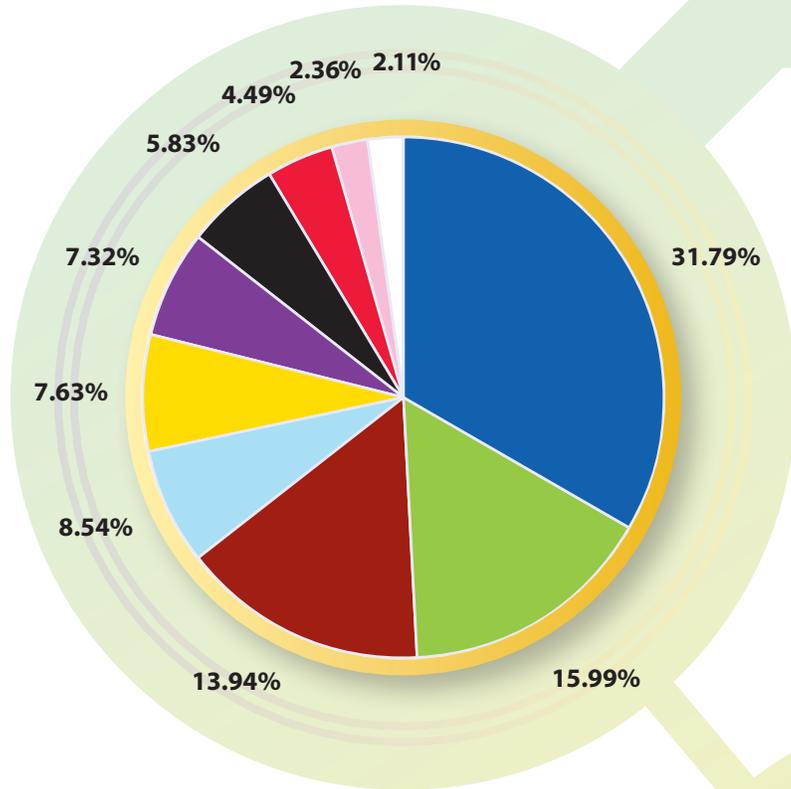
The state career and technical education system consists of programs offered at the middle and secondary school level by the Career, Technical and Agricultural Education (CTAE) Division of the Georgia Department of Education (GaDOE) and at the postsecondary level by the Technical College System of Georgia (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 the academic indicators of the No Child Left Behind Act.

Programs of study under CTAE are designed to work for each student's success by providing student classes and hands-on labs, Career Technical Student Organizations (CTSOs), college classes, and on-the-job experiences; delivering academic and CTAE content in a coordinated, non-duplicative progression of courses; incorporating and aligning secondary and postsecondary education which provides the opportunity for secondary students to acquire postsecondary credits or certificate; and identifying and addressing current or emerging occupational trends. The CTAE Career Pathways are designed and updated on an ongoing basis. Georgia's Career Pathways develop a well-educated, technically trained, and highly competitive workforce that stimulates the Georgia economy.

The minds of our children are our greatest resource.

Governor Nathan Deal, State of Georgia
February 25, 2011

High School Students (Grades 9-12) Enrolled in each Program Area in 2010-2011

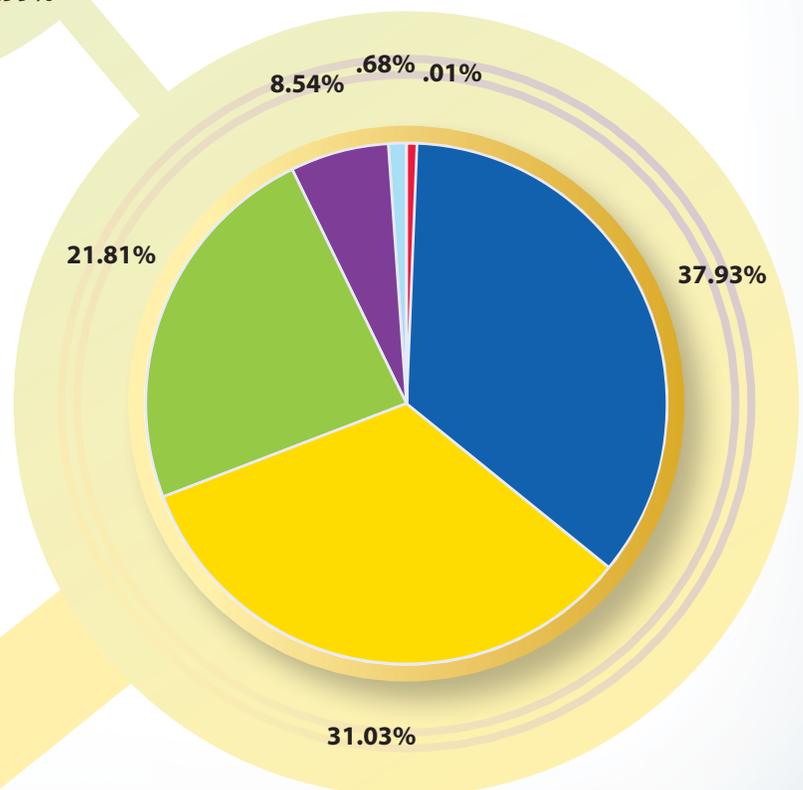


Business and Computer Science	132,385
Family and Consumer Science	66,607
Architecture, Construction, Communications & Transportation	58,069
Healthcare Science Education	35,557
Engineering and Technology Education	31,770
Agricultural Education	30,482
Education	24,264
Marketing, Sales and Services Education	18,717
Culinary Arts	9,819
Government and Public Safety	8,802

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.

Business and Computer Science	106,607
Engineering and Technology Education	87,206
Family and Consumer Sciences	61,303
Agricultural Education	24,013
Healthcare Science Education	1,910
Marketing, Sales and Services Education	37

Middle School Students (Grades 6-8) Enrolled in each Program Area in 2010-2011



It's not your daddy's vocational education! Today's CTAE programs prepare students for employment in a wide variety of highly skilled trades. Even in this time of record unemployment, jobs are available and continue to be projected in these careers. There is a huge skills gap caused in part by the aging workforce and retirement of many baby-boomers. Training in Career and Technical Education works to improve the future!

CTAE Achievements in 2010-2011

Academic Achievements of CTAE Students

- **88.28%** of CTAE Concentrators who took the Georgia High School Graduation Test (GHS GT) met or exceeded state standards in **English/Language Arts** in FY 2011
- **68.32%** of CTAE Concentrators who took the Georgia High School Graduation Test met or exceeded state standards in **Mathematics** in FY 2011

Graduation Rate for CTAE Concentrators

- **90.3% graduated** with regular diplomas in FY 2011
- **CTAE graduation rate of 90.3%** compares favorably with **Georgia's overall graduation rate of 81%** in FY 2011

Georgia CTAE concentrators scored within acceptable levels of the federal performance targets in two categories of Academic Attainment in FY 2011

	State FY 11 Target	Actual Performance
English/Language Arts (% passing GHS GT)	91%	88.28%
Mathematics (% passing GHS GT)	79%	68.32%
Graduation rate	81%	90.30%

CTAE Postsecondary Transitions

- A total of **4,815** high school students **dual enrolled** in college-level CTAE courses at Georgia's technical colleges or other colleges with technical divisions
- A total of **734** high school students **joint enrolled** in college-level CTAE courses at Georgia's technical colleges or other colleges with technical divisions

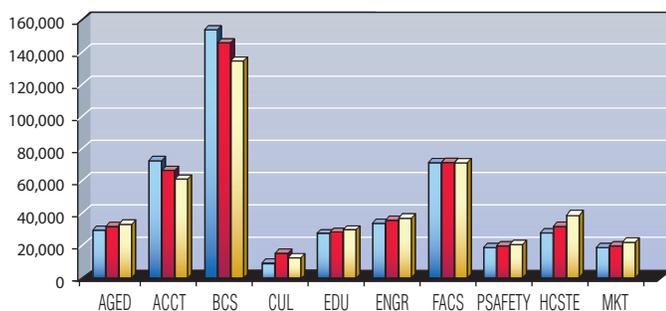
CTAE Teacher Achievements

- **396 professional development workshops**, including onsite, distant learning, and Webinar sessions, were held with a total attendance of **11,787 CTAE educators** throughout the state in FY 2011

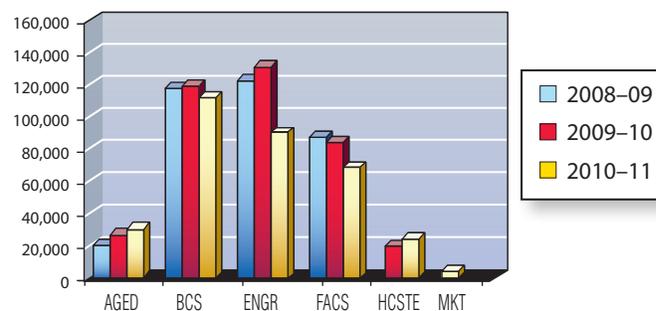
CTAE Program Achievements

- **50%** of all middle school and **61%** of all high school students were **enrolled in CTAE courses** in FY 2011
- **19,133 pathway completers** were tested with **end of pathway assessments**
- **424** CTAE programs were **industry certified** in FY 2011
- **6,976 high school students earned an industry credential** in FY 2011 as compared with 337 high school students in FY 2010
- **Student enrollment increased** in the following **high school CTAE programs** compared to FY 2010
 - ◆ Healthcare Science Education (29%)
 - ◆ Government and Public Safety (8%)
 - ◆ Marketing, Sales & Services Education (4%)
 - ◆ Education (3%)
 - ◆ Engineering and Technology (2%)
 - ◆ Agricultural Education (less than 1%)
 - ◆ Family and Consumer Sciences (less than 1%)
- **Student enrollment increased** in the following **middle school CTAE programs** compared to FY 2010
 - ◆ Healthcare Science Education (14%)
 - ◆ Agricultural Education (10%)
- **Marketing, Sales and Services Education program was established at the middle school level** in FY 2011 with 37 students participating
- **Student membership in Career Technical Student Organizations** numbered 145,138 in FY 2011, an increase of 1,436 students compared to FY 2010
- **Student membership increased during 2011** in all the Georgia Career Technical Student Organizations: Future Farmers of America (FFA), SkillsUSA of Georgia, Future Business Leaders of America (FBLA), Georgia Technology Students Association (TSA), and Health Occupations Students of America (HOSA)
- **100%** of employers would recommend the **Georgia Youth Apprenticeship Program** to other companies
- **98%** of employers participating in the **Georgia Youth Apprenticeship Program** agreed that students performed at the level expected, and **99%** of employers noted this related to understanding written instruction
- **97%** of employers found the **Georgia Youth Apprenticeship Program** beneficial to their company

CTAE High School Program Enrollment: Three Year Trends



CTAE Middle School Program Enrollment: Three Year Trends



CTAE Career Pathways – Work for Georgia’s Youth

The Career, Technical and Agricultural Education (CTAE) Division of the Georgia Department of Education is responsible for the career and leadership development of students in middle and high schools across the state enabling students to participate in an education program that works for their future. During **middle school**, students focus on Career Awareness (Grade 6), Career Discovery (Grade 7), and Career Management (Grade 8). CTAE at the middle school level provides career-related classes in six career-related programs; addresses career development and leadership skills as well as the soft skills of work readiness; integrates industry guest speakers, simulation events, and on-line interest inventory research in all CTAE courses; and provides counseling and advisement on career exploration, career pathways, and career interest inventories. By the end of 8th grade, each student should have an **individual graduation plan** developed in consultation with the student’s counselor and parents or guardians.

During **high school**, with over 50 Career Pathway options, CTAE students participate in three or more courses in a single Career Pathway. Annual counseling and advisement in consultation with parents or guardians and the school counselor help students reassess their **individual graduation plan**. The student’s **individual graduation plan** is designed to assist with a seamless transition into postsecondary education, further training, or employment.

STEM Georgia (Science, Technology, Engineering, and Math) exposes students to curriculum driven by problem solving, discovery, exploratory learning, and student-centered development of ideas and solutions. The ultimate goal of 21st Century Skills competencies is to prepare students for the careers essential for the 21st Century. Students participate in advanced math and science courses that are co-requisites of CTAE pathways, as well as, CTAE competitions. The pervasive use of technology emphasized by STEM facilitates research, investigation, and design. There is evidence that STEM students are making progress on standardized test scores.

CTAE of Georgia, like many other career and technical education programs around the nation, has worked in recent years to establish **End of Pathway Assessments** to ascertain the level of technical skill attainment by CTAE completers. Assessments are directly linked to industry validated standards. CTAE identifies existing assessment (or credentialing) opportunities that not only support the mandates set forth in the Perkins IV Legislation, but also support Georgia students in their quest to leave high school with valuable credentials.

The state’s technical skill attainment inventory is comprised of several measurement components: national industry certifications, national occupational assessments, and state licensures and state developed assessments. The top performing End of Pathway Assessments in FY 2011 were Early Care and Education Entry-Level Child Care Exam, Certified Nursing Aide/Assistant (CNA), Federal Emergency Management Agency “Are You Ready” Assessment, National Occupational Competency Testing Institute Retail Trades Assessment, Engineering State Development Assessment, Marketing Education Management Trainee Exam, Early Childhood Pre-Professional Assessment, American Culinary Federation Certified Junior Culinarian, Cosmetology Skills Connect Assessment, and National Occupational Competency Testing Institute Forestry Products and Processing Assessment. During FY 2011 a total of 19,133 CTAE completers completed an end of pathway assessment. A total of 6,976 students earned a credential.

CTAE Career Pathways High School Foundation Skills

- ★ *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*
- ★ *Entrepreneurship*

Postsecondary Options Make Education Work for Georgia’s Students

Georgia’s **Move On When Ready** initiative supports students as they move into postsecondary options during high school grades 11 and 12. Georgia’s technical colleges and other colleges and universities with technical divisions provide postsecondary education options (dual enrollment, joint enrollment, and articulated classes) for high school students that enhance their education in their identified Career Pathway. **Transition Career Partnership** (formerly Education Career Partnerships) is designed to prepare students for college and career opportunities leading to postsecondary institutions for an industry recognized certification or licensure, an associate and/or higher college degree, and successful employment. **Move On When Ready** is a new dual enrollment opportunity for students to attend a postsecondary institution full-time during their junior and/or senior year of high school and receive high school credit and college credit simultaneously while attending college classes on the college campus, full-time. The Georgia Department of Education, the Technical College System of Georgia, and the Georgia Board of Regents strengthen and expand seamless education opportunities to benefit Georgia high school students as they pursue their chosen careers. Students may graduate high school with college credits and in some cases Certificates, Diplomas, or Associate Degrees in a career area.

Number of High School Students
Enrolled in College Level Courses FY 2011

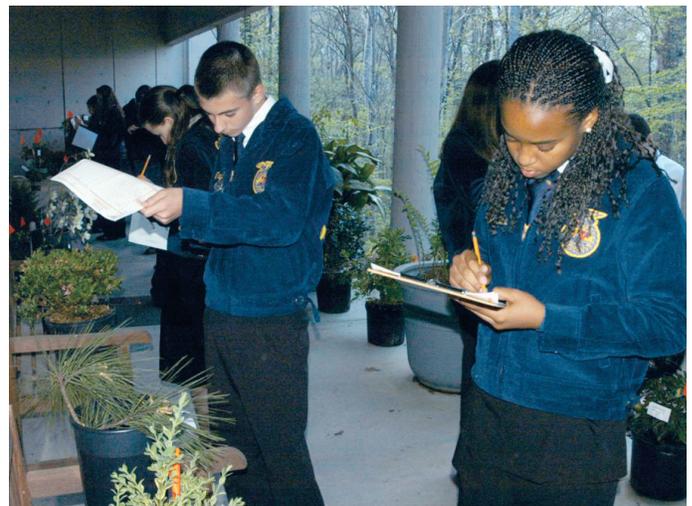
	Dual enrollment courses	Joint enrollment courses	Total student enrollment
Georgia Technical Colleges	4,713	734	5,447
Georgia Colleges with Technical Divisions	102	N/A	102
Total student enrollment	4,815	734	5,549



AGRICULTURAL EDUCATION (AGED) 2010-2011

<p>Enrollment by Gender in Grades 9-12 (Unduplicated Count)</p>	<p>Total 30,482 Male 19,573 (64%) Female 10,909 (36%)</p>
<p>High School Student Enrollment in Agricultural Education in FY 2011 (Duplicated Count)</p>	<p>Pathway-Related Course Enrollment – 112,741</p> <ul style="list-style-type: none"> • Plant Science/Horticulture 18,327 (16%) • Agriculture Mechanics 17,817 (16%) • Forestry & Natural Resources 16,369 (15%) • Animal Science 16,260 (14%) • Agriscience 15,723 (14%) • Veterinary Science 14,178 (13%) • Agribusiness Management 14,067 (12%) <p>Other AGED Courses</p> <ul style="list-style-type: none"> • 1,935
<p>Grade 6-8 Student Enrollment in Agricultural Education Courses in FY 2011</p>	<p>24,013</p>
<p>Number of Industry-Certified Programs</p>	<p>Note: AGED programs adopted new industry certification standards and is in the process of programs becoming industry certified.</p>
<p>Number of CTAE Teachers FY 2011</p>	<p>365 High School Teachers 88 Middle School Teachers</p>

AGRICULTURAL EDUCATION (AGED) is composed of three distinct, yet interrelated components. A basic component is classroom and laboratory experiences. In the classroom, students learn concepts and theories dealing with a broad spectrum of agricultural and agribusiness topics. The classroom is followed by the laboratory mode of instruction where concepts and theories are carried through to their application. Here, the students are taught “hands-on” skills that ensure that the skills learned are practical and usable. Both classroom and laboratory instruction are put to use in the Supervised Agricultural Experience (SAE) program component of the program. In this approach, students work and learn in a real-life situation where they obtain on-the-job skills. Supervised Agricultural Experiences may vary from the traditional home projects and include entrepreneurship or cooperative work experience in production or agribusiness. The third component, the FFA organization, provides an avenue for developing leadership skills. Teachers of agriculture stress the problem solving and decision making approach to teaching so that students are better equipped to cope with changes that are constantly occurring, not only in the agricultural industry but also in life. The strength of the program lies in the flexibility and dedication of teachers whose philosophy is, “We don’t just teach agriculture, we teach students.” The optimal benefit of the program is the “balanced approach” students receive when they actively participate in all three parts of the program.



Mission: To be a premier learning system that delivers agricultural, environmental, and leadership education programs and services

ARCHITECTURE, CONSTRUCTION, COMMUNICATIONS AND TRANSPORTATION (ACCT) 2010-2011

ARCHITECTURE, CONSTRUCTION, COMMUNICATIONS AND TRANSPORTATION (ACCT) programs equip students with the knowledge, skills, and attitudes necessary for successful employment in the trade and industrial fields and for further education. Programs of instruction are offered in Communication Technologies, Personal Services, Protective Services, Construction Technology, Mechanical Occupations, Automotive Technology, Precision Production Occupations, and Manufacturing Sciences. Trade and Industrial Education programs include three major components. Classroom/laboratory experiences enable students to develop technical and academic skills in laboratories that simulate the business or industrial work environment for the given area. Work-based learning and youth apprenticeship programs may be selected by students as a strategy for obtaining more intensive skill development in the workplace, and SkillsUSA Georgia, the Career Technical Student Organization, provides opportunities for students to participate in co-curricular activities that help them develop academic and technical skills and encourage them to become better citizens.



<p>Enrollment by Gender in Grades 9-12 (Unduplicated Count)</p>	<p>Total 58,069 Male 42,641 (73%) Female 15,438 (27%)</p>
<p>High School Student Enrollment in Architecture, Construction, Communications & Transportation Education in FY 2011 (Duplicated Count)</p>	<p>Pathway-Related Course Enrollment -- 86,662</p> <ul style="list-style-type: none"> • Construction 13,537 (16%) • Broadcast/Video Production 13,230 (15%) • Transportation/Logistical Support – Ground Marine 10,396 (12%) • Transportation/Logistical Operations – Ground Marine 9,430 (11%) • Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) 9,210 (11%) • Architectural Drawing & Design 8,958 (10%) • Graphic Communications 8,302 (10%) • Graphic Design 7,979 (9%) • Metals 4,254 (5%) • Flight Operations 596 (1%) • Collision Repair 575 (1%) • Aircraft Support 196 (less than 1%) <p>Other ACCT Courses</p> <ul style="list-style-type: none"> • 2,392
<p>Number of Industry-Certified Programs</p>	<p>125</p>
<p>Number of CTAE Teachers FY 2011</p>	<p>718 High School Teachers</p>



Over the next five years, a projected 82,000 jobs are to become available within the skilled trades in Georgia. The state's CTAE programs coupled with SkillsUSA make excellent inroads into exposing students and parents to the benefits of a career within the skilled trades.

BUSINESS AND COMPUTER SCIENCE (BCS) 2010-2011



Enrollment by Gender in Grades 9-12 (Unduplicated Count)	Total 132,385 Male 70,194 (53%) Female 62,191 (47%)
High School Student Enrollment in Business and Computer Science in FY 2011 (Duplicated Count)	Pathway-Related Course Enrollment – 222,722 <ul style="list-style-type: none"> • Administration/Information Support 60,067 (27%) • Small Business Development 38,336 (17%) • Financial Mgmt. – Services 30,938 (14%) • Financial Mgmt. – Accounting 29,080 (13%) • Interactive Media 27,028 (12%) • Computing 18,482 (8%) • Computer Systems & Support 17,781 (8%) • Computer Networking 1,010 (less than 1%) Other BCS Courses <ul style="list-style-type: none"> • 7,501
Grade 6-8 Student Enrollment in Business and Computer Science Courses in FY 2011	106,607
Number of Industry-Certified Programs	129
Number of CTAE Teachers FY 2011	1,752 High School Teachers 368 Middle School Teachers



BUSINESS AND COMPUTER SCIENCE (BCS) programs prepare students to become productive members of the business community and to enter a post secondary institution after graduation. Students develop competencies in such areas of instruction as finance, legal operations of business, administrative support, information management, international business, entrepreneurship, and management. Business and Computer Science programs consist of three components. Classroom/laboratory experiences provide instruction that meets industry-validated standards, and work-based learning experiences provide students the opportunity to apply what they learn in the classroom in the form of internships, cooperative education, school-based enterprises, and youth apprenticeship. The career and technical student organization of FBLA provides co-curricular activities within the program area to develop teamwork and leadership skills.



Business and Computer Science programs in Georgia’s high schools provide students the opportunity to learn about the business community. Georgia’s economic prosperity depends upon an educated population to operate, initiate, and expand business in the 21st century. These programs in our high schools provide students the foundation to be the business leaders of tomorrow.

**— Monica Anderson, Human Resources Manager
BellSouth. Net, Inc.
Atlanta, Georgia**

CULINARY ARTS (CUL) 2010-2011

CULINARY ARTS (CUL) is a growing program in schools across Georgia. This program is designed for those wanting to learn the “art” of cooking and for those wanting to continue in the Arts field in any of the many diverse opportunities: Sous Chef, Pastry Chef, Kitchen Manager, Garde Manger, Banquet Chef, or Restaurant Entrepreneur. Opportunities in the Culinary Arts field are high in demand, wages, and skills. Individuals in this field gain knowledge in diet, nutrition, food preparation, cost and budgets, and the science of food. As society looks for more convenience, this increases the demand of dining establishments for skillful individuals.



Enrollment by Gender in Grades 9-12 (Unduplicated Count)	Total 9,819 Male 3,624 (37%) Female 6,195 (63%)
High School Student Enrollment in Culinary Arts in FY 2011 (Duplicated Count)	Pathway-Related Courses Enrollment – 9,819
Number of Industry-Certified Programs	5
Number of CTAE Teachers FY 2011	113 High School Teachers

The Culinary Arts curriculum is based on American Culinary Federation Standards, and has articulations with Technical Colleges in Georgia, as well as many of the finest Culinary Arts schools in the nation.

EDUCATION (EDU) 2010-2011

EDUCATION (EDU) programs are designed for students who are interested in pursuing a career in the Education field. There are many diverse opportunities in Education, including school administrator, school counselor, elementary school teacher, special needs teacher, secondary teacher, post secondary teacher, career and technical teacher, preschool teacher, paraprofessional – and the list continues. Students have two career pathways to choose from: Early Childhood Education and Teaching as a Profession. These pathways introduce the foundations of education, combined with knowledge and skills, gained in both the classroom and in the workplace, to prepare students for a career in Education.



Enrollment by Gender in Grades 9-12 (Unduplicated Count)	Total 24,264 Male 3,091 (13%) Female 21,173 (87%)
High School Student Enrollment in Education in FY 2011 (Duplicated Count)	Pathway-Related Courses Enrollment – 24,677 <ul style="list-style-type: none"> • Early Childhood Education 20,355 (82%) • Teaching as a Profession 4,322 (18%)
Number of Industry-Certified Programs	9
Number of CTAE Teachers FY 2011	156 High School Teachers

Education and how we can improve the education of our students is a major focus in Georgia, as well as many other states in the nation. The large number of educators that are at, or nearing, the age of retirement, combined with the small number of teacher educators graduating from college, is a concern. These are reasons this Education Program Area is important – we need to start growing our own teachers in communities across Georgia.



ENGINEERING AND TECHNOLOGY EDUCATION (ENGR) 2010-2011

Enrollment by Gender in Grades 9-12 (Unduplicated Count)	Total 31,770 Male 25,421 (80%) Female 6,349 (20%)
High School Student Enrollment in Engineering and Technology Education in FY 2011 (Duplicated Count)	Pathway-Related Courses Enrollment -- 41,741 <ul style="list-style-type: none"> • Engineering 18,420 (44%) • Energy Systems 12,773 (31%) • Engineering Graphics & Design 8,196 (20%) • Electronics 1,248 (3%) • Manufacturing 1,104 (2%) Other ENGR Courses <ul style="list-style-type: none"> • 417
Grade 6-8 Student Enrollment in Engineering and Technology Education Courses in FY 2011	87,206
Number of Industry-Certified Programs	44
Number of CTAE Teachers FY 2011	508 High School Teachers 258 Middle School Teachers



ENGINEERING AND TECHNOLOGY EDUCATION (ENGR) develops technological literacy as part of all students' fundamental education through an activity-based study of past, present, and future technological systems and their resources, processes, and impact on society. Technology Education utilizes computer and educational technology in the delivery of content related to systems of communication, energy/power-transportation, production, and bio-related technologies. In addition to classroom/laboratory experiences, students participate in the Technology Student Association (TSA). Activities of the TSA are an integral part of the instructional program because they promote leadership skills, high standards of craft quality, scholarship, and safety. Opportunities are provided for involvement with the community's industrial and technological resources, parliamentary procedures, democratic decision-making, and recognition of exemplary performance.



Technical Education is critical to our business. We see the need for technical competency growing at all levels within our organization.

***— Jim Wallace, Director of Operations
Selectron Georgia
Suwanee, Georgia***

FAMILY AND CONSUMER SCIENCES (FACS) education prepares students for post secondary education and careers in the business-related aspects of family and consumer sciences. It provides opportunities to develop the knowledge, skills, attitudes, and behaviors that students need to become responsible citizens and leaders and to manage the challenges of living and working in a diverse global society. In addition to classroom/laboratory instruction, which aids in the development of academic and technical skills, the Family and Consumer Sciences program also includes participation in Family Career and Community Leaders of America (FCCLA). As a career and technical student organization, FCCLA provides an array of activities to enhance student academic and technical competencies and develop leadership and communication skills.



FAMILY AND CONSUMER SCIENCES (FACS) 2010-2011

Enrollment by Gender in Grades 9-12 (Unduplicated Count)	Total 66,607 Male 18,219 (27%) Female 48,388 (73%)
High School Student Enrollment in Family and Consumer Sciences Education in FY 2011 (Duplicated Count)	Pathway-Related Courses Enrollment – 31,650 <ul style="list-style-type: none"> • Nutrition & Food Science 25,961 (82%) • Interior & Fashion Design 4,422 (14%) • Consumer Services 1,267 (4%) Other FACS Courses 6,477
Grade 6-8 Student Enrollment in Family and Consumer Science Courses in FY 2011	61,303
Number of CTAE Teachers FY 2011	691 High School Teachers 178 Middle School Teachers



All career pathways in Family and Consumer Sciences have career-related activities that prepare students for the school-to-career transition. The range of these activities varies from job shadowing, internships, and cooperative education to youth apprenticeship.

CAREER AND TECHNICAL INSTRUCTION (CTI) 2010-2011

Enrollment by Gender in Grades 9-12 (Unduplicated Count)	Total 6,359 Male 4,165 (66%) Female 2,194 (34%)
Number of CTAE Teachers FY 2011	351 High School Teachers

The **CAREER AND TECHNICAL INSTRUCTION (CTI)** program is designed to support students with disabilities enrolled in Career, Technical and Agricultural Education classes. The CTI program provides students with disabilities at the secondary level entry-level job skills in broad or specific occupation clusters. CTI offers a Fall Leadership Conference that focuses on students with disabilities in CTAE classes in high schools throughout Georgia. The purpose of the program is to reward students showing the greatest improvement in career and work adjustment skills and to recognize the achievement of these students in their Career, Technical and Agricultural Education programs.



SkillsUSA

GOVERNMENT AND PUBLIC SAFETY (PSAFETY) 2010-2011

Enrollment by Gender in Grades 9-12 (Unduplicated Count)	Total 8,802 Male 4,781 (54%) Female 4,021 (46%)
High School Student Enrollment in Government and Public Safety in FY 2011 (Duplicated Count)	Pathway-Related Courses Enrollment – 8,732 <ul style="list-style-type: none"> • Law and Justice 8,572 (98%) • Homeland Security & Emergency Services 160 (2%)
Number of CTAE Teachers FY 2011	80 High School Teachers



GOVERNMENT AND PUBLIC SAFETY (PSAFETY) offers a wide variety of career opportunities for students in two pathways-- Homeland Security and Emergency Services and Law and Justice. Choosing a career in this service industry provides students with a challenging pathway to their future. A public safety program classroom may include a mock trial in progress, a simulated crime scene, CPR training, the fingerprinting process, a table top emergency plan, or a demonstration of fire rescue techniques. Students are actively engaged in learning. Students are introduced to the program at the middle school level, continue into more advanced high school curriculum, and are prepared for post secondary education.

There will always be a need for qualified professionals in the Government and Public Safety career area, and Georgia schools are helping to prepare a dedicated public safety workforce for the future.

COORDINATED CAREER ACADEMIC EDUCATION/PROJECT SUCCESS (CCAЕ/PS) 2010-2011

Enrollment by Gender in Grades 9-12 (Unduplicated Count)	Total 6,924 Male 3,611 (52%) Female 3,313 (48%)
Number of CTAE Teachers FY 2011	354 High School Teachers

COORDINATED CAREER ACADEMIC EDUCATION/PROJECT SUCCESS (CCAЕ/PS) provides educational and occupational services to assist students in becoming responsible, productive citizens. Through participation in the CCAЕ/PS support services, students in grades 9-12 learn about the world of work and employment skills they need to be successful. Throughout their school years, students need the opportunity to development a reservoir of information, attitudes, and experiences that serve as a substantial base for decision making when they reach career decision points in their lives.

HEALTHCARE SCIENCE EDUCATION (HCSTE) 2010-2011

HEALTHCARE SCIENCE EDUCATION (HCSTE) programs are designed to provide students the opportunity to explore careers in healthcare or the ability to acquire an entry level medical position in the workforce or the military. The program is also intended to facilitate a smooth transition into post-secondary nursing, medical or allied health education. Students are exposed to general healthcare knowledge and skills and are then encouraged to pursue a more in depth study in the career area they are interested in through the appropriate career pathway. A strong emphasis is placed on academic integration into the curriculum as well as the necessary foundation skills, such as problem solving, teamwork, and critical thinking that are necessary to enter the workforce. A new middle school curriculum is now being offered in some schools to expose students to careers in healthcare at an even earlier age. Health Occupations Students of America (HOSA) is offered through the healthcare programs and is a co-curricular component that complements the classroom experience along with work-based learning and leadership opportunities. Employment in the healthcare industry provides students with financial stability and a rewarding career serving others.



Enrollment by Gender in Grades 9-12 (Unduplicated Count)	Total 35,557 Male 6,180 (17%) Female 29,377 (83%)
High School Student Enrollment in Healthcare Science Education (HCSTE) Education in FY 2011 (Duplicated Count)	Pathway-Related Course Enrollment – 150,876 <ul style="list-style-type: none"> • Therapeutic Services- Nursing 26,658 (18%) • Therapeutic Services- Medical 25,557 (17%) • Therapeutic Services- Emergency 19,200 (13%) • Health Informatics 18,708 (12%) • Biotechnology Research & Development 18,358 (12%) • Physical Medicine 18,349 (12%) • Diagnostic Services 18,285 (12%) • Personal Care Services -- Cosmetology 5,761 (4%)
Grade 6-8 Student Enrollment in Healthcare Science Education Courses in FY 2011	1,910
Number of Industry-Certified Programs	49
Number of CTAE Teachers FY 2011	342 High School Teachers (Healthcare) 78 High School Teachers (Cosmetology) 12 Middle School Teachers



By the year 2014, health services will account for one in every twelve jobs in Georgia. It is projected to increase by almost 100,000 jobs, placing its employment levels at more than 420,000 jobs by 2014.

Georgia Workforce Trends, an Analysis of Long-term Employment Projections to 2014 Georgia Dept. of Labor Michael Thurmond, Commissioner Published by Workforce Information & Analysis Division

MARKETING, SALES AND SERVICES EDUCATION (MKT) 2010-2011



MARKETING, SALES AND SERVICES EDUCATION (MKT) is designed to prepare students for postsecondary education and careers in marketing, management and entrepreneurship. Students develop knowledge and skills in the foundational areas of marketing (economics, human relations and business basics) and the functional areas of marketing (product and service planning, marketing-information management, purchasing and pricing, selling and promotion, risk management, financing and distribution/logistics), as well as in international marketing, management and entrepreneurship.



Enrollment by Gender in Grades 9-12 (Unduplicated Count)	Total 18,717 Male 8,433 (45%) Female 10,284 (55%)
High School Student Enrollment in Marketing, Sales and Services Education (MKT) in FY 2011 (Duplicated Count)	Pathway-Related Course Enrollment – 59,280 <ul style="list-style-type: none"> • Marketing & Management 13,064 (22%) • Fashion Marketing 12,511 (21%) • Sports & Entertainment Marketing 12,285 (21%) • Travel Marketing & Lodging Management 10,823 (18%) • Marketing Communication & Promotion 10,597 (18%) Other MKT Courses <ul style="list-style-type: none"> • 248
Grade 6-8 Student Enrollment in Marketing, Sales and Services Education (MKT) Courses in FY 2011	37
Number of Industry-Certified Programs	63
Number of CTAE Teachers FY 2011	200 High School Teachers 1 Middle School Teacher

Running an actual business allows students to learn contextually without leaving school. Textbook concepts become real as students operate a business for profit, review and revise operational procedures, resolve problems and handle human relations issues.

JUNIOR RESERVE OFFICERS TRAINING CORPS (JROTC) 2010-2011

High School Student Enrollment in JROTC-Related Courses in FY 2011 by Type of Service	<ul style="list-style-type: none"> • U.S. Army 17,224 • U. S. Air Force 8,627 • U.S. Navy 7,220 • U.S. Marines 2,339
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JUNIOR RESERVE OFFICERS TRAINING CORPS (JROTC) offers the opportunity for high school students to enroll in a leadership/citizenship program coordinated under the umbrella of the Career, Technical and Agricultural Education Division of the Georgia Department of Education. Any three sequenced courses in one of the JROTC branches (U. S. Army, U.S. Air Force, U.S. Navy, or U.S. Marines) satisfy the requirements for a career pathway. The JROTC curriculum satisfies national and Georgia Performance Standards (GPS) requirements. JROTC instructors in Georgia are required to secure a Georgia teaching “Permit” through the Professional Standards Commission in addition to their military credential. The JROTC program emphasizes academic content; teaches leadership skills; assists students in life skills and career opportunities; reinforces reading, math, and writing skills; and stresses multi-disciplined presentations, models, trips, and other educational formats. Federal law establishes JROTC units fairly and equitably across the United States. Of the 35,410 students enrolled in JROTC courses 56% are male and 44% are female.

Career Technical Student Organizations (CTSO)	CTAE Program	FY 2011 Membership
 <p>Future Farmers of America (FFA) is an integral component of the Agricultural Education program. It is the student development and leadership application piece for the program. The FFA offers a variety of experiential learning opportunities through competitive proficiency awards and career development events. Competitions focus on leadership and public speaking, communications, agriscience, and biotechnology, as well as production agriculture. Agricultural education teachers and FFA advisors stress problem solving and decision making and use learning by doing methods. By applying a science-based curriculum learned in a classroom to real life projects, teamwork, and competition, FFA members develop into successful, productive citizens. The strength of the FFA and agricultural education lies in the dedication of the teachers. Their philosophy is, "We don't just teach agriculture, we teach students!"</p>	Agriculture	31,525
 <p>Georgia SkillsUSA members participate in local, state, and national activities provided through trade and industrial, technical, and health occupations courses and programs. The mission of SkillsUSA is to develop leadership skills and workplace competencies that students will need to succeed in a constantly changing global workplace. The organization provides many opportunities for leadership development and skills training. Competitions in over 70 leadership, health occupations, occupationally related trade, industrial, and technical contests are offered at the region and state levels, culminating with the national SkillsUSA Championships.</p>	Architecture, Construction, Communication & Transportation, Cosmetology, Government & Public Safety	8,042
 <p>Future Business Leaders of America (FBLA) is a student organization for all middle and high school students participating in business programs. As an integral part of the business instructional program, FBLA provides opportunities for students to develop vocational and career-supportive competencies. Participation in FBLA activities promotes civic and personal responsibility, helps students develop business leadership skills and establish career goals, and prepares them for useful citizenship and productive careers. Both middle and high school students may participate.</p>	Business and Computer Science	27,522
 <p>Georgia Technology Student Association (GA TSA) is committed to providing students with opportunities to excel and advance as part of their instruction in technology education. Georgia TSA promotes technology education as a means of preparing students for a dynamic world and inviting them to become critical thinkers, problem solvers, and technology literate leaders. The mission of GA TSA is to prepare its members to be successful leaders and responsible citizens in a technological society through co-curricular activities with the technology education program, thereby developing communication, leadership, and competitive skills.</p>	Engineering & Technology	26,481
 <p>Family, Career and Community Leaders of America (FCCLA) is a national student organization that helps young men and women become leaders and to address important personal, family, work, and social issues through family and consumer sciences education. Through cooperative and competitive programs, FCCLA members develop skills for life including character development, creative and critical thinking, interpersonal communication, practical knowledge, and career preparation. Participation in national programs and co-curricular chapter activities enables FCCLA members to learn cooperation, take responsibility, develop leadership, and give service.</p>	Culinary Arts, Family & Consumer Sciences, & Education	30,142
 <p>The mission of Health Occupations Students of America (HOSA) is to enhance the delivery of compassionate, quality health care by providing opportunities for knowledge, skill and leadership development of all health occupations students and thereby prepare students to meet the needs of the health care community.</p>	Healthcare Science Technology	9,842
 <p>Distributive Education Club of America (DECA) is specifically designed to provide activities for students to learn marketing, management, and entrepreneurial skills that will prepare them to pursue a career in the field of marketing. DECA members become more aware of the value of community service and participate in a local, state, and national competitive events program that showcases student skills and allows for interaction with the business community. Members also have the opportunity to further develop occupational skills needed for careers in marketing, management, and entrepreneurship; serve in leadership roles; and develop a greater understanding of our competitive, free-enterprise system and an appreciation of the responsibilities of citizenship.</p>	Marketing, Sales & Service	11,584

CTSO Core Values For Career Success

Commitment – To create among members, educators and business and industry an adherence and appreciation for all Career, Technical and Agricultural Education Programs

Conviction – To develop patriotism through knowledge of our nation's heritage and practice of democracy

Education – To create enthusiasm and empower students to become lifelong learners

Integrity – To deal honestly and fairly with one another

Leadership – To develop leadership abilities through participation in educational, professional, community and social activities

Professionalism – To promote high standards in career ethics, workmanship, scholarship and safety

Recognition – Appreciation of the value of achievement

Service – To cultivate a desire to contribute to the benefit and welfare of others

Teamwork – To enhance the ability of students to plan together, organize and carry out worthy activities and projects through the use of the democratic process

The Georgia Department of Education CTAE programs will continue to expand the educational opportunities offered by continuing to develop Career Pathways that are relevant and aligned to the 21st century workplace. As the Georgia economy changes and expands, CTAE programs will continue evolving to ensure that every student in Georgia graduates from high school with the academic skills, hands-on experience in real work environments, and intensive career guidance required to succeed in college, employment, and life-long learning. During FY 2011 and beyond CTAE has identified several areas for special ongoing focus:

- STEM (Science, Technology, Engineering and Math) Georgia will work to increase the number of students entering science, technology, engineering, and math career areas. STEM plans for FY 2012 include partnership activities with local industries and the community:
 - ◆ Georgia STEM Institutes for CTAE educators, math and science teachers, and STEM industries and organizations will explore career opportunities and ways in which specific industry careers can be applied in the classroom. In addition, Institutes will foster public understanding of STEM and awareness of the relevance of STEM fields in everyday life
 - ◆ Georgia STEM Festivals at participating high schools will inspire and motivate students to consider a STEM career by creating an awareness of STEM possibilities that reflect the local economy and involve students, teachers, and STEM industries that will exhibit related career opportunities.
- CTAE End of Pathway Assessments will continue to be identified and implemented for all career pathways.
- Non-Traditional Career Pathways will be promoted based on enrollment data. For example, efforts will be made to encourage female students to enroll in the career areas of Architecture, Construction, Communication and Transportation; Agriculture; and Engineering and Technology Education; and to attract male students to the Family and Consumer Sciences, Education, and Healthcare Science career areas.
- Industry Certification/Recertification will be conducted to maintain existing certifications and to expand to include additional Career Pathways.
- Curriculum Guides will be updated to support all existing Career Pathways and developed for new Career Pathways.
- In-Service Education Opportunities will continue to provide high-level professional development for CTAE educators and counselors.
- The Georgia initiative Move On When Ready will continue and expand opportunities for postsecondary education during high school as an integrated part of CTAE Career Pathways.
- Georgia CTAE will continue to reorganize the Career Cluster Pathways to align with the 16 Career Clusters recognized nationally: Agricultural & Natural Resources; Architecture & Construction; Arts, A/V Technology & Communications; Business & Administration; Education & Training; Finance; Government & Public Administration; Health Science; Hospitality & Tourism; Human Services; Information Technology; Law & Public Safety; Manufacturing; Marketing, Sales & Service; Scientific Research/Engineering; and Transportation, Distribution & Logistics.

Georgia Shared Ownership

GA Department of Education
 Technical College System of GA
 GA Department of Labor
 GA Board of Regents
 Governor's Office of Workforce Development
 Governor's Strategic Industries
 Governor's Initiative Go Build Georgia
 GA Work-Ready Initiative
 Georgia Chamber of Commerce
 Governor's Centers of Innovation
 GA Dept. of Economic Development
 GA Finance Commission
 Georgia Student Finance Commission

Career Development

Career Awareness K-5
 Career Exploration 6-8
 Career Training 9-16

Transitional Activities

Instruction

Teachers Professional Learning
 State-of-the-Art Technology
 Real Work Experience/Mentoring
 Coordinated Career Academic Education
 Youth Apprenticeship Program
 Internships
 Junior Reserve Officers Training Corps

Skills-Based Curriculum

GA Performance Standards
 Integrated Academic & Technology Workplace Readiness
 Foundation Skills
 STEM Georgia
 Career and Technical Student Organizations
 Postsecondary Alignment
 Statewide Articulation
 Business & Industry Standards
 National Curriculum

CTAE Success: Skilled High School Graduate with Career Pathway Certificate and Career Plan

Postsecondary Education Options

Educational Career Partnerships (Articulated Courses)
 Dual Enrollment
 Joint Enrollment
 Advanced Placement
 Move On When Ready

Special Populations

Occupations that lead to economic self-sufficiency
 Self-advocacy
 Equal access to programs
 Non-discrimination
 Nontraditional programs
 Support to graduate
 Assist to meet program standards
 Prepare for additional training

Career Cluster Pathways

Student
 Parents
 Counselors
 Teachers
 Business Industry
 Mentors

Assessment

End of Career Pathway Skills
 Academic Performance Standards
 State Tests—No Child Left Behind
 CTAE Completion
 Graduation Rate
 Business and Industry Certification
 Postsecondary Credentials

Continuous Program Improvement

CTAE Program Compliance Review/ Technical Assistance
 Office of Civil Rights (OCR) Compliance Review
 Adding/Revising Career Pathways

**Georgia Program Concentrations
Available 2010-2011**

Agriculture

Healthcare Science Pathways

- Biotechnology Research & Development
- Diagnostic Services
- Health Informatics
- Therapeutic Services--Emergency Services
- Therapeutic Services--Medical Services
- Therapeutic Services--Nursing
- Personal Care Services--Cosmetology
- Physical Medicine

Arts & Humanities Pathways

- Journalism
- Foreign Language
- Performing Arts
- Visual Arts

Family & Consumer Science Pathways

- Consumer Services
- Family, Community & Global Leadership
- Interior Design
- Nutrition & Food Science

Culinary Arts Pathways

- Culinary Arts

Education Pathways

- Early Childhood Education
- Teaching As A Profession

Government & Public Safety Pathways

- Homeland Security & Emergency Services
- Law & Justice
- JROTC – Air Force, Army, Marine Corps, Navy

Government & Public Safety

Agriculture Pathways

- Agribusiness Management
- Agriscience
- Agricultural Mechanics
- Animal Science
- Forestry/Natural Resources
- Plant Science/Horticulture
- Veterinary Science

Architecture, Construction, Communication, Transportation Pathways

- Aircraft Support
- Architectural Drawing & Design
- Broadcast/Video Production
- Climate Control Systems Technology (HVACR)
- Collision Repair
- Construction
- Flight Operations
- Graphic Communications
- Graphic Design
- Marine Engine Technology
- Maritime Studies
- Metals Technology
- Transportation Logistical Operations (Ground/Marine)
- Transportation Logistical Support (Ground/Marine)

Engineering & Technology Pathways

- Electronics
- Energy Systems
- Engineering
- Engineering Graphics & Design
- Manufacturing

Engineering & Technology



Business & Computer Science Pathways

- Administrative/Information Support
- Computer Networking
- Computer Systems and Support Computing
- Financial Management--Accounting
- Financial Management--Services
- Interactive Media
- Small Business Development

Business & Computer Science

Marketing Sales & Services Pathways

- Fashion Marketing
- Marketing Communications & Promotion
- Marketing & Management
- Sports & Entertainment Marketing
- Travel Marketing & Lodging Management

Marketing Sales & Services



*Dr. John D. Barge, State School Superintendent
"Making Education Work for All Georgians"*

CTAE

Career, Technical and Agricultural Education

Georgia Career, Technical and Agricultural Education
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