

College & Career Readiness in CTAE

Clayton County Public Schools



A Guide to Assist
Students in Selecting
Career Pathways

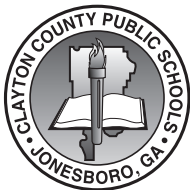
CTAE

CAREER, TECHNICAL & AGRICULTURAL EDUCATION

"Committed to High Performance"

- Leading the Talent Pipeline for Careers -

Version 5



CTAE Philosophy

Career inspiration in Pre-K, career awareness in elementary school, career visualization in middle school and career preparation in high school are vital components of one's educational career. Clayton County Public School's, Career, Technical and Agricultural Education (CTAE) program provides the interdisciplinary and technical skills to every student focused on attaining the knowledge and abilities that businesses and industries desire for high-demand, high-skilled, high-wage occupations.

Students who graduate from high school after successfully completing a CTAE "Career Pathway" are equipped for immediate employment, post-secondary education and life-long learning. In essence, students in CTAE are "college, career and workforce ready" - prepared to compete in the global marketplace.



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92.8 %

Graduation rate for
CTAE concentrators

VISION STATEMENT

The vision of Clayton County Public Schools is to be a district of excellence preparing ALL students to live and compete successfully in a global society.

MISSION STATEMENT

The mission of Clayton County Public Schools is to be accountable for providing a globally competitive education that empowers students to achieve academic and personal goals and to become productive, responsible citizens for the 21st century.

CORE BELIEF STATEMENT

- We believe children have first priority on all of our resources.
- We believe education is the shared responsibility of the student, the parent/guardian, the school, and the community.
- We believe communication and understanding among all stakeholders of our diverse community are essential to achieving the goals of education.
- We believe that learning is a continuous process and most productive when the needs of each child are met through instruction provided by competent and caring teachers.
- We believe a learning environment where everyone experiences security, care, dignity, and respect is essential.

STRATEGIC GOALS

1. To increase academic achievement for all students in Clayton County Public Schools as evidenced by state, national and international assessment results
2. To provide and maintain a safe, orderly and secure learning environment
3. To create an environment that promotes active engagement, accountability, and collaboration of all stakeholders to maximize student achievement
4. To effectively communicate the system's vision and purpose and allow stakeholder involvement in an effort to build understanding and support
5. To provide high quality support services delivered on time and within budget to promote student academic success in the Clayton County Public Schools
6. To recruit and retain highly qualified and effective staff

INTRODUCTION TO CAREER PATHWAYS

College and Career-readiness in CTAE is a guide to assist students, parents, guidance counselors, administrators, and teachers in selecting a career pathway in Career, Technical and Agricultural Education (CTAE). Career Pathways are career enhancement programs defined as a coherent, articulated sequence of rigorous academic and career related courses usually commencing in the ninth grade. The completion of a pathway is geared towards achieving an associate degree, and/or an industry recognized certificate or licensure, and/or a baccalaureate degree and beyond. CTAE provides all Georgia students with the opportunity to select at least three sequenced electives in a chosen career pathway, along with recommended academic course work, to prepare them to continue their education at any level or enter the world of work. Most high-demand, highly-skilled, high-wage occupations in all concentrations require education beyond high school.

GEORGIA'S CAREER CLUSTERS

Georgia's 17 career clusters/Pathways provide a structure for organizing and delivering quality Career, Technical and Agricultural Education (CTAE) programs. The Career Clusters are modeled after the Federal Government's National Career Clusters. CTAE currently offers courses in 15 of the 17 clusters:

- Agriculture, Food & Natural Resources
- Arts, AV/Technology, & Communications
- Architecture & Construction
- Business Management & Administration
- Education & Training
- Finance
- Government & Public Administration
- Health Science
- Hospitality & Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections & Security
- Marketing
- Science, Technology, Engineering, Mathematics
- Transportation, Distribution & Logistics

- **Agriculture, Food, & Natural Resources**

The Agriculture, Food, & Natural Resources Career Cluster includes 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.

- **Arts, A/V Technology, & Communications**

The Arts, A/V Technology, & Communications Career Cluster includes designing, producing, exhibiting, performing, writing, and publishing multimedia content. Technical skill areas include visual and performing arts, graphic design, journalism, and entertainment services.

- **Architecture and Construction**

The Architecture and Construction Career Cluster includes careers in designing, planning, managing, and building structures.

- **Business Management & Administration**

The Business Management & Administration Career Cluster prepares students with computer skills for future college and career plans. Cluster skills mastered include planning, organizing, directing, and evaluating as well as owning and operating a successful business.

- **Education and Training**

The Education and Training Career Cluster includes planning, managing, and providing education and training services as well as related learning support services.

- **Finance**

The Finance Career Cluster focuses on money management, including planning, investing, and spending. Students will 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.

- **Government & Public Administration**

The Government & Public Administration Career Cluster includes the planning and performing of government management and administrative functions at local, state, and federal levels. Careers are available in national security, foreign service, revenue, and regulations.

- **Health Science**

The Health Science Career Cluster includes planning, managing, and providing services in therapeutics, diagnostics, health informatics, support areas, and biotechnology research and development.

- **Hospitality & Tourism**

The Hospitality & Tourism Career Cluster encompasses the management, marketing, and operations of restaurants, and other food services, lodging, attractions, recreation events, and travel related services.

- **Human Services**

The Human Services Career Cluster prepares individuals for employment activities 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.

- **Information Technology**

The rapidly changing digital world of the Information Technology Career Cluster engages students in hands-on learning to prepare for careers that create, use, modify, and engage technology skills. Graphics, multimedia animation, web design, game and application development, networking, and computer repair are all possibilities.

- **Law, Public Safety, Corrections, & Security**

The Law, Public Safety, Corrections, & Security Career Cluster prepares individuals for employment relating to emergency and fire services, legal services, protective services, and homeland security.

- **Marketing**

Marketing is the process of anticipating, managing, and satisfying consumers' demand for products, services, and ideas. The Marketing Career Cluster generates the strategy that underlies advertising and promotional techniques, business communication, and business development.

- **Science, Technology, Engineering, Mathematics (STEM)**

The Science, Technology, Engineering, Mathematics Career Cluster means planning, managing, and providing scientific research and professional and technical services.

- **Transportation, Distribution & Logistics**

The Transportation, Distribution & Logistics Career Cluster encompasses planning, managing, and moving people, materials, and goods by road, pipeline, air, rail, and water, and also includes other related professional and technical support services.

- **CTAE Career Academies, Magnet Programs and STEM Schools**

Morrow High	Morrow Aviation & Innovation Career Academy
Morrow High	Morrow Science, Technology & Mathematics Magnet Program
North Clayton High	North Clayton Aviation & Innovation Career Academy
Lovejoy High	Lovejoy Mathematics & Computer Science Magnet Program
Mundy's Mill High	Mundy's Mill Film & Media Magnet Program
Rex Mill Middle	Rex Mill Middle STEM School

HOW TO USE THE CTAE BOOKLET TO PREPARE FOR COLLEGE AND CAREERS

1. The name of the pathway is at the top of its description.
2. Below the pathway name is the introductory course for that pathway.
*Please note that these courses must be taken in sequence and that ninth grade students may take only the introductory courses. Actual course names, numbers, course sequence and location should be verified prior to enrollment. Some changes may have occurred after the printing of this publication.
3. A brief description provides information concerning pathway content.
4. Below the introductory courses is a list of other courses offered within that pathway.
5. All pathways are not offered at every high school; therefore each pathway page contains a chart that uses an "X" to identify each high school where a pathway is offered. The school abbreviations are as follows:

FPHS: Forest Park High School	MZHS: Mt. Zion High School
JHS: Jonesboro High School	MMHS: Mundy's Mill High School
LHS: Lovejoy High School	NCHS: North Clayton High School
MHS: Morrow High School	RHS: Riverdale High School
CDHS: Charles Drew High School	Perry: The Perry Center
ESA: Elite Scholars Academy	
6. At the bottom of each pathway description page is a logo representing the Career & Technical Student Organization (CTSO) that represents the particular area of study. See page 39 for more information regarding CTSOs.

AGRICULTURE, FOOD, & NATURAL RESOURCES CLUSTER

PLANT & LANDSCAPE SYSTEMS PATHWAY

Course 1: 02.47100 - Basic Agriculture Science

Course 2: 01.46100 - General Horticulture & Plant Science

Course 3: 01.47000 - Nursery & Landscape



This pathway introduces the major areas of scientific agricultural production and research; presents problem solving lessons and introductory skills and knowledge in agricultural science and agri-related technologies, plant and horticulture science. It concludes with scientific principles applied to the animal industry; covers reproduction, production technology, processing, and distribution of agricultural animal products.



PLANT & LANDSCAPE SYSTEMS

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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ARCHITECTURE & CONSTRUCTION CLUSTER

CARPENTRY PATHWAY

Course 1: 46.54500 - Industry Fundamentals & Occupational Safety

Course 2: 46.54600 - Introduction to Construction

Course 3: 46.55000 - Carpentry

In this pathway students are instructed in all areas of safety including ladders, scaffolding, trenching and the use of safety harnesses. Students are introduced to the State of Georgia Building Codes and knowledge needed to lay rafters, stairs and walls, and how to properly frame doors and windows. This pathway culminates with an opportunity for students in an NCCER Industry Certified program to earn credentials or take the SkillsUSA Work Force Ready exam in Carpentry.



CARPENTRY

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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ARTS, AV/TECHNOLOGY, & COMMUNICATIONS CLUSTER

ANIMATION & DIGITAL DESIGN PATHWAY

Course 1: 48.42100 - Introduction to Digital Media

Course 2: 48.42200 - Principles and Concepts of Animation

Course 3: 48.42300 - Advanced Animation, Game and APP Design

Course 4: 48.42400 - Animation Internship/Capstone



In this pathway students will learn the basic components of 2-D and 3D animation development from storyboarding elements to fundamental software capabilities. Instruction focuses on storyboard creation, the physics and anatomy of motion, technology of animation, properties and use of color, cameras and lighting, fundamentals of modeling and animating, creating a portfolio and file management. Students will have the opportunity to learn the basics of Game and APP design in the advanced courses, which include sound integration into animated products; by focusing on skills that include lip-syncing, voice overs, and synchronization. Completing three sequenced courses will give students the opportunity to earn an industry credential in animation.



ANIMATION & DIGITAL DESIGN PATHWAY

CDHS ESA FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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ARTS, AV/TECHNOLOGY, & COMMUNICATIONS CLUSTER

AUDIO-VIDEO TECHNOLOGY AND FILM PATHWAY



Course 1: 10.51810 - Audio-Video Technology and Film I

Course 2: 10.51910 - Audio-Video Technology and Film II

Course 3: 10.52010 - Audio-Video Technology and Film III

In this pathway an individual may design, manufacture, operate and/or repair audiovisual equipment. Students will be involved in the presentation of sound, video and data in a variety of venues. Students may gather information and prepare broadcasts or be involved in the set up and operations of equipment used to record and transmit programs and/or motion pictures. Students may provide sound mixing and/or video editing services. This pathway culminates with an opportunity for students to take the SkillsUSA Television Video Production end of pathway assessment.



AUDIO-VIDEO TECHNOLOGY & FILM

CDHS	FPHS	JHS	LHS	MHS	MZHS	MMHS	NCHS	RHS	Perry
					X	X			X
						MMHS - (Film & Media Magnet Program)			

ARTS, AV/TECHNOLOGY, & COMMUNICATIONS CLUSTER

GRAPHIC DESIGN PATHWAY



Course 1: 48.56100 - Introduction to Graphics & Design

Course 2: 48.56200 - Graphic Design & Production

Course 3: 48.52800 - Advanced Graphic Design

Four Course Option for Dual CTAE Pathway Completers:

Course 4: 48.57000 - Advanced Graphic Output Processes

* Graphics Communication Pathway

The Graphics and Design pathway provides students with the knowledge and processes involved in the technologies of printing, publishing, packaging, electronic imaging, and their allied industries. In addition, the pathway offers a range of cognitive skills, aesthetics, and crafts that includes typography, visual arts, and page layout. Content will cover electronic systems and software programs used in graphic design, page composition, image conversion, and digital printing. Knowledge and skills in digital design and imaging will be enhanced through experiences that simulate the graphic design industry and school-based and work-based learning opportunities.



GRAPHIC DESIGN

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BUSINESS MANAGEMENT & ADMINISTRATION CLUSTER

BUSINESS AND TECHNOLOGY PATHWAY



Course 1: 07.44130 - Introduction to Business and Technology

Course 2: 07.44100 - Business and Technology

Course 3: 07.45100 - Business Communications

In this pathway students focus on planning, organizing, coordinating, and controlling the resources needed to produce and provide a business's goods and/or services that lead to owning and operating a small business. Students have the opportunity to take the Fundamental Business Concepts or Entrepreneurship and Management Exam as the end of pathway assessment.



BUSINESS AND TECHNOLOGY

CDHS ESA FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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BUSINESS MANAGEMENT & ADMINISTRATION CLUSTER

ENTREPRENEURSHIP PATHWAY



Course 1: 07.44130 - Introduction to Business and Technology

Course 2: 06.41500 - Legal Environment of Business

Course 3: 06.41600 - Entrepreneurship

This pathway begins with an overview of business and technology skills, as well as business law, required for today's business environment. Entrepreneurship focuses on recognizing a business opportunity, starting a business, operating and maintaining a business. Students will be exposed to the development of critical thinking, problem solving, and innovation in this pathway as they will either be the business owner or individuals working in a competitive job market in the future.



ENTREPRENEURSHIP PATHWAY

CDHS FPBS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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EDUCATION AND TRAINING CLUSTER

EARLY CHILDHOOD CARE AND EDUCATION I PATHWAY



Course 1: 20.52810 - Early Childhood Care Education I

Course 2: 20.42400 - Early Childhood Education II

Course 3: 20.42500 - Early Childhood Education III

Four Course Option for Dual CTAE Pathway Completers:

Course 4: 20.42600 – Early Childhood Education Practicum

* Early Childhood Care and Education II Pathway

In this pathway students learn appropriate practices for working with young children, as they grow physically, cognitively, and emotionally. Course focus includes planning, managing and providing education and training services, and related learning support services such as administration, teaching/training, administrative support, and professional support services. This pathway culminates with an opportunity for students to take the MAVCC, AAFCS, NOCTI end of pathway assessment or to take the CDA Council end of pathway assessment and to potentially earn a Child Development Associate certificate.



EARLY CHILDHOOD CARE AND EDUCATION

CDHS FPMS JHS LHS MHS MZHS MMHS NCHS RHS Perry



EDUCATION AND TRAINING CLUSTER

TEACHING AS A PROFESSION



Course 1: 13.01100 - Examining the Teaching Profession

Course 2: 13.01200 - Contemporary Issues in Education

Course 3: 13.01300 - Teaching as a Profession

This pathway prepares students for future positions in the field of education. Teaching as a Profession students study, apply, and practice the use of current technologies, effective teaching and learning strategies, the creation of an effective learning environment, the creation of instructional opportunities for diverse learners and students with special needs, and plan instruction based on knowledge of subject matter, students, community, and curriculum performance standards. The final course offers a field experience under the direct supervision of a certified teacher (mentor teacher). The student intern will develop a portfolio of their skills, plan and teach a lesson or lessons, understand and practice confidentiality as it pertains to the teaching profession, meet the needs of students with special needs, maintain the safety of the students, practice professionalism, and demonstrate ethical behavior.



EARLY CHILDHOOD CARE AND EDUCATION

CDHS FPMS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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FINANCE CLUSTER

ADVANCED ACCOUNTING PATHWAY

Course 1: 07.44130 - Introduction to Business and Technology

Course 2: 07.41100 - Principles of Accounting I

Course 3: 07.41200 - Principles of Accounting II



In this pathway students learn to record, classify, summarize, analyze, and communicate a business's financial information/ business transactions. Activities include bookkeeping, systems design, and interpretation of information. Upon completion, students have an opportunity to take the QuickBooks Certification or Business Financial Management as the end of pathway assessment.



ADVANCED ACCOUNTING

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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FINANCE CLUSTER

FINANCIAL SERVICES PATHWAY

Course 1: 07.44130 - Introduction to Business and Technology

Course 2: 07.42600 - Financial Literacy

Course 3: 07.43100 - Banking, Insurance, and Investing



In this pathway students gain an understanding of financial instruments, capital planning, funds acquisition, asset & debt management, budgeting, financial analysis, and investments & portfolio management. Explore the financial world as students dive into the main areas of financial services, including banking, investing, and insurance. Basics of banking and credit include a brief history of money and banking, negotiable instruments, creation of credit, and the function of banks. Methods for measuring the financial performance of financial institutions are analyzed. Students will be introduced to a variety of investment options and learn to determine the appropriate options for an investment goal.



FINANCIAL SERVICES

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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GOVERNMENT AND PUBLIC ADMINISTRATION CLUSTER

AIR FORCE JUNIOR ROTC (AFJROTC) PATHWAY



- Course 1: 28.01100 - Aerospace Science Leadership 100 (PS-AFAH)
- Course 2: 28.01200 - Aerospace Science Leadership 200 (PS-AFSF)
- Course 3: 28.01300 - Aerospace Science: Cultural Studies
- Course 4: 28.01400 - Aerospace Science: Leadership 300
- Course 5: 28.01500 - Aerospace Science: Space Exploration
- Course 6: 28.01600 - Aerospace Science: Leadership 400
- Course 7: 28.01700 - Aerospace Science: Aviation History
- Course 8: 28.01800 - Aerospace Science: Survival
- Course 9: 28.01900 - Aerospace Science: Honors Ground School
- Course 10: 28.01910 - Aerospace Science: Flight Science
- Course 11: 28.01920 - Aerospace Science: Corps Management
- Course 12: 28.01930 - Aerospace Science: Drill Only
- Course 13: 28.01940 - Aerospace Science: Senior Project

***ONLY ROTC courses can be taken out of sequence, , ROTC counts for pathway completion – however there is no End of the Pathway Assessment administered for Air Force JROTC.*

Students can take the ASVAB. The ASVAB is a multiple-aptitude battery that measures developed abilities and helps predict future academic and occupational success in the military. It is administered annually to more than one million military applicants, high school, and post-secondary students.

In this pathway the Air Force Junior ROTC curriculum is designed to provide students with the knowledge and skills necessary to develop citizens of character dedicated to serving their community and nation. Program prepares high school cadets for leadership roles while making them aware of their rights, responsibilities and privileges as American citizens.

AIR FORCE - JROTC									
CDHS	FPMS	JHS	LHS	MHS	MZHS	MMHS	NCHS	RHS	Perry
X	X	X	X	X	X	X	X	X	X

HEALTH SCIENCE CLUSTER

HEALTH INFORMATICS/ HEALTH INFORMATION MANAGEMENT/MEDICAL OFFICE PATHWAY

Course 1: 25.52100 - Introduction to Healthcare Science

Course 2: 25.44000 - Essentials of Healthcare

Course 3: 25.49700 - Health Information Management/Medical Office

Four Course Options for Dual CTAE Pathway Completers:

Course 4: 25.44500 – Non-Invasive Diagnostic Technology in Healthcare Pathway

* Diagnostic/Non-Invasive Diagnostic Technology in Healthcare Pathway

Course 4: 25.57400 – Diagnostics Phlebotomy

* Diagnostics Phlebotomy Pathway

Course 4: 25.45000 – Emergency Medical Responder

* Therapeutic Services/Emergency Medical Responder Pathway

Course 4: 25.49700 - Health Information Management/Medical Office

*Health Informatics....Pathway

Course 4: 25.43600 - Patient Care Fundamentals *Therapeutic Services/Patient Care Pathway

Course 4: 25.45300 - Pharmacy Operations and Fundamentals

*Therapeutic Services/Pharmacy Pathway

In this pathway students learn how to work directly with patients and are exposed to areas such as providing care, treatment, counseling and health education information. This is followed by anatomy and physiology, a vital part in most healthcare post-secondary education programs. The completion of this pathway includes introducing students to skills and knowledge utilized in a medical office, the structure of healthcare in the United States, healthcare providers, and the structure and function of professional organizations.



HEALTH INFORMATICS/ HEALTH INFORMATION MANAGEMENT/MEDICAL OFFICE

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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HEALTH SCIENCE CLUSTER

THERAPEUTIC SERVICES – ALLIED HEALTH AND MEDICINE PATHWAY

Course 1: 25.52100 - Introduction to Healthcare Science

Course 2: 25.44000 - Essentials in Healthcare

Course 2: 25.43700 - Allied Health and Medicine

Four Course Options for Dual CTAE Pathway Completers:

Course 4: 25.44500 - Non-Invasive Diagnostic Technology in Healthcare Pathway

* Diagnostic/Non-Invasive Diagnostic Technology in Healthcare Pathway

Course 4: 25.57400 - Diagnostics Phlebotomy

* Diagnostics Phlebotomy Pathway

Course 4: 25.45000 - Emergency Medical Responder

* Therapeutic Services/Emergency Medical Responder Pathway

Course 4: 25.49700 - Health Information Management/Medical Office

*Health Informatics....Pathway

Course 4: 25.43600 - Patient Care Fundamentals *Therapeutic Services/Patient Care Pathway

Course 4: 25.45300 - Pharmacy Operations and Fundamentals

*Therapeutic Services/Pharmacy Pathway

In this pathway, the concepts of human growth and development, interaction with patients and family members, health, wellness, and preventative care are evaluated, as well as the legal, ethical responsibilities of today's healthcare provider. Medical-focused anatomy curriculum addresses the physiology of each body system, along with the investigation of common diseases, disorders and emerging diseases. The prevention of disease and the diagnosis and treatment that might be utilized are addressed, along with medical terminology related to each system. Students become effective and efficient multi-skilled healthcare providers as they develop a working knowledge of various allied health opportunities.



THERAPEUTIC SERVICES – ALLIED HEALTH AND MEDICINE

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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HEALTH SCIENCE CLUSTER

THERAPEUTIC SERVICES – PATIENT CARE PATHWAY

Course 1: 25.52100 - Introduction to Healthcare Science

Course 2: 25.44000 - Essentials of Healthcare

Course 3: 25.43600 - Patient Care Fundamentals

Course 4: 25.44900 - Patient Care Technician

Four Course Options for Dual CTAE Pathway Completers:

Course 4: 25.44500 - Non-Invasive Diagnostic Technology in Healthcare Pathway

* Diagnostic/Non-Invasive Diagnostic Technology in Healthcare Pathway

Course 4: 25.57400 - Diagnostics Phlebotomy

* Diagnostics Phlebotomy Pathway

Course 4: 25.45000 - Emergency Medical Responder

* Therapeutic Services/Emergency Medical Responder Pathway

Course 4: 25.49700 - Health Information Management/Medical Office

*Health Informatics....Pathway

Course 4: 25.43700 - Allied Health and Medicine

*Therapeutic Services/Allied Health and Medicine Pathway

Course 4: 25.45300 - Pharmacy Operations and Fundamentals

*Therapeutic Services/Pharmacy Pathway

In this pathway students learn how to work directly with patients and are exposed to areas such as providing care, treatment, counseling and health education information. This is followed by anatomy and physiology, a vital part in most healthcare post-secondary education programs and developing skills associated with an entry level position as a Nursing Assistant. Credentialing exam: National Healthcare Foundation Skills Assessment Certification.



THERAPEUTIC SERVICES – PATIENT CARE
CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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HEALTH SCIENCE CLUSTER

THERAPEUTIC SERVICES – PHARMACY PATHWAY

Course 1: 25.52100 - Introduction to Healthcare Science

Course 2: 25.44000 - Essentials of Healthcare

Course 3: 25.45300 - Pharmacy Operations and Fundamentals

Four Course Options for Dual CTAE Pathway Completers:

Course 4: 25.44500 - Non-Invasive Diagnostic Technology in Healthcare Pathway

* Diagnostic/Non-Invasive Diagnostic Technology in Healthcare Pathway

Course 4: 25.57400 - Diagnostics Phlebotomy

* Diagnostics Phlebotomy Pathway

Course 4: 25.45000 - Emergency Medical Responder

* Therapeutic Services/Emergency Medical Responder Pathway

Course 4: 25.49700 - Health Information Management/Medical Office

*Health Informatics....Pathway

Course 4: 25.43700 - Allied Health and Medicine

*Therapeutic Services/Allied Health and Medicine Pathway

Course 4: 25.49700 - Health Information Management/Medical Office

*Health Informatics....Pathway

This pathway is an introduction to pharmacy technology professions, employment opportunities, and basic pre-pharmacy technician skills which may be utilized in either clinical or community settings such as retail, home health care, and ambulatory care pharmacies. Intensive pharmacy specific safety and security training are provided including potential drug addiction and abuse issues relative to pharmaceutical care such as robberies and identification of forgeries.



THERAPEUTIC SERVICES – PATIENT CARE

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(Science, Technology & Mathematics Magnet School Program)

HOSPITALITY AND TOURISM CLUSTER

CULINARY ARTS PATHWAY

Course 1: 20.53100 - Introduction to Culinary Arts

Course 2: 20.53210 - Culinary Arts II

Course 3: 20.53310 - Culinary Arts III



In this pathway students have the opportunity to learn a variety of skills to work in the restaurant and food industry from knife skills, cooking techniques, menu planning, food purchasing and costing, food safety and sanitation to garde manger. This pathway culminates with an opportunity for students to take the MAVCC Culinary end of pathway assessment or the NOCTI American Culinary Federation end of pathway assessment and to potentially earn a junior culinary certificate.



CULINARY ARTS

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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HOSPITALITY AND TOURISM CLUSTER

SPORTS AND ENTERTAINMENT MARKETING PATHWAY

Course 1: 08.47400 – Marketing Principles

Course 2: 08.47800 – Introduction to Sports and Entertainment
Marketing

Course 3: 08.48500 – Advanced Sports and Entertainment
Marketing



This pathway begins with basic marketing principles which addresses all the ways in which marketing satisfies consumer and business needs and wants for products and services. Students develop a basic understanding of Employability, Foundational and Business Administration skills, Economics, Entrepreneurship, Financial Analysis, Human Resources Management, Information Management, Marketing, Operations, Professional Development, Strategic Management, and Global Marketing strategies. The final course in this pathway provides students opportunities to develop managerial and analytical skills and deepen their knowledge in sports/entertainment marketing. Topics include: Marketing-Information Management, Selling, Publicity/Public Relations, Sales Promotion, Management of Promotion, Product Mix, Pricing, Positioning, and Marketing Planning.



SPORTS AND ENTERTAINMENT MARKETING

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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HUMAN SERVICES CLUSTER

BARBERING PATHWAY

Course 1: 12.54400 - Introduction to Personal Care

Course 2: 12.42000 - Barbering II

Course 3: 12.42100 - Barbering III



In this pathway students are introduced to both fundamental theory and practices of the personal care professions including nail technicians, estheticians, barbers, and cosmetologists. Emphasis will be placed on professional practices and safety. Students then gain necessary skills and knowledge related to barbering and scientific and mathematical corollaries. Clinical activities are included in this pathway and involve: individualized and precise designing, cutting, and shaping of the hair, as well as, analysis and performance of professional services such as haircutting and styling, mustache and beard design, facials, shaves and scalp treatments. Students will earn credit hours toward the completion of the 1500 credit hours required by Georgia State Board of Barbers. This course provides in-depth competencies for the co-curricular student organization SkillsUSA. Students will achieve technical content skills necessary to pursue a full range of careers in this program.



BARBERING

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry



HUMAN SERVICES CLUSTER

COSMETOLOGY PATHWAY

Course 1: 12.54400 - Introduction to Personal Care

Course 2: 12.41000 - Cosmetology Services II

Course 3: 12.41100 - Cosmetology Services III



In this pathway students will learn skills to become hair technicians, estheticians, barbers and cosmetologists. They will gain an enhanced understanding of anatomy of the skin and hair relating to the Cosmetology Industry. Students will master shampooing, permanent waving, haircutting, basic skin care, and make-up application while maintaining safety and sanitation in the workplace set forth by OSHA standards. Completion of this pathway culminates with an opportunity for students to take the Skills Connect end of pathway assessment.



COSMETOLOGY

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

X X

X X

HUMAN SERVICES CLUSTER

FOOD AND NUTRITION PATHWAY

Course 1: 20.41610 - Foods, Nutrition and Wellness

Course 2: 20.41400 - Food for Life

Course 3: 20.41500 - Food Science



In this pathway students discuss the basic chemistry concepts of food science and evaluate the effects of processing, preparation, and storage of the quality, safety, wholesomeness and nutritive value of foods. Upon completion, students can take the AAFCS Nutrition end of pathway assessment or the National Restaurant Association's end of pathway assessment and to potentially earn a ServSafe certificate.



FOOD AND NUTRITION

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

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X X

INFORMATION TECHNOLOGY CLUSTER

COMPUTER SCIENCE PATHWAY

Course 1: 11.41500 – Introduction to Digital Technology

Course 2: 11.47100 – Computer Science Principles

• AP Computer Science (Contact College Board for standards)

Four Course Options for Dual CTAE Pathway Completers:

Course 4: 11.42900 – Game Design: Animation and Simulation

*Game Design Pathway

Course 4: 11.42700 – Embedded Computing

*Internet of Things Pathway

Course 4: 11.47200 – Programming, Apps, Games, and Society

*Programming Pathway



How can computing change the world? What is computer science? Engage your creativity, demonstrate and build your problem solving ability all while connecting the relevance of computer science to the society! Computer Science (CS) Principles is an intellectually rich and engaging course that is focused on building a solid understanding and foundation in computer science. This pathway emphasizes the content, practices, thinking and skills central to the discipline of computer science. Through both its content and pedagogy, this pathway aims to appeal to a broad audience. The focus of this pathway will fall into these computational thinking practices: connecting computing, developing computational artifacts, abstracting, analyzing problems and artifacts, communicating, and collaborating.



COMPUTER SCIENCE

CDHS FPBS JHS LHS MHS MZHS MMHS NCHS RHS Perry



(Mathematics & Computer
Science Magnet Program)

INFORMATION TECHNOLOGY CLUSTER

PROGRAMMING PATHWAY

Course 1: 11.41500 - Introduction to Digital Technology

Course 2: 11.47100 - Computer Science Principles

Course 3: 11.47200 - Programming, Apps, Games, and Society

Four Course Options for Dual CTAE Pathway Completers:

Course 4: 11.42900 - Game Design: Animation and Simulation

*Game Design Pathway

Course 4: 11.42700 - Embedded Computing

*Internet of Things Pathway



In this pathway students begin to build linkages in Digital Technology occupations. Students gain exposure to foundational knowledge in hardware, software, programming, web design, IT support, and networks. All are taught in a computer lab with hands-on activities and project focused tasks. High school students will learn to strategize, design, and develop games and mobile and desktop applications that can be produced in the real world.



PROGRAMMING

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

X

X X

INFORMATION TECHNOLOGY CLUSTER

WEB AND DIGITAL DESIGN PATHWAY

Course 1: 11.41500 - Introduction to Digital Technology

Course 2: 11.45100 - Digital Design

Course 3: 11.45200 - Web Design



In this pathway students are exposed to the process of creating, designing and producing interactive multimedia products and services, including development of digitally-generated or computer-enhanced media used in business, training, entertainment, communications and marketing. This pathway culminates with an opportunity for students to earn industry recognized credentials in areas such as Design Specialist, Web Specialist, Video Specialist and Internet Core Computing Certification.

WEB AND DIGITAL DESIGN

CDHS FPMS JHS LHS MHS MZHS MMHS NCHS RHS Perry

X X X

LAW, PUBLIC SAFETY, CORRECTIONS, & SECURITY CLUSTER

FIREFIGHTING AND EMERGENCY SERVICES/FIREFIGHTING PATHWAY

Course 1: 43.45000 - Introduction to Law, Public Safety, Corrections and Security

Course 2: 43.46000 - Essentials of Fire and Emergency Services

Course 3: 43.44000 - Applications of Firefighting



This pathway addresses the essential components needed for fire and emergency services. Students will be prepared for real-life situations that include firefighting, emergency medical response, and public safety communications. Students will explore career options, interagency communications, medical services, and basic firefighting standards. Upon successful completion, the student will be able to sit for the exam to certify as a Firefighter I per National Fire Protection Association (NFPA®) 1001, Standard for Fire Fighter Professional Qualifications.

The Applications of Firefighting course requires strenuous physical activity. Students and parents, and school officials, are encouraged to review and discuss the physical requirements prior to the student's enrollment in the course. Schools may choose to recommend that a student obtain a sports physical prior to the start of course activities. student obtain a sports physical prior to the start of course activities.



FIREFIGHTING AND EMERGENCY SERVICES/FIREFIGHTING

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

X

X

(Pilot)

LAW, PUBLIC SAFETY, CORRECTIONS, & SECURITY CLUSTER

LAW ENFORCEMENT SERVICES/ FORENSIC SCIENCE PATHWAY

Course 1: 43.45000 - Introduction to Law, Public Safety, Corrections and Security

Course 2: 43.45100 - Criminal Justice Essentials

Course 3: 43.45200 - Forensic Science and Criminal Investigations



In this pathway students will cover the essential skills and knowledge useful in any area in law enforcement. Law enforcement personnel have duties that range from controlling traffic to preventing and investigating crimes. Law enforcement officers maintain order; enforce laws and ordinances; issue traffic summonses; investigate accidents; present evidence in court; serve legal documents for the court system; and apprehend, arrest and process prisoners. This pathway also includes analysis into career in Security and Protective Services, including the history, procedures and objectives.



LAW ENFORCEMENT SERVICES/ FORENSIC SCIENCE

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

X X X

X

X X

MARKETING CLUSTER

MARKETING PATHWAY

Course 1: 08.47400 - Marketing Principles

Course 2: 08.44100 - Marketing & Entrepreneurship

Course 3: 08.44200 - Marketing Management



In this pathway students will obtain knowledge and skills in management and entrepreneurship, professional sales and marketing, buying and merchandising, marketing communications and promotion, marketing information management and research, distribution and logistics, global marketing, and e-marketing. This pathway culminates with an opportunity for students to take the MBA Research "A*S*K Marketing Concepts" end of pathway assessment or the Oklahoma Consortium (MAVCC) "Marketing Education Manager Trainee" end of pathway assessment. Students may earn a credentialing certificate.



MARKETING

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

X

X X

X X X

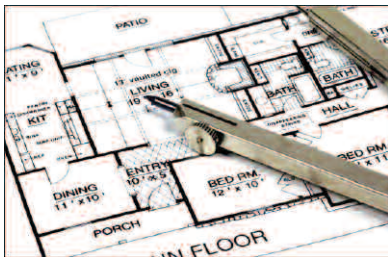
SCIENCE, TECHNOLOGY, ENGINEERING, MATHEMATICS CLUSTER

ENGINEERING DRAFTING AND DESIGN PATHWAY

Course 1: 48.54100 - Introduction to Drafting and Design

Course 2: 48.54200 - Survey of Engineering Drawing

Course 3: 48.54300 - 3D Modeling and Analysis



In this pathway students learn drafting techniques through the study of geometric construction at which time they are introduced to computer-aided drafting and design. The standards are aligned with the drafting and design standards in the Georgia's technical colleges, thus helping students qualify for advanced placement should they continue their education at the postsecondary level. Emphasis is placed in the final course on 3-D working and assembly drawings including rendering and animation.



ENGINEERING DRAWING & DESIGN

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

X

SCIENCE, TECHNOLOGY, ENGINEERING, MATHEMATICS CLUSTER

ENGINEERING AND TECHNOLOGY PATHWAY

Course 1: 21.42500 - Foundations of Engineering and Technology

Course 2: 21.47100 - Engineering Concepts

Course 3: 21.47200 - Engineering Applications



In this pathway students will combine hands on projects that lead to careers in architectural, biomedical, chemical, civil, computer, science, electrical, environmental, industrial, manufacturing, materials, mechanical, nuclear engineering, and engineering technology. Students build solid technical writing, comprehension, calculation, problem-solving, and technical skills. This pathway culminates with an opportunity for students to take the NOCTI Engineering or SkillsUSA Engineering end of pathway assessment.



ENGINEERING & TECHNOLOGY

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

X

X

X

MHS - (Science,
Technology & Mathematics
Magnet Program)

TRANSPORTATION, DISTRIBUTION & LOGISTICS CLUSTER

AVIATION MAINTENANCE PATHWAY

Course 1: 47.46000 - Fundamentals of Aerospace

Course 2: 47.46200 - Aviation Maintenance I

Course 3: 47.46300 - Aviation Maintenance II



In this pathway students begin learning the basics of aviation maintenance and flight operations. Students will gain a fundamental knowledge base in aviation history and regulations, the basic principles of flight, aerospace careers, and factors influencing work systems, aerospace technologies, and basic aviation meteorology. Students then build and expand their knowledge base in the basics of aircraft maintenance, performance, and design. These concepts can later be applied to various aerospace occupations. Classroom and lab activities will assure students a thorough understanding of the aviation and aerospace environment.



AVIATION MAINTENANCE

CDHS

FPHS

JHS

LHS

MHS

MZHS

MMHS

NCHS

RHS

Perry

X

Aviation & Innovation
Career Academy

X

Aviation & Innovation
Career Academy

TRANSPORTATION, DISTRIBUTION & LOGISTICS CLUSTER

FLIGHT OPERATIONS PATHWAY

Course 1: 47.46000 - Fundamentals of Aerospace

Course 2: 47.48800 - Flight Operations I

Course 3: 47.48900 - Flight Operations II



In this pathway students will learn the basics of aviation maintenance and flight operations. Students will gain a fundamental knowledge base in aviation history and regulations, the basic principles of flight, aerospace careers, and factors influencing work systems, aerospace technologies, and basic aviation meteorology. Classroom and lab activities will assure students a thorough understanding of the aerospace environment. Students will also learn to apply the basics of aircraft navigation, utilize efficient communication methods for safe aircraft operations, as well as gain an understanding of atmospheric dynamics and the aviation environment.



FLIGHT OPERATIONS

CDHS

FPHS

JHS

LHS

MHS

MZHS

MMHS

NCHS

RHS

Perry



Aviation & Innovation
Career Academy



Aviation & Innovation
Career Academy

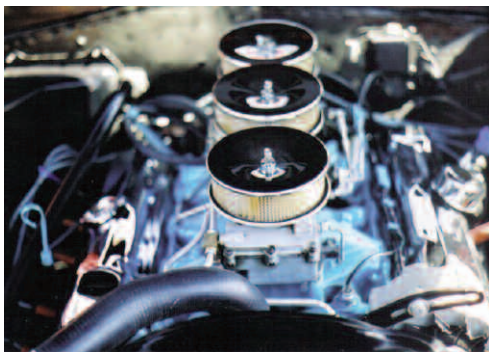
TRANSPORTATION, DISTRIBUTION & LOGISTICS CLUSTER

AUTOMOBILE MAINTENANCE AND LIGHT REPAIR PATHWAY

Course 1: 47.53110 - Basic Maintenance and Light Repair

Course 2: 47.53210 - Maintenance and Light Repair 2

Course 3: 47.53310 - Maintenance and Light Repair 3



In this pathway students will learn how to research applicable vehicle and service information, service history, precautions and technical service bulletins. Many basic tasks will be covered such as fluid changes, belt replacement, brake, and tire service. This pathway culminates with the opportunity for students to take the end of pathway assessment in Maintenance and Light Repair offered by the National Institute for Automotive Service Excellence (ASE) in collaboration with NATEF/AYES/SkillsUSA.



AUTOMOBILE MAINTENANCE AND LIGHT REPAIR

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

X X

X X

CAREER & TECHNICAL INSTRUCTION (CTI)

Course 1: CTI I (743010)



CTI, formerly RVI, supports students with disabilities enrolled in secondary career, technical, and agricultural programs and assures that they are provided equal access to the least restrictive environment, varied instructional strategies, early guidance, vocational assessments, appropriate transitional services, and special support services.

CAREER & TECHNICAL INSTRUCTION (CTI)

CDHS FPHS JHS LHS MHS MZHS MMHS NCHS RHS Perry

X

X

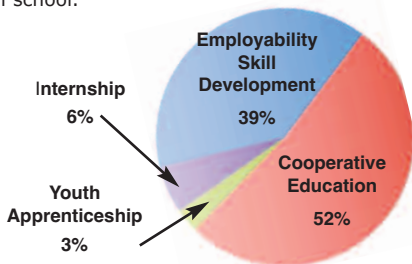
(FPHS & LHS support all schools)

WORK-BASED LEARNING

Work-Based Learning (WBL) is a planned program of study that offers students in grades 11 and 12 opportunities to work at a job site in a business in the community. In 2016-2017, 318 students were admitted to the program. Students engaged in the Work-Based Learning program participate in one of the following areas: Employability Skill Development (ESD), Cooperative Education (COOP), Internships, or the Youth Apprenticeship Program (YAP). WBL students leave school early and report to the work site. They work in a variety of local business areas including law firms, restaurants, hotels, day care centers, salons and health care facilities to name a few. WBL students earned over \$1,093,936 during school year 2016-2017; a 28% increase from the previous year. Through Work-Based Learning, students have the opportunity to connect what they learn in school with work-site applications to enable a smooth transition into the work-force and/or education beyond school.

In 2015-2016, Georgia Department of Education introduced a collaboration with Great Promise Partnership (GPP). GPP pairs school systems with public and private partners to help students in danger of not graduating stay on track by giving them relevant real-world work experience while helping them to complete their education. At-risk students who show promise receive mentoring, on-the-job training, life skills and community support.

For more information, contact the Work-Based Learning Coordinator at your high school.



WORK-BASED LEARNING										
CDHS	FPHS	JHS	LHS	MHS	MZHS	MMHS	NCHS	RHS	Perry	
X	X	X	X	X	X	X	X	X	X	X

NATIONAL TECHNICAL HONOR SOCIETY

National Technical Honor Society (NTHS) is a leader in the recognition of student achievement in CTAE. Thousands of high schools and colleges throughout the U.S. operate a local chapter of this prestigious honor society. NTHS chapters are active in each of the 10 high school locations in Clayton County. Students are chosen for membership based on skill, honesty, service, responsibility, scholarship, citizenship, and leadership. NTHS exists to honor student achievement and leadership, promote educational excellence, and enhance career opportunities for members. Membership encourages scholastic achievement, cultivates a desire for excellence and helps prepare students for success in the global marketplace (www.nths.org).



National Technical
Honor Society

The acknowledged leader in the recognition of outstanding student achievement in career and technical education



MIDDLE SCHOOL PATHWAY/CONNECTIONS

Middle school students explore many areas of Career, Technical and Agricultural Education (CTAE). They experience hands-on learning and begin to develop leadership skills through Career and Technical Student Organizations. The following CTAE courses are offered at the middle school level:

- **Business & Computer Science:** this course allows students to gain a clear understanding of the basic operations of the computer and printer, and proper keyboard techniques. Students develop word processing, spreadsheet, and presentation skills. Students also learn how to format basic letters and reports.
- **Family and Consumer Sciences:** this course exposes students to different careers relating to the Family and Consumer Sciences Education field such as clothing and textiles, foods and nutrition, child care and health occupations.
- **Engineering and Technology** this course introduces students to the materials and processes of industry and careers within industry. It acquaints students with various processes used in the researching, designing, engineering, and production of products through project-based experiences.
- **Career Development:** this course offers explorations in career choices. Students develop career knowledge with the support of hands-on interactive training experiences. Middle school students will be provided opportunities to identify career interests, abilities, aptitudes, values, and personality traits as they relate to career planning.

MIDDLE SCHOOL PATHWAY/CONNECTIONS CONT.

- **Healthcare Science:** this course will enable students to receive initial exposure to Healthcare Science skills and attitudes applicable to the healthcare industry. The concepts of health, wellness, and preventative care are evaluated, as well as, ethical and legal responsibilities of today's healthcare provider.
- **Communications:** this course introduces students to the history of mass media, terminology, safety, basic equipment, script writing, storyboarding, production teams, planning, writing, directing, recording and editing a production, graphic communications, and professional ethics.
- **Marketing, Sales & Service:** this course will enable students to learn the fundamentals about our free enterprise system and how marketing is imperative to our economy. Students will gain knowledge about basic marketing concepts, and they will develop skills that allow them to use the marketing information through project-based instruction. This course will encourage entrepreneurial interests and develop entrepreneurial abilities thereby fostering the idea of self-employment as an income generating option.

CAREER CENTER AND DUAL ENROLLMENT PROGRAMS

Purpose:

The mission of the Clayton County Public Schools Career Center is "to ensure a viable 21st century workforce." The focus is on seamless education, which is accomplished by removing barriers between academics and career/technical classes, between high school and college, and the workplace. Students from the county's eight high schools voluntarily enroll and take part in dual enrollment courses, simultaneously earning credit toward a high school diploma and a technical college credential.

The Technical College certificate programs will be offered at the Career Center located at the Eula Ponds Perry Center for Learning. These seamless education programs will allow students who qualify to begin pursuing post-secondary education, and to gain knowledge and skills in a technical field during their junior or senior year of high school. The technical certificate programs will allow students to develop marketable skills that will enable them to make a smooth transition into the workforce. Students in these programs have the opportunity to simultaneously work toward a high school diploma and earn a Technical Certificate of Credit (TCC). These dual credentials make students employable, increase their earning power and give them a competitive edge when seeking admission to other two and four year colleges and universities.

Dual Enrollment Completers:

FY 2010 - 21

FY 2011 - 42

FY 2012 - 35

FY 2013 - 32

FY 2014 - 29

FY 2015 - 32

FY 2016 - 26

FY 2017 - 15

Possible Dual Enrollment Courses for 2016-2017

- Patient Care Assisting (PCA)
 - Small Business Marketing Manager (SBMM)
 - Criminal Justice
 - Auto Technology
 - Various Academic Course Offerings
- * The program makes if there are 15 or more students enrolled.

Other CTAE Pathways Available:

- Early Childhood Education
- Audio/Video and Film Technology
- Accounting
- Web and Digital Design
- Automotive Maintenance and Light Repair

CAREER TECHNICAL STUDENT ORGANIZATIONS

Each Career, Technical and Agricultural Education pathway is affiliated with a student organization which offers students a variety of experiences beyond the classroom. Although the activities of CTSO's are co-curricular, membership in these organizations is voluntary. Leadership skills, developed through participation in CTSO activities, can be the most valuable skills one learns while in high school, and all students are encouraged to join and participate.



Georgia's **HOT** Careers to 2024

Skills and Abilities

- advanced skills required ○ moderate skills required

Work Activities

- frequently found ○ occasionally found

NOT jobs have faster than state annual average job growth, above the state annual average wage, and have at least 100 annual openings.

[illegible]

- ✓ **Fast job growth**
- ✓ **Above average wages**
- ✓ **At least 100 expected annual job openings**

<https://explorer.gdol.ga.gov/gsipub/index.asp?docid=356>

Georgia
DOL
DEPARTMENT OF LABOR

Georgia Department of Labor • Mark Butler, Commissioner

Equal Opportunity Employer/Program • Auxiliary Aids and Services Available upon Request to Individuals with Disabilities

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For more information, please contact Workforce Statistics & Economic Research at (404) 232-3875 • Fax (404) 232-3888

For more information, please contact Workforce Statistics & Economic Research
Email: Workforce_Info@edol.ga.gov

STEM CAREERS TO 2024

GEORGIA'S STEM Careers to 2024

Science, Technology, Engineering, and Mathematics

Knowledge Understanding of principles and facts of subject matter ● full knowledge required ○ some knowledge required Education typical education needed to enter an occupation Note: jobs have faster than state annual average job growth, above the state annual average wage, and have at least 100 annual openings.	Knowledge															Education		Occupational Characteristics						
	Administration and Management	Biology/Chemistry	Design/Plan and Construction	General Customer and Personal Services	Health/Communication and Media	Computer and Electronics	Economics and Accounting	Education and Training	Engineering and Technology	English Language	Law and Government/Public Safety and Security	Mathematics	Mechanical Production and Processing	Medical and Dentistry	Measurement and Human Resources	Physics	Psychology/Sociology and Anthropology	Theory/Accounting	Medical or Public Social Science	Healthcare Degree	Healthcare Degree	2018-24 Annual Growth	2018-24 Annual Wage Survey	
Life and Physical Science, Engineering, Mathematics, and Information Technology Occupations																								
Aerospace Engineering & Operations Technicians	●	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$69,400	40
Aerospace Engineers	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$106,600	80	
Biological Science Teachers, Postsec	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$74,100	40		
Civil Engineering Technicians	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●	✓	\$45,300	60		
Civil Engineers	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●	✓	\$91,500	280		
Computer & Information Systems Managers	●	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$134,700	330		
Computer Network Architects	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$110,700	80		
Computer Network Support Specialists	●	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$69,800	150		
Computer Systems Analysts	●	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$86,800	660		
Computer User Support Specialists	●	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$52,700	570		
Database Administrators	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$85,000	190		
Electrical & Electronics Engineering Technicians	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$60,000	130		
Electrical Engineers	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$90,400	120		
Environmental Scientists & Spec, Incl Health	●	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●	✓	\$59,100	70		
Industrial Engineers	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$83,300	220		
Information Security Analysts	●	○	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●	✓	\$88,700	70		
Mathematical Science Teachers, Postsec	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$66,200	40		
Mechanical Engineering Technicians	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$56,500	50		
Mechanical Engineers	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$82,700	230		
Network & Computer Systems Administrators	●	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$83,700	240		
Operations Research Analysts	○	○	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●	✓	\$65,500	100		
Sales Engineers	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$106,900	80		
Sales Reps, Wholesale & Mfg, Tech & Scientific Products	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$81,400	280		
Software Developers, Applications	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$94,900	690		
Software Developers, Systems Software	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$97,000	360		
Statisticians	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$85,300	20		
Web Developers	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$79,300	140		
Health Occupations																								
Cardiovascular Technologists & Technicians	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$53,200	80		
Chiropractors	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$77,600	40		
Dental Hygienists	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$63,800	200		
Dentists, General	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$180,100	110		
Diagnostic Medical Sonographers	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$61,800	80		
Emergency Medical Technicians & Paramedics	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	\$33,500	400		



<https://explorer.gdol.ga.gov/gspub/index.asp?docid=356>

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STEM CAREERS TO 2024

GEORGIA'S STEM Careers to 2024

Science, Technology, Engineering, and Mathematics

Knowledge Understanding of principles and facts of subject matter ● full knowledge required ○ some knowledge required Education typical education needed to enter an occupation Note: jobs have faster than state annual average job growth, above the state annual average wage, and have at least 100 annual openings.	Knowledge															Education	Occupational Characteristics
	Administration and Management	Biology/Chemistry	Design/Building and Construction	Health/Physical and Therapeutic Sciences	Humanities and Social Sciences	Mathematics	Physical Sciences	Technology and Engineering	Transportation and Logistics	Business and Economics	Education and Training	Health and Safety	Information Technology	Manufacturing and Production	Medical and Health Services	Physical Sciences	
																	Associate or higher degree Bachelor's degree Master's degree Postgraduate certificate or diploma Postgraduate diploma Postgraduate certificate Postgraduate diploma

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For more information, contact Workforce Statistics & Economic Research (WS&ER) at (404) 232-3875 or at workforce_info@gdol.gov

INDUSTRY CERTIFIED PROGRAMS

When a program becomes industry certified, it receives a "stamp of excellence", which represents the apex of program quality. Only those programs that have successfully undergone rigorous reviews by leaders from business and industry are recognized with this distinction. The State Department of Education along with Clayton County Public Schools CTAE Department is committed to the industry certification process as a part of its effort to strengthen technical and academic standards for all Career, Technical and Agricultural Education (CTAE) programs.

Industry certified programs include:

- Advanced Accounting: Lovejoy High School
- Audio-Video Technology and Communications: Mt. Zion High School
- Business and Technology: Riverdale High School, Morrow High School, Mount Zion High School, Jonesboro High School
- Culinary Arts: Charles Drew High School
- Engineering and Technology: Jonesboro High School
- Financial Services: Charles Drew High School
- Health Informatics/Health Information Management/Medical Office: Mt. Zion High School
- Marketing: Morrow High School, Mundy's Mill High School, Forest Park High School
- Programming: Forest Park High School, Mundy's Mill High School
- Web and Digital Design: Lovejoy High School, Mundy's Mill High School



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Clayton County Public Schools (CCPS) does not discriminate on the basis of race, color, national origin, sex, age, or disability in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of their operations. Clayton County Public Schools' Career, Technical and Agricultural Education (CTAE) department does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs, enrollment, access and activities and provides equal access to the Boy Scouts and other designated youth groups.