CTAE CAREER CLUSTERS & PATHWAYS 2017-2018

Clayton County Public Schools

Career, Technical & Agricultural Education (CTAE)

Curriculum, Instruction & Assessment

CAREER, TECHNICAL & AGRICULTURAL EDUCATION
Clayton County Public Schools

DOL - TOP 25 JOB GROWTH* 2010 - 2024	CAREER CLUSTER	CAREER TECHNICAL STUDENT ORGANIZATION (CTSO)	CTAE PATHWAY DESCRIPTIONS	CTAE COURSES Courses must be taken in sequential order.	HIGH SCHOOLS WHERE OFFERED Courses must be taken in sequential order.
23	Agriculture, Food, and Natural Resources	FFA	**Plant & Landscape Systems Pathway** The 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. This pathway is designed to provide students with the basic skills and knowledge utilized by the green industry in nursery production and management and landscape design and management.	• 02.47100 - Basic Agriculture Science • 01.46100 - General Horticulture and Plant Science • 01.47000 - Nursery & Landscape	• Riverdale High School
3,7	Architecture and Construction	SkillsUSA	**Carpentry Pathway** 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.	• 46.54500 - Industry Fundamentals & Occupational Safety • 46.54600 - Introduction to Construction • 46.55000 - Carpentry	• Jonesboro High School • Lovejoy High School • Mt. Zion High School
Strong Regional Growth	Arts, A/V Technology, and Communications	SkillsUSA	**Audio-Video Technology and Film Pathway** In this pathway, individuals 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. **Animation & Digital Design Pathway** This course will serve as the foundational course in the Audio & Video Technology & Film pathway. This pathway prepares students for employment or entry into a postsecondary education program in the audio and video technology career field. Students completing the pathway will be taught principles of 2D and 3D animation, advanced concepts of animation and basics in game and app design.	• 10.51810 - Audio-Video Technology and Film I • 10.51910 - Audio-Video Technology and Film II • 10.52010 - Audio-Video Technology and Film III • 48.42100 - Introduction to Digital Media • 48.42200 - Principles and Concepts of Animation • 48.42300 - Advanced Animation, Game and APP Design • 48.42400 - Animation Internship/Capstone	• Mundy's Mill High School Film & Media Magnet Program • Mt. Zion High School • Perry Learning Center/ Open Campus • Elite Scholars
7, 16,18	Business Management and Administration	FBLA	**Business and Technology Pathway** 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. **Entrepreneurship Pathway** This pathways 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.	• 07.44130 - Introduction to Business and Technology • 07.44100 - Business and Technology • 07.45100 - Business Communications • 07.44130 - Introduction to Business and Technology • 06.41500 - Legal Environment of Business • 06.41610 - Entrepreneurship	• Charles Drew High School ✓ • Forest Park High School ✓ • Lovejoy High School ✓ • Jonesboro High School • Morrow High School • Mt. Zion High School ✓ • Mundy's Mill High School ✓ • North Clayton High School ✓ • Riverdale High School ✓ • Riverdale High School ✓
9	Education and Training	FCCLA	**Early Childhood Care and Education I 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. **Four Course Option for Dual CTAE Pathway Completers:** **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.	• 20.52810 - Early Childhood Care Education I • 20.42400 - Early Childhood Education II • 20.42500 - Early Childhood Education III • 20.42600 - Early Childhood Education Practicum *Early Childhood Care and Education II Pathway • Course 1 : 13.01100 - Examining the Teaching Profession • Course 2 : 13.01200 - Contemporary Issues in Education • Course 3 : 13.01300 - Teaching as a Profession	• Perry Learning Center/ Open Campus • Riverdale High School
7	Finance	FBLA	**Advanced Accounting Pathway** 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. **Financial Services Pathway** 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.	• 07.44130 - Introduction to Business & Technology • 07.41100 - Principles of Accounting I • 07.41200 - Principles of Accounting II • 07.44130 - Introduction to Business and Technology • 07.42600 - Financial Literacy • 07.43100 - Banking, Insurance, and Investing	• Forest Park High School ✓ • Lovejoy High School ✓ • Perry Learning Center/ Open Campus • Charles Drew High School ✓
7	Government and Public Administration	U.S. AIR FORCE ROTC	**Air Force Junior Reserve Officers Training Corps (AFJROTC) Pathway** 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. **ONLY ROTC courses can be taken out of sequence, ROTC counts for pathway completion – however there is no EOPA administered for AFJROTC.** **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.	• 28.01100 - Aerospace Science Leadership 100 (PS-AFAH) • 28.01200 - Aerospace Science Leadership 200 (PS-APSF) • 28.01300 - Aerospace Science: Cultural Studies • 28.01400 - Aerospace Science: Leadership 300 • 28.01500 - Aerospace Science: Space Exploration • 28.01600 - Aerospace Science: Leadership 400 • 28.01700 - Aerospace Science: Aviation History • 28.01800 - Aerospace Science: Survival • 28.01900 - Aerospace Science: Honors Ground School • 28.01910 - Aerospace Science: Flight Science • 28.01920 - Aerospace Science: Corps Management • 28.01930 - Aerospace Science: Drill Only • 28.01940 - Aerospace Science: Senior Project	• All High Schools
1, 2	Healthcare Science	HOSA	**Health Informatics/Health Information Management/Medical Office 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 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. **Therapeutic Services/Allied Health and Medicine** 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. Students become effective and efficient multi-skilled healthcare providers as they develop a working knowledge of various allied health opportunities. **Therapeutic Services/Patient Care 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 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/Pharmacy** 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. **Four Course Options for Dual CTAE Pathway Completers:**	• 25.52100 - Introduction to Healthcare Science • 25.44000 - Essentials of Healthcare • 25.49700 - Health Information Management/Medical Office • 25.52100 - Introduction to Healthcare Science • 25.44000 - Essentials of Healthcare • 25.43700 - Allied Health and Medicine • 25.52100 - Introduction to Healthcare Science • 25.44000 - Essentials of Healthcare • 25.43600 - Patient Care Fundamentals • 25.52100 - Introduction to Healthcare Science • 25.44000 - Essentials of Healthcare • 25.45300 - Pharmacy Operations and Fundamentals • 25.44500 - Non-Invasive Diagnostic Technology *Diagnostic/Non-Invasive Diagnostic Technology in Healthcare Pathway • 25.57400 - Diagnostic Phlebotomy *Diagnostic Phlebotomy Pathway • 25.45000 - Emergency Medical Responder *Therapeutic Services/Emergency Medical Responder Pathway	• Charles Drew High School • Forest Park High School • Jonesboro High School • Mt. Zion High School ✓ • Mt. Zion High School • North Clayton High School • Lovejoy High School • Morrow High School Science, Technology & Mathematics Magnet Program

DOL	CAREER CLUSTER	CTSO	CTAE PATHWAY DESCRIPTIONS	CTAE COURSES	HIGH SCHOOLS WHERE OFFERED
13, 19	Hospitality and Tourism	FCCLA	**Culinary Arts Pathway** 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 culinary certificate. **Sports and Entertainment Marketing Pathway** 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. 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.	• 20.53100 - Introduction to Culinary Arts • 20.53210 - Culinary Arts I • 20.53310 - Culinary Arts II • 08.47400 - Marketing Principals • 08.47800 - Introduction to Sports and Entertainment Marketing • 08.48500 - Advanced Sports and Entertainment Marketing	• Charles Drew High School ✓ • Charles Drew High School ✓ • Mundy's Mill High School
4, 13	Human Services	SkillsUSA / FCCLA	**Barbering Pathway** In this pathway students are introduced to both fundamental theory and practices of the personal care professions including nail technicians, estheticians, barbers, and cosmetologists. 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. **Cosmetology Pathway** In this pathway, students will learn to become nail technicians, estheticians, barbers, and cosmetologists. Completion of this pathway culminates with an opportunity for students to take the Skills Connect end of pathway assessment. **Food and Nutrition Pathway** 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.	• 12.54400 - Introduction to Personal Care • 12.42000 - Barbering II • 12.42100 - Barbering III • 12.54400 - Introduction to Personal Care • 12.41000 - Cosmetology Services II • 12.41100 - Cosmetology Services III • 20.41610 - Foods, Nutrition and Wellness • 20.41400 - Food for Life • 20.41500 - Food Science	• Jonesboro High School • Forest Park High School • Jonesboro High School • North Clayton High School • Riverdale High School • Jonesboro High School • Lovejoy High School • Morrow High School • Mt. Zion High School • North Clayton High School ✓ • Riverdale High School
6	Information Technology	FBLA	**Computer Science Pathway** How can computing change the world? Engage your creativity, demonstrate and build your problem solving ability all while connecting the relevance of computer science to the society! This pathway is intellectually rich and engaging and is focused on building a solid understanding and foundation in computer science. Courses emphasize the content, practices, thinking and skills central to the discipline of computer science. This pathway aims to appeal to a broad audience. The focus will fall into these computational thinking practices: connecting computing, developing computational artifacts, abstracting, analyzing problems and artifacts, communicating, and collaborating. **Programming 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. **Web and Digital Design Pathway** 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 will equip students with the ability to plan, design, and create a web site. Students will move past learning how to write code and progress to designing a professional looking web site using graphical authoring tools that contains multimedia elements. **Four Course Options for the Dual CTAE Pathway Completers:**	• 11.41500 - Introduction to Digital Technology • 11.47100 - Computer Science Principles • AP Computer Science (Contact College Board for standards) • 11.41500 - Introduction to Digital Technology • 11.47100 - Computer Science Principles • 11.47200 - Programming, Apps, Games, and Society • 11.42900 - Game Design: Animation and Simulation *Game Design Pathway • 11.42700 - Embedded Computing *Internet of Things Pathway • 11.47200 - Programming, Apps, Games, and Society *Programming Pathway * Computer Science Pathway • 11.41500 - Introduction to Digital Technology • 11.45100 - Digital Design • 11.45300 - Web Design	• Lovejoy High School Mathematics & Computer Science Magnet Program • Forest Park High School ✓ • Mundy's Mill High School ✓ • North Clayton High School • Lovejoy High School ✓ • Morrow High School ✓ • Mundy's Mill High School ✓
10, 15	Law, Public Safety, Corrections, and Security	SkillsUSA	**Law Enforcement Services/Forensic Science Pathway** 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 Serves, including the history, procedures and objectives. **Firefighting and Emergency Services/Firefighting Pathway** This pathway addresses the essential components needed for a career in 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.	• 43.45000 - Introduction to Law, Public Safety, Corrections and Security • 43.45100 - Criminal Justice Essentials • 43.45200 - Forensic Science and Criminal Investigations • 43.45000 - Introduction to Law, Public Safety, Corrections and Security • 43.46000 - Essentials of Fire and Emergency Services • 43.44000 - Applications of Firefighting	• Charles Drew High School • Forest Park High School • Jonesboro High School • Morrow High School • North Clayton High School • Riverdale High School • Charles Drew High School • Mundy's Mill High School (Pilot)
20	Marketing	DECA	**Marketing Pathway** 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.	• 08.47400 - Marketing Principles • 08.44100 - Marketing & Entrepreneurship • 08.44200 - Marketing Management	• Forest Park High School ✓ • Lovejoy High School ✓ • Mt. Zion High School ✓ • Morrow High School • Mundy's Mill High School ✓ • North Clayton High School • Riverdale High School ✓
5	Science, Technology, Engineering, Mathematics (STEM)	TSA	**Engineering, Drafting and Design 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 and Technology Pathway** 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.	• 48.54100 - Introduction to Drafting and Design • 48.54200 - Survey of Engineering Drawing • 48.54300 - 3D Modeling and Analysis • 21.42500 - Foundations of Engineering and Technology • 21.42600 - Engineering Concepts • 21.47200 - Engineering Applications	• Charles Drew High School • Jonesboro High School ✓ • Mt. Zion High School • Morrow High School Science, Technology & Mathematics Magnet Program
12, 14	Transportation, Distribution, and Logistics	SkillsUSA	**Automobile Maintenance & Light Repair Pathway** 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. **Aviation Maintenance Pathway** In this pathway, students will learn about basic aviation maintenance and flight operations and expand that knowledge to include aircraft performance and design. Classroom and interactive activities will assure students have a thorough understanding of the aviation and aerospace environment. **Flight Operations Pathway** In this pathway, students learn the basics of aviation maintenance and flight operations. They will gain a fundamental knowledge base in aviation history, regulations, the principles of flight, aerospace careers and technologies, and basic aviation meteorology. Students will also learn to apply the basics of aircraft navigation and utilize efficient communications methods for safe aircraft operations.	• 47.53110 - Basic Maintenance & Light Repair • 47.53210 - Maintenance and Light Repair 2 • 47.53310 - Maintenance and Light Repair 3 • 47.46000 - Fundamentals of Aerospace • 47.46200 - Aviation Maintenance I • 47.46300 - Aviation Maintenance II • 47.46000 - Fundamentals of Aerospace • 47.48800 - Flight Operations I • 47.48900 - Flight Operations II	• Lovejoy High School • Morrow High School • Riverdale High School ✓ • Perry Career Center/Open Campus • North Clayton High School Aviation & Innovation Career Academy • Morrow High School Aviation & Innovation Career Academy • North Clayton High School Aviation & Innovation Career Academy • Morrow High School Aviation & Innovation Career Academy

(Vertical text right margin: WORK BASED LEARNING)

MIDDLE SCHOOL CONNECTION COURSES

Business & Computer Science Pathway/Connections	Communications Pathway/Connections	Family & Consumer Science Pathway/Connections	Marketing, Sales & Service Pathway/Connections
• 07.08300 - Business & Computer Science, Grade 6 • 07.08400 - Business & Computer Science, Grade 7 • 07.08500 - Business & Computer Science, Grade 8 Formerly known as Computer Technology/Explorations of Computer Technology	• 48.03100 - Broadcast & Graphic Communications, Grade 6 • 48.03200 - Introduction to Communications, Grade 7 • 48.03300 - Applications of Communications, Grade 8	• 20.01100 - Family & Consumer Science, Grade 6 • 20.01200 - Family & Consumer Science, Grade 7 • 20.01300 - Family & Consumer Science, Grade 8	• 06.04100 - Basic Skills of Marketing, Grade 6 • 06.04200 - Exploring Marketing Education, Grade 7 • 06.04300 - Pathways in Marketing, Grade 8

Career Development Pathway/Connections	Engineering & Technology Pathway/Connections	Healthcare Science Pathway/Connections	SPECIAL POPULATIONS
• 32.02100 - Career Discovery, Grade 6 • 32.02200 - Career Awareness, Grade 7 • 32.02300 - Career Management, Grade 8	• 21.02100 - Exploring Engineering & Technology, Grade 6 • 21.02200 - Invention and Innovation, Grade 7 • 21.02300 - Technology Systems, Grade 8 Formerly known as Industrial Technology/Engineering Technology/Explorations of Engineering	• 25.03300 - Healthcare Science, Grade 6 • 25.03400 - Healthcare Science, Grade 7 • 25.03500 - Healthcare Science, Grade 8 Rex Mill Middle School (STEM)	• 32.41400 - Coordinated Career Academic Education I • 32.41700 - Project Success I Taught by DES teachers to serve and provide social and competitive learning opportunities for the students base on IEP.

Clayton County Public Schools offers 15 of the 17 career clusters.

✓ Industry Certified Programs

* INFORMATION FOR GENERAL REFERENCE ONLY. Some course offerings may have changed. Some career categories are essential to nearly all businesses of all sizes; some are critical to the operations of every state, city, town and community. Projected occupation areas to have the most future job growth for general reference. Source: U.S. Bureau of Labor Statistics. Chart design and development: Dr. Eboni Chillis, CTAE Coordinator and Greg Guhl, Youth Apprenticeship Program Specialist.

09/06/17