CTAE PATHWAY COURSES

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.

Basic Agriculture

Course Description: This course is designed as the foundational course for all Agriculture, Food & Natural Resources Pathways. The course 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. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

General Horticulture

This course is designed as an introduction for the Horticulture-Plant Science Pathway Program of Study. The course introduces the major concepts of plant and horticulture science. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities

Agriculture Management and Leadership

The Agribusiness Management and Leadership course provides a foundation for students interested in pursuing a degree in agribusiness through post-secondary study or to enter the Agribusiness industry upon graduation from high school. The student will demonstrate competence in the application of principles and practices of agribusiness management and leadership. The course will help students build a strong knowledge base of the agribusiness industry as they study agribusiness types, business management, financial analysis, communications, agricultural law, leadership and teamwork, ethics, and agricultural economics. Mastery of these standards through project-based learning and leadership development activities in the FFA and supervised agricultural experience program will help prepare students for post-secondary study or entry into agribusiness.

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.

Introduction to Business and Technology

Introduction to Business & Technology is the foundational course for Business and Technology, Entrepreneurship, and Human Resources Management pathways. The course is designed for high school students as a gateway to the career pathways above, and provides an overview of business and technology skills required for today's business environment. Knowledge of business principles, the impact of financial decisions, and technology proficiencies demanded by business combine to establish the elements of this course. Emphasis is placed on developing proficient fundamental computer skills

required for all career pathways. Students will learn essentials for working in a business environment, managing a business, and owning a business. The intention of this course is to prepare students to be successful both personally and professionally in an information-based society. Students will not only understand the concepts, but apply their knowledge to situations and defend their actions/decisions/choices through the knowledge and skills acquired in this course. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills standards and content standards for this course.

Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the business world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. Introduction to Business & Technology is a course that is appropriate for all high school students. After mastery of the standards in this course, students should be prepared to earn an industry recognized credential: Microsoft Office Specialist for Word Core Certification. The prerequisite for this course is advisor approval.

Legal Environment of Business

Legal Environment of Business addresses statutes and regulations affecting businesses, families, and individuals. All students will benefit with the knowledge of business law as they will eventually assume roles as citizens, workers, and consumers in their communities and in society at large.

Students will get an overview of business law while concentrating on the legal aspects of business ownership and management. Legal issues addressed include court procedures, contracts, torts, consumer law, employment law, environmental law, international law, ethics, and the role of the government in business. Students will not only understand the concepts, but will also apply their knowledge to situations and defend their actions, decisions, and choices.

Various forms of technologies will be highlighted to expose students to the emerging technologies impacting the business world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are expanded in this course to prepare students to be college and career ready. Employability skills are integrated into activities, tasks, and projects throughout this course to demonstrate skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of both the employability skills and content standards of this course.

Legal Environment of Business is the second course in the Entrepreneurship and Human Resources Management pathway in the Business Management & Administration Cluster. Students enrolled in this course should have successfully completed the first course in the pathway Introduction to Business & Technology.

Entrepreneurship

How do you turn an idea into a business? Experience just that in this course! 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 course as they will either be the business owner or individuals working in a competitive job market in the future. Integration of accounting, finance, marketing, business management, legal and economic environments will be developed throughout projects in this course. Working to develop a business plan

that includes structuring the organization, financing the organization, and managing information, operations, marketing, and human resources will be a focus in the course. Engaging students in the creation and management of a business and the challenges of being a small business owner will be fulfilled in this course.

Various forms of technologies will be used to expose students to resources and application of business principles for starting, operating and maintaining a business. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are enhanced in this course to prepare students to be college and career ready. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Competencies in the co-curricular student organization, Future Business Leaders of America (FBLA), are integral components of the employability skills standard for this course.

Entrepreneurship is the third course in the pathway in the Business Management & Administration Cluster. Students enrolled in this course should have successfully completed Introduction to Business & Technology and Legal Environment of Business. After mastery of the standards in this course, students should be prepared to take the end of pathway assessment in this career area.

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.

Early Childhood Education I

The Early Childhood Education I course is the foundational course under the Early Childhood Care & Education pathway and prepares the student for employment in early childhood education and services. The course addresses the knowledge, skills, attitudes, and behaviors associated with supporting and promoting optimal growth and development of infants and children. The pre-requisite for this course is advisor approval

Early Childhood Education II

Early Childhood Education II is the second course in the Early Childhood Care and Education pathway and further prepares the student for employment in early childhood care and education services. The course provides a history of education, licensing and accreditation requirements, and foundations of basic observation practices and applications. Early childhood care, education, and development issues are also addressed and include health, safety, and nutrition education; certification in CPR/First Aid/Fire Safety; information about child abuse and neglect; symptoms and prevention of major childhood illnesses and diseases; and prevention and control of communicable illnesses.

Mastery of standards through project based learning, laboratory application, technical skills practice, and leadership development activities of the career and technical student organizations will provide students with a competitive edge for either entry into the education global marketplace and/or the post-secondary institution of their choice when continuing their education and training.

Early Childhood Education III

Early Childhood Education III is the third course in the Early Childhood Care and Education pathway and one option for program completers who may not have the opportunity of participating in the Early Childhood Education Internship. The course provides in-depth study of early brain development and its

implications for early learning, appropriate technology integration, and developmentally appropriate parenting and child guidance trends. Also addressed are collaborative parent/teacher/child relationships and guidance, child directed play, the changing dynamics of family culture and diversity, the causes and effects of stress on young children, and infant nutrition.

Mastery of standards through project based learning, laboratory application, technical skills practice, and leadership development activities of the career and technical student organizations will provide students with a competitive edge for either entry into the education global marketplace and/or the post-secondary institution of their choice when continuing their education and training.

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.

Introduction to Healthcare Sciences

Introduction to Healthcare Science is the foundational course for all Health Science pathways and is a prerequisite for all other Healthcare Science pathway courses. This course will enable students to receive initial exposure to the many Healthcare Science careers as well as employability, communication, and technology skills necessary in the healthcare industry. 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. Fundamental healthcare skills development is initiated including microbiology, basic life support and first aid. This course will provide students with a competitive edge to be the better candidate for either entry into the healthcare global marketplace and/or the post-secondary institution of their choice to continue their education and training. The pre-requisite for this course is advisor approval.

Essentials of Healthcare

Anatomy and Physiology is a vital part of most healthcare post-secondary education programs. The Essentials of Healthcare is a medical-focused anatomy course addressing 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. This course provides an opportunity to demonstrate technical skills that enforce the goal of helping students make connections between medical procedures and the pathophysiology of diseases and disorders. The pre-requisite for this course is Introduction to Healthcare.

Allied Health and Medicine

This course is designed to offer students (preferably upper classmen - juniors or seniors) the opportunity to become effective and efficient multi-skilled healthcare providers as they develop a working knowledge of various allied health opportunities. Students focusing on a career path in the healthcare field may apply classroom/lab knowledge and skills in the clinical setting as they participate in direct or simulated client care. The curriculum allows instructors to provide options for classroom/student growth opportunities in area(s) of interest to the student. These options may be determined by community need, available resources, and/or student interest, etc. This course was developed according to a basic 50-minute class time frame, but may be adjusted according to local system schedules. Instructors may select which classroom content standards 1-14 best meet his/her individual classroom

needs in addition to the required clinical/capstone project to equal total class time available for the course.

A. Clinical site or classroom simulated experience This component of Allied Health is designed to give students practical application of previously studied knowledge and skills. These experiences can occur in a variety of locations (including classroom lab) appropriate to the student's level of experience and availability of community resources as determined by the instructor. These exercises should be designed to enhance and supplement the above standards. Appropriate permission from school, parents, and the facility as well as other documentation requirements (such as transportation), and facility requirements (such as student insurance) must be adhered to and arranged. Any Healthcare Science course that includes a clinical component (excluding a shadowing experience field trip) must adhere to identified guidelines under (WBL) work-based learning (available at ctae.gadoe.org under WBL manual. Training for the Healthcare Science teacher on these guidelines will be provided. B. Allied Health Capstone Project Research academic requirements for a professional career of interest. a) Create a plan for academic achievement in a chosen field. b) Present career interest project. c) Update personal portfolio to include: 1. resumes; 2. listings of technical skill competencies mastered for the chosen career field as developed by the instructor; 3. community service learning experiences (approved); and 4. reflection essays of the overall course and the student's career choice. The prerequisite for this course is Introduction to Healthcare Science and Essentials of Healthcare.

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.

Food, Nutrition, and Wellness

Food, Nutrition and Wellness is the foundational course in the nutrition and food science pathway. The focus of the course is centered on healthy food and lifestyle choices. Students will investigate the interrelationship of food, nutrition and wellness to promote good health.

Mastery of standards through project-based learning, technical skills practice, and leadership development activities of Family, Career and Community Leaders of America (FCCLA) will provide students with a competitive edge for either entry into the education global marketplace and/or the post-secondary institution of their choice to continue their education and training. Pre-requisite for this course is advisor approval

Food for Life

Food for Life is an advanced course in food and nutrition that addresses the variation in nutritional needs at specific stages of the human life cycle: lactation, infancy, childhood, adolescence, and adulthood including elderly. The most common nutritional concerns, their relationship to food choices and health status and strategies to enhance well-being at each stage of the lifecycle are emphasized. This course provides knowledge for real life and offers students a pathway into dietetics, consumer foods, and nutrition science careers with additional education at the post-secondary level.

Food Science

Food science integrates many branches of science and relies on the application of the rapid advances in technology to expand and improve the food supply. Students will evaluate the effects of processing, preparation, and storage on the quality, safety, wholesomeness, and nutritive value of foods. Building

on information learned in Nutrition and Wellness and Chemistry, this course illustrates scientific principles in an applied context, exposing students to the wonders of the scientific world. Related careers will be explored.

<p align="center">**Science, Technology, Engineering, Mathematics**</p>

<p align="center">The Science, Technology, Engineering, Mathematics Career Cluster means planning, managing, and providing scientific research and professional and technical services.</p>

Foundations of Engineering

The Foundations of Engineering and Technology is the introductory course for the Engineering and Technology Education pathways. This STEM driven course provides the students with an overview of engineering and technology including the different methods used in the engineering design process developing fundamental technology and engineering literacy. Students will demonstrate the skills and knowledge they have learned through various project based activities while using an engineering design process to successfully master the "E" in STEM. The pre-requisite for this course is advisor approval

Engineering Concepts

Engineering Concepts is the second course in the Engineering and Technology Pathway. Students will learn to design technical solutions to engineering problems using a whole systems approach to engineering design. Students will demonstrate the application of mathematical tools, teamwork, and communications skills in solving various design challenges, while maintaining a safe work environment. The prerequisite for this course is Foundations of Engineering and Technology

Engineering Applications

Engineering Applications is the third course in the Engineering and Technology Pathway. Students will apply their knowledge of Science, Technology, Engineering, and Math (STEM) to develop solutions to technological problems. Solutions will be developed using a combination of engineering software and prototype production processes. Students will use market research, cost benefit analysis, and an understanding of the design cycle to create and present design, marketing, and business plans for their solutions. A capstone project will allow students to demonstrate their depth of knowledge of the engineering design process and prepare them for future opportunities in the field of engineering. The prerequisite for this course is Engineering Concepts.

FINE & PERFORMING ART COURSES

Visual Arts/Comprehensive I

Introduces art history, art criticism, aesthetic judgment, and studio production. Emphasizes the ability to understand and use elements and principles of design through a variety of media, processes, and visual resources. Explores master artworks for historical and cultural significance.

Visual Arts/Comprehensive II

Enhances level-one skills in art history, art criticism, aesthetic judgment, and studio production. Emphasizes and reinforces knowledge and application of the design elements and their relationship to

the principles of design. Explores different two- and three-dimensional art media and processes. Investigates master artworks to increase awareness and to examine the role of art and the artist in past and contemporary societies.

Visual Arts/Comprehensive III

Enhances level-two skills in art history, art criticism, aesthetic judgment, and studio production. Provides practice in applying design elements and principles of design. Provides focus on different two- and three-dimensional art media and processes and master artworks. Stresses idea development through production and creativity and through the study of master artists and developing personal artistic voice.

Visual Arts/Comprehensive VI

Enhances level-five skills in art history, art criticism, aesthetic judgment and studio production. Provides opportunities to use two and three-dimensional art media and process in the development of individual portfolios. Stresses the use of research in student's idea development leading to the production of artwork. Emphasis is placed on the writing of master artists of both past and contemporary societies.

AP Studio Art

The AP Program offers three studio art courses and portfolios: 2-Dimensional Design, 3-Dimensional Design, and Drawing. The AP Studio Art portfolios are designed for students who are seriously interested in the practical experience of art. Students submit portfolios for evaluation at the end of the school year. The three portfolios correspond to the most common college foundation courses. Students may choose to submit any or all of the Drawing, 2-Dimensional Design, or 3-Dimensional design portfolios. Students create a portfolio of work to demonstrate the artistic skills and ideas they have developed, refined, and applied over the course of the year to produce visual compositions.

Intermediate Band I (Grades 9-12)

This performance-based class provides opportunities for intermediate-level performers to increase performance skills and precision on a wind or percussion instrument. Includes performance and production, analysis and theoretical studies, historical and cultural contributions and influences, creative aspects of music, and appreciation of music. Stresses individual progress and learning and group experiences. Strengthens reading skills. Individual growth and achievement are encouraged through participation in adjudicated solo and ensemble festivals, district honor bands, and private lessons. Participation in concert performances outside of regular class hours is expected.

Intermediate Band II (Grades 9-12)

This performance-based class enhances level-one skills and provides further opportunities for intermediate-level performers to develop reading techniques and increase performance skills. Covers performance and production, analysis and theoretical studies, historical and cultural contributions and influences, creative aspects of music, and appreciation of music. Stresses individualized learning and group experiences. Individual growth and achievement are encouraged through participation in adjudicated solo and ensemble festivals, district honor bands, and private lessons. Participation in concert performances outside of regular class hours is expected.

Intermediate Band III (Grades 9-12)

This performance-based class enhances level-two skills and provides further opportunities for intermediate-level performers to build independence and leadership within the ensemble. Covers performance and production, analysis and historical and cultural contributions and influences, creative

aspects of music, and appreciation of music. Stresses individualized learning and group experiences. Individual growth and achievement are encouraged through participation in adjudicated solo and ensemble festivals, district honor bands, and private lessons. Participation in concert performances outside of regular class hours is expected.

Intermediate Band IV (Grades 9-12)

This performance-based class enhances level-three skills and provides further opportunities for intermediate-level performers to increase performance skills and precision, and build independence and leadership skills within the ensemble. Covers performance and production, analysis and theoretical studies, historical and cultural contributions and influences, creative aspects of music, and appreciation of music. Stresses self-paced progress, practice strategies, and group experiences. Individual growth and achievement are encouraged through participation in adjudicated solo and ensemble festivals, district honor bands, and private lessons. Participation in concert performances outside of regular class hours is expected.

Advanced Band I (Grades 9-12)

This performance-based class provides opportunities for advanced-level performers to increase, develop and refine performance skills and precision on a wind or percussion instrument. Covers performance and production, analysis and theoretical studies, historical and cultural contributions and influences, creative aspects of music, and appreciation of music at advanced levels of understanding. Organizes objectives for self-paced progress. Stresses individual progress and learning strategies, and ensemble experiences. Individual growth and achievement are encouraged through participation in adjudicated solo and ensemble festivals, district honor bands, and private lessons. Participation in concert performances outside of regular class hours is expected.

Advanced Band II (Grades 9-12)

This performance-based class enhances level-one skills and provides further opportunities for advanced-level performers to develop and refine performance skills and precision on a wind or percussion instrument. Covers performance and production, analysis and theoretical studies, historical and cultural contributions and influences, creative aspects of music, and appreciation of music. Stresses self-paced progress, individual learning strategies, and ensemble experiences. Individual growth and achievement are encouraged through participation in adjudicated solo and ensemble festivals, district honor bands, and private lessons. Participation in concert performances outside of regular class hours is expected.

Advanced Band III (Grades 9-12)

This performance-based class enhances level-two skills and provides further opportunities for advanced-level performers to develop and refine performance skills and precision on a specific instrument. Covers performance and production, analysis and theoretical studies, historical and cultural contributions and influences, creative aspects of music, and appreciation of music. Stresses self-paced progress, individual learning strategies, and ensemble experiences. Individual growth and achievement are encouraged through participation in adjudicated solo and ensemble festivals, district honor bands, and private lessons. Participation in concert performances outside of regular class hours is expected.

Advanced Band IV (Grades 9-12)

This performance-based class enhances level-three skills and provides further opportunities for advanced-level performers to develop and refine performance skills and precision on a wind or

percussion instrument. Covers performance and production, analysis and theoretical studies, historical and cultural contributions and influences, creative aspects of music, and appreciation of music. Stresses self-paced progress in an increasing breadth of repertoire, individual learning strategies, and ensemble experiences. Individual growth and achievement are encouraged through participation in adjudicated solo and ensemble festivals, district honor bands, and private lessons. Participation in concert performances outside of regular class hours is expected.