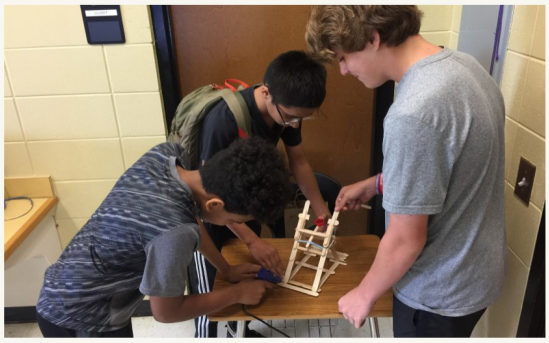
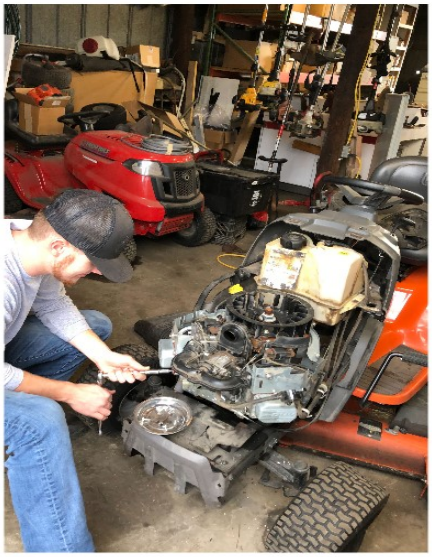
Colquitt County CTAE Pathway Guide



Colquitt County
CTAE

Career, Technical, and Agricultural Education

Agricultural Mechanics Pathway



AGRICULTURAL MECHANICS

The agricultural mechanics pathway is composed of three individual courses taken during a students high school career. Students need to complete Basic Agricultural Science, Agricultural Mechanics I, and Agricultural Mechanics II to be considered a mechanics pathway completer. Once the entire pathway is complete students will have developed skills necessary to complete common mechanical tasks used everyday.

PATHWAY COURSE & DESCRIPTIONS

Course 1—Basic Agriculture Science - 02.47100

This course is designed as an introduction or support course for the Agriscience Pathway Program of Study. 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.

Course 2—Agricultural Mechanics I - 01.42100

This laboratory course is designed to provide students with introductory level experiences in selected major areas of agricultural mechanics technology which may include small engine maintenance and repair, metal fabrication, wood working, electrical wiring, and maintenance of agricultural machinery, equipment, and tractors. Learning activities include information, skill development, and problem solving.

Course 3—Agricultural Mechanics II - 01.42200

The goal of this laboratory course is to offer students intermediate level experiences in selected major areas of agricultural mechanics technology which may include small engine maintenance and repair, metal fabrication, concrete construction, building construction, plumbing, electrical wiring, soil and water conservation, and maintenance of agricultural machinery, equipment and tractors. Learning activities include information, skill development, and problem solving.

Course 4-Agricultural Mechanics III - 01.42300

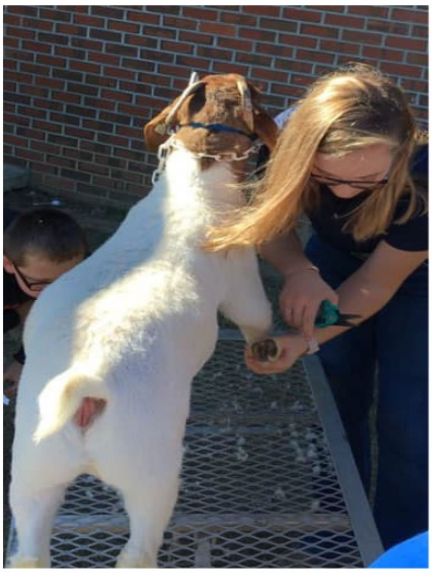
This is an optional senior level course for all pathway completers. Students will use skills obtained from previous classes to build and construct various wood and metal projects, troubleshoot engines, and assist with younger students as needed.

Related Occupations	Education Level Needed	Median Wage
Agricultural Engineers	Bachelor's Degree	$74,000
Welders, Cutters, Welder Fitters	Postsecondary Certificate	$36,175
Agricultural Technicians	Bachelor's Degree	$ 37,305

The National FFA Organization is an American youth organization, specifically a career and technical student organization, based on middle and high school classes that promote and support agricultural education. The organization was founded in 1928 as Future Farmers of America, but in 1988 the name was changed to the National FFA Organization, now commonly referred to as simply FFA, to recognize that the organization is for those with diverse interests in the food, fiber and natural resource industries, encompassing science, business and technology in addition to production agriculture.

For More Information: Georgia FFA - www.georgiaffa.org; National FFA - www.ffa.org

Food Animal Systems Pathway



FOOD ANIMAL SYSTEMS PATHWAY

In the Animal Science Pathway students will learn basic managerial skills involved in the raising of various breeds of sheep, swine, beef, and dairy that are important to the industry. Feeding practices, basic veterinarian skills, systems of breeding and a study of the various systems are among the more significant areas studied.

PATHWAY COURSE & DESCRIPTIONS

Course 1- Basic Agriculture Science - 02.47100

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.

Course 2– Animal Science Technology/Biotechnology - 02.42100

This course is designed to introduce students to the scientific principles that underlie the breeding and husbandry of agricultural animals, and the production, processing, and distribution of agricultural animal products. This course introduces scientific principles applied to the animal industry; covers reproduction, production technology, processing, and distribution of agricultural animal products.

Course 3– Agricultural Animal Production and Management - 01.43200

The goal of this course is to provide all students instruction in establishing and managing agricultural animal enterprises; includes instruction in selecting, breeding, feeding, caring for and marketing beef and dairy cattle, horses, swine, sheep, and poultry.

Related Occupations	Education Level Needed	Median Wage
Slaughterer and Meat Packers	High School Diploma	$22,300
Animal Trainers	High School Diploma	$24,300
Farm and Ranch Managers	Bachelor's Degree	$69,300

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Forestry/ Wildlife Systems Pathway

FORESTRY/WILDLIFE SYSTEMS PATHWAY

The Forestry/Wildlife Systems Pathway covers establishing forests by natural and artificial means, maintaining and surveying forests, identifying and protecting trees, practicing silviculture, measuring trees and land, mapping, preparing for timber sales and harvest, employing multiple-use resource management, keeping records, and figuring taxes. It introduces students to the principles of wildlife management and conservation and to opportunities for further education and careers in the field of wildlife biology.

PATHWAY COURSE & DESCRIPTIONS

Course 1- Basic Agriculture Science - 02.47100

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.

Course 2– Forestry - 03.45100

This course provides entry-level skills for employment in the forest industry and for further study. The course covers establishing forests by natural and artificial means, maintaining and surveying forests, identifying and protecting trees, practicing silviculture, measuring trees and land, mapping, preparing for timber sales and harvest, employing multiple-use resource management, keeping records, and figuring taxes.

Course 3– Wildlife Management- 03.45300

This course introduces students to the principles of wildlife management and conservation and to opportunities for further education and careers in the field of wildlife biology. The course includes instruction in the history of wildlife management, ecological concepts, habitat assessment, habitat management techniques for wildlife, population dynamics, predator-prey relationships, wildlife species biology and identification, human-wildlife conflict resolution, the role of hunting in conservation, game and fish laws and regulations, hunters safety, and the application of scientific principles to managing wildlife habitat and populations.

Related Occupations	Education Level Needed	Median Wage
Forest and Conservation Workers	Bachelor's Degree	$24,500
Foresters	Bachelor's Degree	$53,200
Fish and Game Wardens	Bachelor's Degree	$30,200

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Plant and Landscape Pathway

PLANT AND LANDSCAPE PATHWAY

The Plant and Landscape 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. Classroom and laboratory activities are supplemented through supervised agricultural experiences

PATHWAY COURSE & DESCRIPTIONS

Course 1- Basic Agriculture Science - 02.47100

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.

Course 2- General Horticulture and Plant Science - 01.46100

This course introduces the major concepts of plant and horticulture science. The course covers: • Greenhouse use • Classifying Plants and Trees • Lawn and Garden Equipment • Floral Designing • Gardening for Healthy Living • Soil Science. This course counts toward satisfying the fourth science requirement and a CTAE pathway completion requirement.

Course 3- Nursery and Landscape - 01.47000

This course is designed to provides the basic skills and knowledge utilized by the green industry in nursery production and management and landscape design and management. The course covers: • Development of Landscaping Expertise • Use of Commercial Landscaping Equipment • Focus on Environmental Concerns • Leadership Development

Related Occupations	Education Level Needed	Median Wage
Plant and Soil Scientist	Bachelor's Degree	$68,900
Landscape Architects	Bachelor's Degree	$64,300
Nursery Workers	High School Diploma	$18,200

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Veterinary Science Pathway

VETERINARY SCIENCE PATHWAY

The agricultural mechanics pathway is composed of three individual courses taken during a students high school career. Students will need to complete basic agricultural science, agricultural mechanics 1, and agricultural mechanics 2 to be considered a mechanics pathway completer. Once the entire pathway is complete students will have developed skills necessary to complete common mechanical tasks used everyday

PATHWAY COURSE & DESCRIPTIONS

Course 1- Basic Agriculture Science - 02.47100

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.

Course 2– Animal Science Technology/Biotechnology - 02.42100

This course is designed to introduce students to the scientific principles that underlie the breeding and husbandry of agricultural animals, and the production, processing, and distribution of agricultural animal products. This course introduces scientific principles applied to the animal industry; covers reproduction, production technology, processing, and distribution of agricultural animal products.

Course 3– Veterinary Science - 02.42400

The agricultural education course in veterinary science covers the basics of animal care. Topics covered include disease, parasites, feeding, shelter, grooming, and general animal care. The target population is career preparatory students desiring to continue education after high school or to enter the workforce after graduation from high school. College preparatory students benefit from the course as an elective if they plan to enter college and purse a degree to enter the veterinary profession.

Related Occupations	Education Level Needed	Median Wage
Veterinarians	Doctoral Degree	$90,000
Veterinary Technologists and Technicians	Associate's Degree	$28,100
Veterinary Assistant	High School Diploma	$21,700

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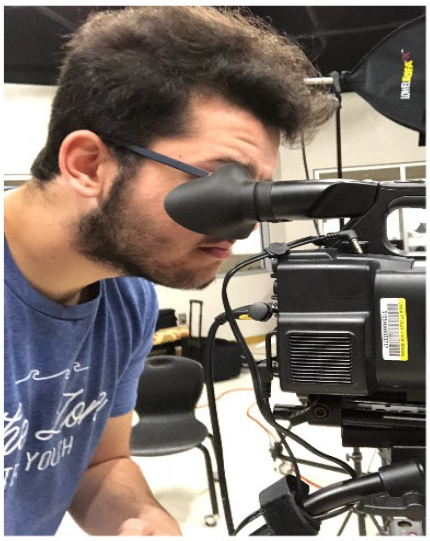
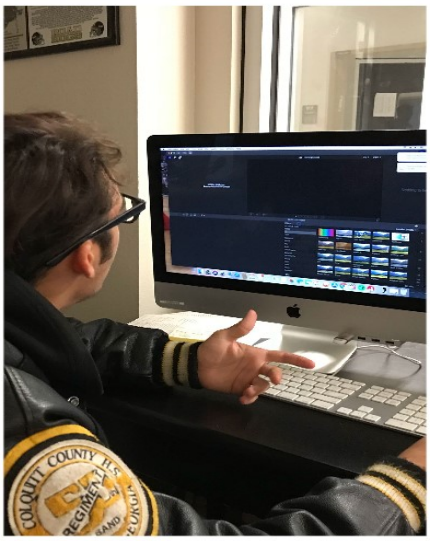
Audio-Video Technology and Films Pathway





AUDIO-VIDEO TECHNOLOGY AND FILMS PATHWAY

Georgia has become one of the go to places for the television and film industry in the Southeast US. There are more and more businesses opening that require people with skills that can be learned in this class. This includes television, film and even radio. Students can find which area they like best, whether that is in front or behind the camera, editing, or behind a microphone. Students will learn everything from the idea in brainstorming to watching your finished DVD. The Audio/Video Technology and Film pathway is your passport to the exciting and growing film and broadcast industry in Georgia!

PATHWAY COURSE & DESCRIPTIONS

Course 1– Audio & Video Technology & Film I (10.51810)
This course will serve as the foundational course in the Audio & Video Technology & Film pathway. The course prepares students for employment or entry into a postsecondary education program in the audio and video technology career field. Topics covered may include, but are not limited to: terminology, safety, basic equipment, script writing, production teams, production and programming, lighting, recording and editing, studio production, and professional ethics.

Course 2– Audio & Video Technology & Film II (48.519100)
This one credit course is the second in a series of three that prepares students for a career in Audio Video Technology and Film production and/or to transfer to a postsecondary program for further study. Topics include Planning, Writing, Directing and Editing a Production; Field Equipment Functions; Operational Set-Up and Maintenance; Advanced Editing Operations; Studio Productions; Performance; Audio/Video Control Systems; Production Graphics; Career Opportunities; and Professional Ethics

Course 3– Audio & Video Technology & Film III (48.52010)
This one-credit transition course is designed to facilitate student-led projects under the guidance of the instructor. Students work cooperatively and independently in all phases of production.

Related Occupations	Education Level Needed	Median Wage
Audio & Video Equipment Techs	Some College No Degree Required	$37,000
Camera Operators, Television, Video & Motion Picture Graphic designers	Bachelor's Degree	$47,300
Film & Video Editors	Bachelor's Degree	$45,600

SkillsUSA is the Career & Technical Student Organization for AV Films. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Students can compete regionally, state and nationally in events such as: Automotive, Carpentry, Masonry, Plumbing, Woodworking Display, and much more.

For More Information: Georgia SkillsUSA - www.skillsusageorgia.org; National SkillsUSA - www.skillsusa.org

Automotive Technology Pathway

AUTOMOTIVE TECHNOLOGIES

The Automotive Technology Pathway teaches students the knowledge and skills needed to work on a variety of systems such as engine, drivetrain, brakes, electrical, and steer & suspension. Students learn to conduct basic repairs and maintenance on automobiles and light truck systems.

PATHWAY COURSE & DESCRIPTIONS

Course 1– Automotive Technologies I (47.45000)

This course is designed as the foundational course for the General Automotive Technology pathway. Students in this course will learn the basic skills needed to gain employment as an entry level automotive technician. Students will be exposed to courses in automotive preventative maintenance, brakes, steering and suspension, electrical systems, engine repair, engine performance, automatic transmission, manual transmission and differential & automotive HVAC.

Course 2– Automotive Technologies II (47.45100)

This course is designed as the second course for the General Automotive Technology Pathway. Students in this course will learn the basic skills needed to gain employment as an entry level automotive technician. Students will be exposed to courses in automotive preventative maintenance, brakes, steering and suspension, electrical systems, engine repair, engine performance, automatic transmission, manual transmission and differential & automotive HVAC.

Course 3– Automotive Technologies III (47.45200)

This course is designed as the third course for the General Automotive Technology Pathway. Students in this course will learn the basic skills needed to gain employment as an entry level automotive technician. Students will be exposed to courses in automotive preventative maintenance, brakes, steering and suspension, electrical systems, engine repair, engine performance, automatic transmission, manual transmission and differential & automotive HVAC.

Related Occupations	Education Level Needed	Median Wage
Automobile Technician & Mechanics	High School or Registered Apprenticeship	$40.710
Mechanical Engineering Technicians	Some College No Degree Required	$56,250
Automobile Body & Related Repairers	High School or Registered Apprenticeship	$ 42,730

SkillsUSA is the Career & Technical Student Organization for Automotive. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Students can compete regionally, state and nationally in events such as: Automotive, Carpentry, Masonry, Plumbing, Woodworking Display, and much more.

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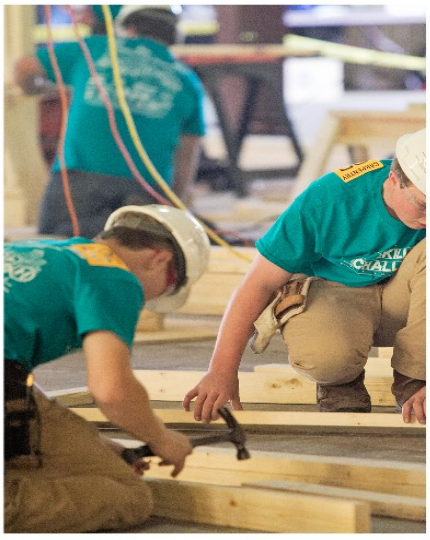
Carpentry Pathway



CARPENTRY PATHWAY

Carpenters are one of the most versatile construction occupations, with workers usually doing a variety of tasks. For example, some carpenters insulate office buildings; others install drywall or kitchen cabinets in homes. Those who help construct large buildings or bridges often make the wooden concrete forms for cement footings or pillars. Some carpenters build braces and scaffolding for buildings. Carpenters construct and repair building frameworks and structures— such as stairways, doorframes, partitions, and rafters—made from wood and other materials.

PATHWAY COURSE & DESCRIPTIONS

Course 1– Industry Fundamentals and Occupational Safety (47.54500)

This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, Masonry, Machining, Welding, Sheet Metal, Heating, Ventilation, Air Conditioning and Refrigeration, and HVACR Electrical pathways to prepare students for pursuit of any career in construction.

Course 2– Introduction of Construction (46.54600)

This course is preceded by the Occupational Safety and Fundamentals course. This course offers an opportunity for students to build on their knowledge and skills developed in Industry Fundamentals and Occupational Safety. It introduces them to four construction craft areas and is also the second step towards gaining a Level One Industry Certification in one of the craft areas. The goal of this course is to introduce students to the history and traditions of the carpentry, masonry, plumbing, and electrical craft trades.

Course 3– Carpentry I (46.55000)

This course is preceded by Introduction to Construction and is the third of three courses that provides the student a solid foundation in carpentry skills and knowledge. As the third step in gaining a Level One Industry Certification in Carpentry, the course provides an overview of the building materials used in the carpentry craft, as well as teaching techniques for reading and using blueprints and specifications related to the carpentry craft.

Related Occupations	Education Level Needed	Median Wage
Carpenter	High School or Registered Apprenticeship	$35,700
Construction Managers	Associate's Degree	$78,300
Construction Inspectors	High School or Registered Apprenticeship	$44,900

SkillsUSA is the Career & Technical Student Organization for Carpentry. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Students can compete regionally, state and nationally in events such as: Automotive, Carpentry, Masonry, Plumbing, Woodworking Display, and much more.

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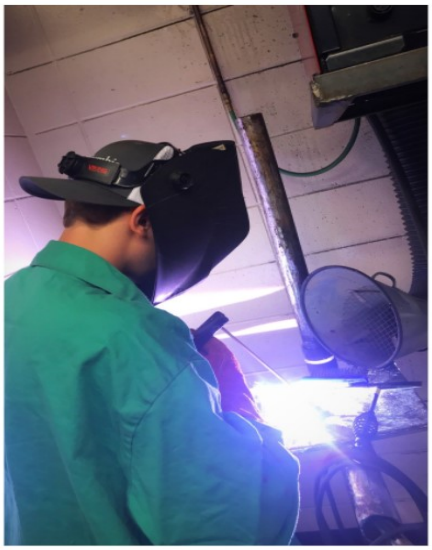
Welding Pathway



WELDING PATHWAY

Learn basic metal fabrication and entry-level techniques to build and repair structures or products using OXY/FUEL and PLASMA cutting, SMAW, MIG and TIG welding. Students work on projects in detailed, hands-on environment to prepare for a career in the welding industry.

PATHWAY COURSE & DESCRIPTIONS

Course 1– Industry Fundamentals and Occupational Safety (47.54500)

This course is designed as the foundational course in the Carpentry, Plumbing, Electrical, Masonry, Machining, Welding, Sheet Metal, Heating, Ventilation, Air Conditioning and Refrigeration, and HVACR Electrical pathways to prepare students for pursuit of any career in construction.

Course 2– Introduction of Metals (48.58100)

The metals technology curriculum, Introduction to Metals, is designed to acquaint students with the three major technical occupations (welding, sheet metal, and machining). The various activities equip high school students with the skills needed to select a metal industry occupation, enter the work force, and continue to advance in one of these specialized metals occupations. Experiences include an introduction to the basic requirements of each of these fields, exposure to the structure and nature of career opportunities, and an introduction to types of training and skills required and the use of specialized tools, equipment, and materials.

Course 3– Welding I (48.55100)

This course is designed to provide students with the basic knowledge and safe operating skills needed to demonstrate proper set of equipment in oxyfuel, shielded metal arc welding (SMAW), and gas metal arc welding (GMAW). The students will perform oxyfuel cuts using acetylene and propane gases. The students will select electrodes and performs welds using SMAW and GMAW to current industry standards. Welding symbols will be used to interpret detailed drawing used for fabrication. American Welding Society codes will be used to determine the soundness of welds.

Related Occupations	Education Level Needed	Median Wage
Welders, Cutters, and Welder Fitters	High School or Registered Apprenticeship	$32,400
Structural Metal Fabricators	High School or Registered Apprenticeship	$32,500
Structural Iron & Steel Workers	High School or Registered Apprenticeship	$33,800

SkillsUSA is the Career & Technical Student Organization for Welding. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Students can compete regionally, state and nationally in events such as: Automotive, Carpentry, Masonry, Plumbing, Woodworking Display, and much more.

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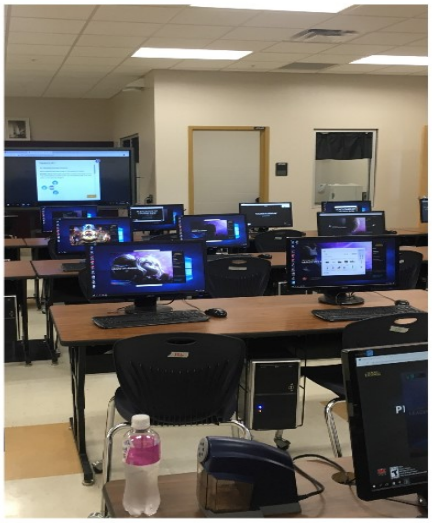
Business and Technology Pathway



BUSINESS AND TECHNOLOGY PATHWAY

The Business and Technology Pathway 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.

Course 1—Introduction to Business and Technology - 07.44130

This course is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. You will cover: Hardware • Software • Communications • Risk Management • Leadership Marketing• Entrepreneurship • Management • Accounting

Course 2—Business & Technology - 07.44100

This project-based course incorporates advanced functions of Microsoft Office along with advanced business skills. Students will learn to use problem-solving skills, effectively and efficiently utilizing technology, and meet workplace demands. You will cover: Professionalism •Teamwork and Problem Solving Skills • Software Integration

Course 3—Business Communications - 07.45100

This course will provide students with an understanding of communication skills and the use of technology to enhance presentations. The ability to communicate professionally is critical for both personal and career success. You will cover: Multimedia Production • Presentation Software • Emerging Technologies • Interpersonal Skills • Social Media

Related Occupations	Education Level Needed	Median Wage
Administrative Services Managers	Bachelor's Degree	$77,500
Supervisors of Office & Admin Support	High School	$32,500
Management Analysts	Bachelor's Degree	$77,000

Future Business Leaders of America (FBLA) is an organization for business students in middle and high school. FBLA gives students opportunities to develop leadership and career skills while preparing for careers in business and business related fields. Through its various projects and competitive events, FBLA provides leadership development training for its members to become successful leaders in schools, communities, and future careers.

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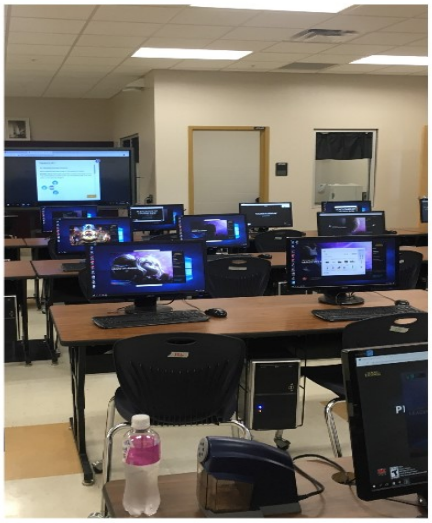
Computer Science Pathway



COMPUTER SCIENCE PATHWAY

Computer Science allows students to develop problem solving and programming skills. This pathway concludes with an Advanced Placement (AP) course that will give students the opportunity to earn college credit. Through this pathway, students will learn to design and implement computer programs that solve problems that are relevant in today's world.

PATHWAY COURSE & DESCRIPTIONS

Course 1—Introduction to Digital Technology - 11.41500

The foundation course, Introduction to Digital Technology, is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society and the business world. You will explore: Hardware • Software • Internet Basics • Web Design • Basic Troubleshooting • Networking Trends

Course 2—Computer Science Principles - 11.45100

The major goal of this course is for students to develop the computer science skills of algorithm development, problem solving, and programming. While the emphasis of the course will be on programming, students will also be introduced to other important topics, such as careers, the limits of computing and the difference between interpreters and compilers. This course counts toward satisfying the fourth science requirement and a CTAE pathway completion requirement.

Course 3—AP Computer Science - 11.45200

Students will have the opportunity to earn college credit through this Advanced Placement course. This course will teach students to use the core aspects of computer science to create solutions that are understandable and adaptable. Students will study the development and analysis of algorithms and data structures using various methods.

Related Occupations	Education Level Needed	Median Wage
Computer Programmers	Bachelor's Degree	$75,400
Computer System Analysts	Bachelor's Degree	$73,800
Software Developers, Application	Bachelor's Degree	$86,300

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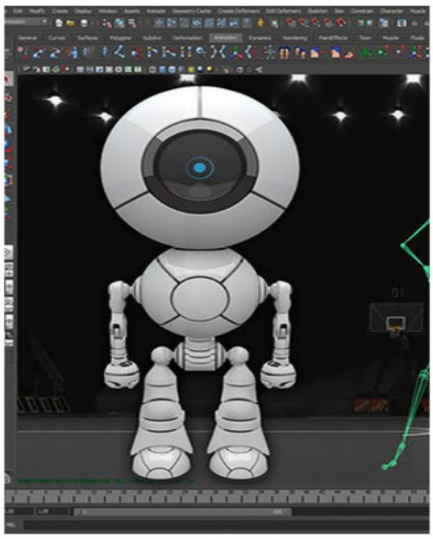
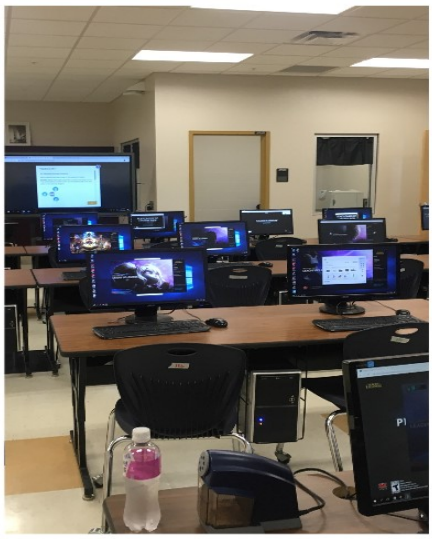
Game Design Pathway





GAME DESIGN PATHWAY

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

PATHWAY COURSE & DESCRIPTIONS

Course 1—Introduction to Digital Technology - 11.41500

The foundation course, Introduction to Digital Technology, is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society and the business world. You will explore: Hardware • Software • Internet Basics • Web Design • Basic Troubleshooting • Networking Trends

Course 2—Computer Science Principles - 11.45100

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Course 3– Animation and Simulation (11.42900)

This course is designed to provide students the fundamental principles used at every stage of the game creation process. Students will cover a number of topics including game genres, animation, 2D and 3D art, and much more.

Related Occupations	Education Level Needed	Median Wage
Video Game Designers	Bachelor's Degree	$85,270
Multimedia Artists and Animators	Some schooling required	$57,020
Software Engineers and Testers	Bachelor's Degree	$85,280

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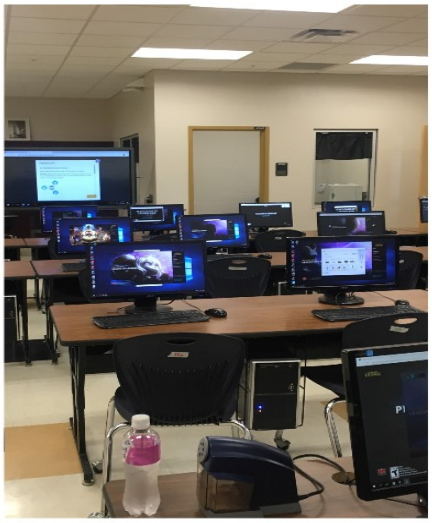
Web and Digital Design Pathway



WEB AND DIGITAL DESIGN PATHWAY

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

PATHWAY COURSE & DESCRIPTIONS

Course 1– Intro to Digital Technology - (11.41500.)

The foundation course, Introduction to Digital Technology, is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society and the business world. You will explore: Hardware • Software • Internet Basics • Web Design • Basic Troubleshooting • Networking Trends • Digital Citizenship • Careers in Field • Programming

Course 2—Digital Design - 11.45100

The second class is formatted to teach students multimedia concepts and applications utilizing text, animation, sound, video, Web, and various multimedia applications. You will explore: Digital Communication • Basic Programming Graphic Design • Layout • Photography • Audio & Video Production • Website Development • Animation • Mulitmedia • Typography • Editing Software

Course 3—Web Design - 11.45200

In the final class in the pathway students will uncover the elements and principles of design while creating professional quality web sites and digital products. You will explore: The Web Development Process • Advanced Layout and Design Features • Scripting Languages HTML • Servers • All the Latest Technology Developments in the web and digital world.

Related Occupations	Education Level Needed	Median Wage
Web Developers	Bachelor's Degree	$68,200
Computer System Analysts	Bachelor's Degree	$73,800
Computer Programmers	Bachelor's Degree	$75,400

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JROTC Marines Pathway

JROTC PATHWAY

Have you ever wondered how the military operates? Do you want to discover the leader in you? Do you enjoy working as part of a team and being physically and mentally challenged? Then the Junior Reserve Officer Training Corps (JROTC) pathway may be for you! Each level of JROTC offers a rigorous fitness program, drill and ceremony training, and community service in addition to the lessons listed below.

PATHWAY COURSE & DESCRIPTIONS

Course 1– MCJROTC Leadership Education I 28.04100
This is the initial course of Marine Corps JROTC. It includes program orientation, classroom instruction, and practical application of instructed skills. The course lays the foundations for subsequent Leadership Education courses by teaching the basics of leadership, citizenship, personal growth, appearance and responsibility, general Marine Corps knowledge, drill, and physical training

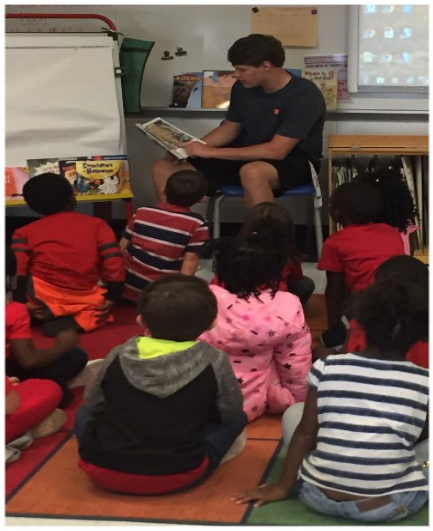
Course 2– MCJROTC Leadership Education II 28.04200
This is the second course of Marine Corps JROTC. It includes classroom instruction and practical application of the tasks instructed. Completion of the LE1 course is prerequisite. The course builds on the foundations attained in LE1 (leadership, citizenship, personal growth and responsibility, and general military subjects) with more emphasis in the area of General Marine Corps subjects. Career exploration, civilian marksmanship, and first aid are introduced.

Course 3– MCJROTC Leadership Education III 28.04300
This is the third course of Marine Corps JROTC. It includes classroom instruction and practical application of instructed skills. The course builds on the foundations developed in the initial courses and begins to develop more advanced leadership skills. Leadership Education courses at this level provide elevated instruction in the basics of leadership, citizenship, personal growth, appearance and responsibility, and additional instruction and practical application general military subjects

Course 4– MCJROTC Leadership Education IV 28.04400
This is the fourth course of Marine Corps JROTC. The course builds on the foundations developed in level 3 and continues to introduce advanced leadership instruction with emphasis on motivation and discipline. Leadership Education courses at this level provide elevated instruction in leadership, citizenship, personal growth, appearance and responsibility, career awareness, and general military subjects

Related Occupations	Education Level Needed
Personnel Officer Administrative Services Managers (Civilian)	Warrant Officer
Advanced Network Analyst Computer Network Support Specialists (Civilian)	Enlisted
Advanced Construction Electrician Electricians (Civilian)	Enlisted

Early Childhood Education Pathway



EARLY CHILDHOOD EDUCATION PATHWAY

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

PATHWAY COURSE & DESCRIPTIONS

Course 1– Early Childhood Education I - 20.52810

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.

Course 2—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.

Course 3—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.

Related Occupations	Education Level Needed	Median Wage
Pre-School Teachers	Associate's Degree	$27,700
Teachers Assistants	High School	$18,800
Education Administrators, Preschool and Childcare Center/Program	Advanced Degree	$41,600

What is FCCLA? Family , Career, & Community Leaders of America (FCCLA) is the student organization which accompanies the Family and Consumer Science courses. FCCLA is a community service-oriented organization that builds leadership qualities, promotes teamwork, and encourages family values. FCCLA also provides students with the opportunity to compete at the regional, state, and national level for scholarships and cash prizes.

For More Information: Georgia FCCLA - www.gafccla.com; National FCCLA - www.fcclainc.org

Nutrition and Food Science Pathway

NUTRITION AND FOOD SCIENCE PATHWAY

The Food, Nutrition, and Wellness Pathway 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.

PATHWAY COURSE & DESCRIPTIONS

Course 1– Food, Nutrition, and Wellness - (20.41610)

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.

Course 2—Food for Life - 20.41400

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.

Course 3—Food Science - 20.41810

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.

Related Occupations	Education Level Needed	Median Wage
Food Service Managers	High School	$43,400
Dietitians & Nutritionists	Bachelor's Degree	$49,400
Food Scientist & Technologists	Bachelor's Degree	$48,000

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Allied Healthcare Pathway

ALLIED HEALTHCARE PATHWAY

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

PATHWAY COURSE & DESCRIPTIONS

Course 1– Intro to Healthcare Science - 25.52100

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.

Course 2—Essentials of Healthcare—25.44000

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.

Course 3—Allied Health and Medicine 25.43700

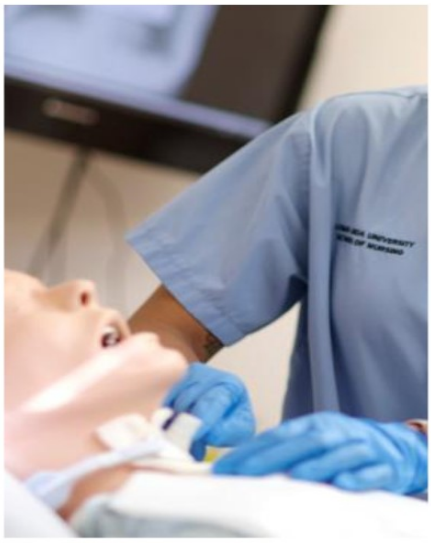
This course is designed to offer students (preferably upper classmen - juniors or seniors) the opportunity to become effective and efficient multi-skilled healthcare providers as they develop a working knowledge of various allied health opportunities. Students focusing on a career path in the healthcare field may apply classroom/lab knowledge and skills in the clinical setting as they participate in direct or simulated client care.

Related Occupations	Education Level Needed	Median Wage
Medical & Health Service Managers	Bachelor's Degree	$76,800
Occupational Health & Safety Specialists	Bachelor's Degree	$63,800
Respiratory Therapists	Associate's Degree	$50,200

HOSA-Future Health Professional is the Career & Technical Student Organization for students interested in healthcare. The mission of HOSA is to enhance the delivery of compassionate, quality healthcare by providing opportunities for knowledge, skill and leadership development of all health science technology education students, therefore, helping students to meet the needs of the healthcare community.

For More Information: Georgia HOSA www.georgiahosa.org; National HOSA www.hosa.org

Certified Nursing Assistant Pathway



CERTIFIED NURSING ASSISTANT (CNA) PATHWAY

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PATHWAY COURSE & DESCRIPTIONS

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Course 3—Patient Care Fundamentals 25.43600

This course is designed to provide students interested in the careers that involve patient care with entry level skills most commonly associated with the career Nursing Assistant. The students are required to meet both national and intrastate professional guidelines as designated by applicable regulatory agencies such as the Occupational Health and Safety Administration (OSHA), Center for Disease Control (CDC), and the Department of Health and Human Services (HHS) with a specific focus on the Omnibus Budget Reconciliation Act of 1987 (OBRA) and the Health Insurance Portability and Accountability Act of 1996 (HIPAA). Upon completion of this course and its prerequisites, this course meets the Certified Nurse Assistant curriculum content as specified by the Georgia Medical Care Foundation.

Related Occupations	Education Level Needed	Median Wage
Certified Nursing Assistant	High School with Certification	$24,680

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Pharmacy Operations and Fundamentals Pathway

PHARMACY OPERATIONS AND FUNDAMENTALS PATHWAY

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

PATHWAY COURSE & DESCRIPTIONS

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Course 3—Pharmacy Operations and Fundamentals 25.45300

This course 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.

Related Occupations	Education Level Needed	Median Wage
Pharmacy Technicians	High School	$27,000
Pharmacists	Advanced Degree	$111,500
Medical Records and Health Informatics Techs	Some College No Degree Required	$30,300

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Sports Medicine Pathway

SPORTS MEDICINE PATHWAY

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

PATHWAY COURSE & DESCRIPTIONS

Course 1– Intro to Healthcare Science - 25.52100

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Course 3—Sports Medicine 25.44600

Sports Medicine is the third course in the Therapeutic Services/Sports Medicine Career Pathway. The course is appropriate for students who wish to pursue a career in healthcare with a focus on the musculoskeletal system, injury assessment, injury prevention, or rehabilitation including careers in Sports Medicine and Rehabilitative Services.

Related Occupations	Education Level Needed	Median Wage
Physical Therapists	Advanced Degree	$78,800
Exercise Physiologists	Advanced Degree	$44,300
Athletic Trainers	Bachelor's Degree	$43,000

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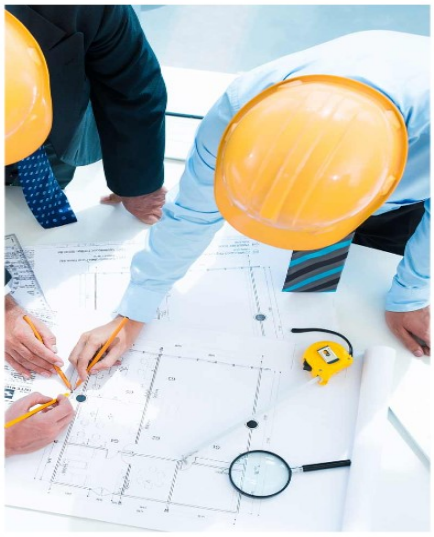
Engineering Pathway



ENGINEERING PATHWAY

Engineering & Technology combines hands-on projects with a rigorous curriculum to prepare students for the most challenging postsecondary engineering and technology programs. You will build solid writing, comprehension, calculation, problem-solving, and technical skills. You will be encouraged to take relevant math and science courses, such as advanced algebra, chemistry, calculus, geometry, trigonometry, physics, design, and engineering concepts.

PATHWAY COURSE & DESCRIPTIONS

Course 1—Foundations of Engineering and Technology - 21.42500

This STEM driven course provides the student with an overview of engineering and technology including the different methods used in the engineering design process developing fundamental technology and engineering literacy. Computer Aided Design • Safety • History • Prototyping • Architecture • 3D Modeling

Course 2—Engineering Concepts - 21.47100

This course introduces the fundamental principles of engineering. Students learn about areas of specialization within engineering, design, engineering graphics and to apply engineering tools and procedures as they complete hands-on projects and analysis. 3D modeling• Computer Simulation • 3D printing • CO2 Dragsters • Robotics

Course 3—Engineering Applications - 21.47200

Students have opportunities to apply engineering design as they develop a solution for a technological problem of their choice. Students use applications of mathematics and science to predict the success of an engineered solution. Electrathon Vehicles • Catapults • Solar Cooker • Rube Goldberg Machines

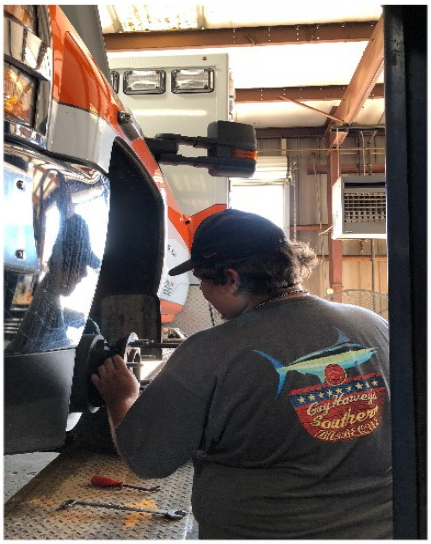
Related Occupations	Education Level Needed	Median Wage
Aerospace Engineers	Bachelor's Degree	$105,700
Electrical Engineers	Bachelor's Degree	$88,000
Avionics Technicians	Associate's Degree	$54,000

GEORGIA TSA TECHNOLOGY STUDENT ASSOCIATION

The Technology Student Association (TSA) is the only student organization devoted exclusively to the needs of students interested in technology. Members learn through exciting competitive events, leadership opportunities and much more. TSA chapters take the study of STEM (science, technology, engineering, mathematics) beyond the classroom and give students the chance to pursue academic challenges among friends with similar goals and interests.

For More Information: Georgia TSA www.gatsa.org; National TSA www.tsaweb.org

Work Based Learning/ Youth Apprenticeship



WORK BASED LEARNIG/ YOUTH APPRENTICESHIP

Work-Based Learning is offered as a culminating experience for all pathways, including fine art, modern language, and academic. Students are placed at worksites where they gain real-world experience. What will you do in Work-Based Learning?

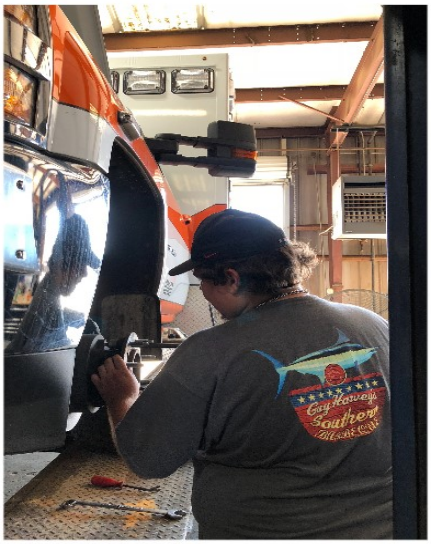
- Work at a job site as part of your school day (during normal class periods)
- Gain relevant skills in a chosen career area
- Develop professional relationships
- Develop a career portfolio
- Make decisions about future education and training

Talk to the Work-Based Learning Coordinator at your school to see if this is the right opportunity for you and to apply for next year.

Youth Apprenticeship is a structured combination of related coursework completed at the high school level and on-the-job training specific to a post-secondary credential which the employer and student is committed to. Students under Youth Apprenticeship are committed to working towards their post-secondary credentials and accumulating a minimum of 720 hours of on-the-job training.

work-based learning
WBL
GEORGIA
focus on the future

Georgia
YOUTH APPRENTICESHIP
focus on the future



Stand Alone Classes

COURSE & DESCRIPTIONS:

Ag Leadership- 01.41200

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.

Entrepreneurship- 06.41610

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.

Floral Design and Management- 01.46600

This laboratory course is designed to prepare students to apply systematic business procedures and design principles in the operation of a retail or wholesale floral business. Students will learn about the cut flower industry, the history of floral design, identification of flowers and foliage, design shapes, mechanics of design, everlasting flowers, and use knowledge and skills to create custom design work for special occasions.

Medical Service Internship- 25.52600

This is an opportunity for seniors to complete an internship at a locate Medical Facility

Plant Science-02.44100

Plant science is a basic component of the Agriscience pathway. This course introduces students to the scientific theories, principles, and practices involved in the production and management of plants for food, feed, fiber, conservation and ornamental use. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.