Career, Technical & Agricultural Education (CTAE) 2018-2019

CAREER

CLUSTERS CTAE HIGH SCHOOL CAREER PATHWAYS



CAREER TECHNICAL STUDENT ORGANIZATION (CTSO)

A LOOK AT CTAE PATHWAYS

CTAE COURSES

HIGH SCHOOLS



Agriculture, Food, and Natural Resources



Plant & Landscape Systems Pathway he 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

• 02.47100 - Basic Agriculture Science

WHERE CTAE COURSES ARE OFFERED

& AGRICULTURAL

EDUCATION

17



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.

• 01.46100 - General Horticulture and Plant Science •01.47000 - Nursery & Landscape

• Riverdale High School

Architecture and Construction



n 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, stair 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





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

• 10.51810 - Audio-Video Technology and Film I • 10.51910 - Audio-Video Technology and Film II • Mt. Źion High School • Mundy's Mill High School



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 taught principles of 2D and 3D animation, advanced concepts of animation and basics in game and app design.

• 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

Film & Media Magnet Progre • Mt. Zion High School • North Clayton High School • Perry Center





Business and Technology Pathway In this pathway, students focus on planning, organizing, coordinating, and controlling the resources needed to produce and provide a business' 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.

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

• 07.44130 - Introduction to Business and Technology • 07.44100 - Business and Technology • 07.45100 - Business Communications

 Charles Drew High School • Forest Park High School Lovejoy High School
Jonesboro High School
Morrow High School
Mt. Zion High School

Mt. Zion High School Mundy's Mill High School
 North Clayton High School • Riverdale High School 🕖



n 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 earning 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 • 07.44130 - Introduction to Business and Technology • 06.41500 - Legal Environment of Business • 06.41610 - Entrepreneurship - • 20.52810 - Early Childhood Care Education I

• 20.42400 - Early Childhood Education II

• 20.42500 - Early Childhood Education III

• 13.01300 - Teaching as a Profession

 Riverdale High School Perry Center

• Elite Scholars

12, 20



assessment or to take the CDA Council end of pathway assessment and to potentially earn a Child Development Associate certificate. 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 confiden-

tiality 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.

Four Course Option for Dual CTAE Pathway Completers: • 20.42600 - Early Childhood Education Practicum *Early Childhood Care and Education II Pathway • 13.01200 - Contemporary Issues in Education

• Lovejoy High School Riverdale High School



Finance



Advanced Accounting Pathway

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

• 07.44 | 30 - Introduction to Business & Technology • 07.41 100 - Principles of Accounting I • 07.41200 - Principles of Accounting II

 Forest Park High School • Lovejoy High School Perry Center

Charles Drew High School

• Charles Drew High School

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Forest Park High School

• Jonesboro High School

Mt. Zion High School

Charles Drew High School

• Lovejoy High School Mathematics & Computer Science

Magnet Program

• Forest Park High School

• Mundy's Mill High School

Lovejoy High School

Morrow High School

Charles Drew High School

Forest Park High School

• Jonesboro High School

Morrow High School

Riverdale High School

• Charles Drew High School

Mundy's Mill High School

• Forest Park High School

Lovejoy High School

 Mt. Zion High School • Mundy's Mill High School 🕖

Mundy's Mill High School

• Mt. Zion High School





plicants, high school, and post-secondary students.

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.

• 07.42600 - Financial Literacy • 07.43100 - Banking, Insurance, and Investing • 28.01100 - Aerospace Science Leadership 100 (PS-AFAH)

- • 07.44130 - Introduction to Business and Technology

Government and Public Administration U.S. AIR FORCE

Air Force Junior Reserve Officers Training Corps (AFJROTC) Pathway n 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

• 28.01200 - Aerospace Science Leadership 200 (PS-AFSF) • 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

• 28.01930 - Aerospace Science: Drill Only 28.01940 - Aerospace Science: Senior Project

• 28.01910 - Aerospace Science: Flight Science

• 25.52100 - Introduction to Healthcare Science

• 25.52100 - Introduction to Healthcare Science

• 25.52100 - Introduction to Healthcare Science

• 25.49700 - Health Information Management/Medical Office

• 25.44000 - Essentials of Healthcare

• 25.44000 - Essentials of Healthcare

• 25.45000 - Emergency Medical Responder

 All High Schools • 28.01900 - Aerospace Science: Honors Ground School • 28.01920 - Aerospace Science: Corps Management

·····• |onesboro High School





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 ap-

Emergency Medical Responder The Emergency Medical Responder (EMR) course prepares the student to provide initial stabilizing care to the sick or injured prior to the arrival of Emergency Medical Services Professionals (EMS), and to assist EMS personnel in transporting patients for definitive care at an appropriate hospital/facility. Major areas of instruction include Introductory Medical Terminology and Anatomy & Physiology; Responder Safety; Incident Command: Blood-borne Pathogen Training; avisical Assessment and Treatment of Trauma and Medical Emergencies: Cardiopulmonary Resuscitation and the use of Automatic External Defibrillators (AEDs). The course is a blend of lecture hands on lab/learning and practic scenario-based learning/testing. The course will include Healthcare Provider CPR/AED Certification from a Nationally-Recognized Body (American Heart Association or Red Cross, etc.). If this course is also approved by the Georgia

State Office of Emergency Medical Services and Trauma (SOEMST), successful completion will allow the student to be eligible to take the National Registry of Emergency Medical Technicians (NREMT) Emergency Medical Responder

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 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

n 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 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.

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

• 25.44000 - Essentials of Healthcare • Mt. Zion High School • 25.43700 - Allied Health and Medicine • 25.52100 - Introduction to Healthcare Science • 25.44000 - Essentials of Healthcare • Lovejoy High School 25.43600 - Patient Care Fundamentals • 25.52100 - Introduction to Healthcare Science • Morrow High School • 25.44000 - Essentials of Healthcare Science, Technology & • 25.45300 - Pharmacy Operations and Fundamentals Mathematics Magnet

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: • 25.44500 - Non-Invasive Diagnostic Technology *Diagnostic/Non-Invasive Diagnostic Technology in Healthcare Pathway • 25.57400 - Diagnostic Phlebotomy *Diagnostic Phlebotomy Pathway

• 25.45000 - Emergency Medical Responder

• 12.41100 - Cosmetology Services III

• 20.4 | 400 - Food for Life

• 20.41500 - Food Science

• 20.41610 - Foods, Nutrition and Wellness

• 11.41500 - Introduction to Digital Technology

• 11.41500 - Introduction to Digital Technology

• 11.47200 - Programming, Apps, Games, and Society Four Course Options for the Dual CTAE Pathway Completers:

* Computer Science Pathway

• 43.45200 - Forensic Science and Criminal Investigations

• 43.45000 - Introduction to Law, Public Safety,

• 11.41500 - Introduction to Digital Technology

• AP Computer Science (Contact College Board for standards)

• 11.42700 - Embedded Computing *Internet of Things Pathway • 11.47200 - Programming, Apps, Games, and Society *Programming Pathway

• 11.42900 - Game Design: Animation and Simulation *Game Design Pathway

43.45000 - Introduction to Law, Public Safety, Corrections and Security

• 43.46000 - Essentials of Fire and Emergency Services ·····

 Clayton County Fire & Emergency Services Training Academy 7810 Highway 85, Riverdale, GA Four Course Option for the Dual CTAE Pathway Completers

• 11.47100 - Computer Science Principles

• 11.47100 - Computer Science Principles

Devry University Advantage Academy

• 43.45 I 00 - Criminal Justice Essentials

• 11.45100 - Digital Design • 11.45200 - Web Design







SkillsUSA

FCCLA

Students will earn credit hours toward the completion of the 1500 credit hours required by Georgia State Board of Barbers.

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.

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.

• 20.53 I 00 - 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

*Therapeutic Services/Emergency Medical Responder Pathway

• 12.54400 - Introduction to Personal Care • Jonesboro High School • 12.42000 - Barbering II | 12.42100 - Barbering III Forest Park High School • 12.54400 - Introduction to Personal Care • North Clayton High School • 12.41000 - Cosmetology Services II Riverdale High School

In this pathway, students will learn skills 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

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.

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. **Computer Science Pathway**

14, 23, Information Technology

Human Services

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. 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. 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 will 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.

Law. Public Safety 22 Corrections, and SkillsUSA Security

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.

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 communica-

tions. 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

2, 6, Marketing DECA

neering end of pathway assessment.

Firefighting and Emergency Services/Firefighting Pathway

Fire Protection Association (NFPA®)1001, Standard for Fire Fighter Professional Qualifications.

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.

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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

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 Skills USA Engi-

Transportation, 18, 19 Distribution. SkillsUSA and Logistics

High School Career Clusters

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/AYĖS/SkillsÚSA. 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.

• Morrow High School • 08.47400 - Marketing Principles • Mt. Zion High School 🕢 08.44100 - Marketing & Entrepreneurship • Mundy's Mill High School 08.44200 - Marketing Management North Clayton High School • 48.54100 - Introduction to Drafting and Design Riverdale High School • 48.54200 - Survey of Engineering Drawing •48.54300 - 3D Modeling and Analysis • Jonesboro High School • Mt. Zion High School • 21.42500 - Foundations of Engineering and Technology Morrow High School • 21.47100 - Engineering Concepts Science, Technology & •21.47200 - Engineering Applications Mathematics Magnet Program Lovejoy High School • 47.53 | 10 - Basic Maintenance & Light Repair Morrow High School • 47.53210 - Maintenance and Light Repair 2 Riverdale High School • 47.53310 - Maintenance and Light Repair 3 • Perry Center • 47.46000 - Fundamentals of Aerospace North Clayton High School • 47.46200 - Aviation Maintenance I • 47.46300 - Aviation Maintenance II Aviation & Innovation Career Academy • 47.46000 - Fundamentals of Aerospace • North Clayton High School • 47.48800 - Flight Operations I • 47.48900 - Flight Operations II

Manufacturing SkillsUS⁴

CTAE MIDDLE SCHOOL COURSES Marketing, Sales & Service Pathway/Connections • 06.04100 - Basic Skills of Marketing Grade 6 **Business & Computer Science Pathway/Connections Communications Pathway/Connections** Family & Consumer Science Pathway/Connections



• 07.08300 - Business & Computer Science, Grade 6

• 07.08400 - Business & Computer Science, Grade

• 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

48.03100 - Broadcast & Graphic Communications, Grade 6
 48.03200 - Introduction to Communications, Grade 7

48.03300 - Applications of Communications, Grade 8

Engineering & Technology Pathway/Connections

• 25.03300 - Healthcare Science, Grade 6 • 25.03400 - Healthcare Science, Grade 7 • 25.03500 - Healthcare Science, Grade 8 Rex Mill Middle STEM School

01100 - Family & Consumer Science, Grade 6 01200 - Family & Consumer Science, Grade 7

20.01300 - Family & Consumer Science, Grade 8

Healthcare Science Pathway/Connections

• 32.41400 - Coordinated Career Academic Education • 32.41700 - Project Success 1 Taught by DES teachers to service and provide social and competitive learning opportunities for the students base on IEP.

SPECIAL POPULATIONS

06.04100 - Basic Skills of Marketing, Grade 6
 06.04200 - Exploring Marketing Education, Grade 7

• 06.04300 - Pathways in Marketing, Grade 8



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 HOT Careers information for general reference. Source: Georgia Department of Labor: Chart design and development: Dr. Eboni Chillis, CTAE Coordinator and Greg Guhl, Youth Apprenticeship Program Specialist.