

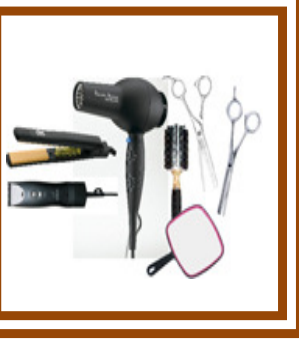
Cross Keys High School Technology Center Career Technology Education Information Guide



Automotive
Services



Computer
Information
Support and
Services



Computer
Programming



Construction

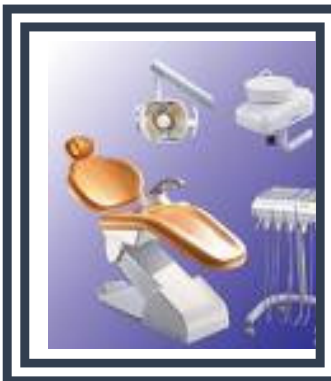
Cosmetology



Dental Science



Health Care
Services



Manufacturing
(Robotics)

Introduction

Cross Keys
High School
Technology
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What Every Parent Should Know About Career Technology Education

What is Career Technology Education?

Career Technology Education (CTE) offers a vast number of courses and programs that prepare students for the high demand skills needed for a wide range of careers. These careers may require varying levels of education – from high school and postsecondary certificates to two- and four-year college degrees. CTE is designed to prepare high school students to transition successfully to postsecondary education and to acquire the skills and knowledge needed to find gainful employment. Career and technical education is offered in middle schools and high schools.

How does Career and Technical Education benefit your child?

The purpose of all education is to ultimately join the workforce and become successful in a career. Career Technology Education (CTE) programs provide all students the opportunity to explore and experience careers while in high school and apply their academic and technical skills in relevant, real-world settings. Career Technology Education prepares students with the knowledge and skills required for current and future careers in today's global economy by helping students understand the connection between school, work, and setting and achieving goals. Career and Technical Education is about helping all students fulfill their potential. Students have the opportunity to learn in a relevant, authentic context to prepare them to meet the demands of today's workforce. Students know and demonstrate the requirements of the workplace through authentic application.

Certifications

CTE programs are designed to meet the needs of business and industry. Career Technology Education provides students the opportunity to receive industry recognized certifications. Like an "MD" in the medical profession or a "CPA" in the accounting profession, an industry certification documents student achievement of industry standards based on an assessment of what students know and are able to do in a career pathway. Some certifications/licenses available to high school students are: A+, Net+, IC3, (Computing), NATEF (Automotive Service), CNA (Healthcare Sciences), and SafeServ (Family and Consumer Science), just to name a few.

Articulation

CTE programs offer students the opportunity to receive college credit while still in high school through articulation. Articulation is the process by which academic or technical credits earned through high school programs may be acceptable in transfer by various community colleges and some four-year institutions. Credits earned appear on a college transcript.

Career Technology Student Organizations

The development of positive personal qualities and leadership is a vital component in career success. In CTE programs, this development is achieved through a variety of methods, which include Career and Technical Student Organizations (CTSOs). CTSOs are designed to enhance career and technical education programs at middle and high schools, provide career and leadership development through peer interactions, adult mentoring, and competitions based on knowledge and skills learned in the classroom.

Work-Based Learning

Career Technology Education provides student the opportunity to participate in work-based learning programs. Work-based learning is an educational approach that uses the workplace to provide students with knowledge and skills that help them connect school experiences to real-life work activities. Through work-based learning student are able to see the relevance of their education and apply acquired knowledge in a meaningful way. Students are also able to explore career options, acquire real workplace experience and work readiness skills, thus expanding their opportunities for future career success.



Career Pathways And Contact Information

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Career Pathways

1. Automotive Services
2. Computer Information Support and Services
3. Computer Programming
4. Construction
5. Cosmetology
6. Dental Science
7. Health Care Services
8. Manufacturing (Robotics)

Contact Information

Automotive Services

Marcus D. Lee
SkillsUSA Advisor
Marcus_Lee@dekalbschoolsga.org
School: 678-874-6235

Construction

Calvin Gray
SkillsUSA Advisor
Calvin_Gray@dekalbschoolsga.org
School: 678-874-6234

Work-Based Learning

Glenda M. Bonds
SkillsUSA Advisor
Glenda_M_Bonds@dekalbschoolsga.org
School: 678-874-6146

Manufacturing

Tarsha Wynn
TSA Advisor
Tarsha_Wynn@dekalbschoolsga.org
School: 678-874-6233

Healthcare Science

Delores R. Smith, RN
HOSA Advisor
Delores_Smith@dekalbschoolsga.org
School: 678-874-6236

Dental Science

Curlena Pippins
HOSA Advisor
Curlena_M_Pippins@dekalbschoolsga.org
School: 678-874-6192

Computer Networking/Systems & Support

Marian Hesse
FBLA/SkillsUSA Advisor
Marian_Hesse@dekalbschoolsga.org
School: 678-874-6222

Cosmetology

Courtney Walker
SkillsUSA Advisor
Courtney_Davis@dekalbschoolsga.org
School: 678-874-6203



Automotive Service

(Transportation Logistical Operations)

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Automotive Service Technology Pathway Description

This pathway includes classroom instruction and hands-on laboratory performance of the basic tasks included in the initial training required for employment in the automotive service field as identified by the National Automotive Technicians Education Foundation (NATEF). The courses include the development of basic technical skills required in steering and suspension, electrical and electronics, brakes, and engine performance.

Level	Course Name	Course Code	Course Abbreviation
Level 1	* Basic Maintenance and Light Repair	47.53110	TDL-BMLR-1
Level 2	* Maintenance and Light Repair 2	47.53210	TDL-MLR2-1
Level 3	*Maintenance and Light Repair 3	47.53310	TDL-MLR3-1
Level 4	*Automobile Service Technology 4	47.43400	TDL-AST4-1
Supplementary	*Internship	47.57500	ACT – TLI

*Required for Pathway Completion

Course Descriptions

47.53110 Basic Maintenance and Light Repair – Grades 10-12

This course is designed as the foundational course for the Automobile Maintenance and Light Repair pathway. Students in this course will learn the basic skills needed to gain employment as a maintenance and light repair technician. Students will be exposed to courses in automotive preventative maintenance and servicing and replacing brakes, and steering and suspension components. In addition, students will learn how to do general electrical system diagnosis, learn electrical theory, perform basic tests and determine necessary action. In addition, students will learn how to evacuate and recharge air-conditioning systems using the proper refrigerant. The hours completed in this course are aligned with ASE/NATEF standards and are base for the entry-level technician. The pre-requisite for this course is advisor approval.

47.53210 Maintenance and Light Repair 2 – Grades 10-12

Students will learn the basic skills needed to gain employment as a maintenance and light repair technician and will expose students to automotive preventative maintenance and servicing, as well as replacing brakes, and steering and suspension components. Students will also learn general electrical system diagnosis, electrical theory, basic test requirements, and determining necessary action. In addition, students will learn how to evacuate and recharge air-conditioning systems using the proper refrigerant. Standards for this course are aligned with ASE/NATEF standards and are an excellent foundation for the entry-level technician. The prerequisite for this course is basic Maintenance and Light Repair.

47.53310 Maintenance and Light Repair 3 – Grades 10-12

Students will learn the basic skills needed to gain employment as a maintenance and light repair technician and will expose student to automotive preventative maintenance and servicing, replacing brakes, as well as steering and suspension components. Students will learn about general electrical system diagnosis, electrical theory, basic tests that are required, and determine the necessary action. In addition, students will learn how to evacuate and recharge air-conditioning systems using the proper refrigerant. The standards in this course are aligned with ASE/NATEF standards and are an excellent foundation for the entry-level technician. The Prerequisite for this course is Maintenance and Light Repair 2.

47.43400 Automobile Service Technology – Grades 10-12

Students in this major will learn the basic skills needed to gain employment as a maintenance and light repair technician. This career major will expose the student to courses in automotive preventative maintenance and servicing and replacing brakes, and steering and suspension components. They will also learn how to do general electrical system diagnosis, learn electrical theory, perform basic tests and determine necessary action. In addition, they will learn how to evacuate and recharge air-conditioning systems using the proper refrigerant. The hours completed in this major are aligned with ASE/NATEF standards and an excellent foundation for the entry-level technician. The pre-requisite for this course is Maintenance and Light Repair 3.

Automotive Service Technology Opportunities

<u>Occupation</u>	<u>Level of Education</u>	<u>Salary</u>
Automotive Service Technician & Mechanics	Technical College	\$34,220
Automotive Body Repairers	Long-term on-the-job training	\$43,659
Automotive Engineer	Bachelor's degree	\$53,910



Computer Information Support and Services

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Information Technology Computer Support and Services Pathway Description

Students in this course develop the skills necessary for Supporting and servicing computers. Topics include component identification, memory-system, peripheral installation and configuration, preventive maintenance, hardware diagnostics -repair, installation and optimization of system software, Windows Operating system configuration, and device-drivers. Upon completion, students should be able to select appropriate computer equipment and software, upgrade and maintain existing equipment and software, and troubleshoot then repair non-functioning computers and printers. This course prepares students for the Comptia A+ Certification.

Level	Course Name	Course Code	Course Abbreviation
Level 1	Introduction to Digital Technology *	11.41500	IT-IDT
Level 2	Information Technology Essentials *	11.41400	IT-ITE
Level 3	Information Technology Support *	11.42000	IT-ITS
Level 4	Networking Fundamentals *	11.46100	IT-NF
Supplementary	CBE Co-op I (Work-Based Learning)	07.09100	
Supplementary	CBE Co-op II (Work-Based Learning)	07.09200	

*Required for Pathway Completion

Course Descriptions

11.41500 Introduction to Digital Technology – Grades 9-12

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. Exposure to foundational knowledge in hardware, software, programming, web design, IT support, and networks are all taught in a computer lab with hands-on activities and project focused tasks. 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.

11.41400 Information Technology Essentials – Grades 10-12

Can you fix it? What is wrong with it? Students taking this course will develop a skill set to solve computer problems, perform preventive maintenance, and explain functions of purposes of computer elements. Existing in a world full of computer technology, students will gain practical experience in assembling a computer system, installing an operating system, troubleshooting computers and peripherals, and using system tools and diagnostic software.

11.42000 Information Technology Support – Grades 10-12

How do you make the device work? Students will apply Information Technology Essentials skills to diagnose and correct computer problems. By building knowledge and skill, students will install, build, upgrade, repair, configure, troubleshoot, and perform preventative maintenance on computer hardware, operating systems, laptops and portable devices. Practical and hands-on experience of troubleshooting and maintenance will allow students to demonstrate mastery of skills.

11.46100 Networking Foundations – Grades 10-12

How do computers communicate? How are you connected? Start with a building block of knowledge of networks, local area networks, IP Addresses, subnetting, and data routes from a LAN to WAN. This course is designed to provide students with the background necessary to understand the local area networking information on workstations and networking. Students will learn the processes involved in designing, implementing, upgrading, managing, and otherwise working with networks and network technologies.



Network Systems Opportunities

<u>Occupation</u>	<u>Level of Education</u>	<u>Salary</u>
Computer Network Support Specialists	Some College*	\$45,600
Computer Support Specialists	Some College*	\$45,600
Computer and Information Systems Managers	Bachelor's Degree	\$111,400

*Certification

Computer Programming

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Computer Programming Pathway Description

This pathway focuses on the general writing and implementation of generic and customized programs to drive operating systems and prepares students to apply the methods and procedures of software design and programming to software installation and maintenance. Includes instruction in software design, low- and high-level languages and program writing; program customization and linking; prototype testing; troubleshooting; and related aspects of operating systems and networks.

Level	Course Name	Course Code	Course Abbreviation
Level 1	Introduction to Digital Technology *	11.41500	IT-IDT
Level 2	Computer Science Principles *	11.47100	IT-CSP
Level 3	Programming, Games, Apps and Society *	11.47200	IT-PGAS
Level 4	Networking Fundamentals *	11.46100	IT-NF
Supplementary	CBE Co-op I (Work-Based Learning)	07.09100	
Supplementary	CBE Co-op II (Work-Based Learning)	07.09200	

*Required for Pathway Completion

Course Descriptions

11.41500 Introduction to Digital Technology – Grades 9-12

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. Exposure to foundational knowledge in hardware, software, programming, web design, IT support, and networks are all taught in a computer lab with hands-on activities and project focused tasks. 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.

11.47100 Computer Science Principles – Grades 10-12

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

11.47200 Programming, Games, Apps and Society – Grades 10-12

Are you ready to design and develop? The course is designed for high school students to strategize, design, and develop games and mobile and desktop applications that can be produced in the real world. Students will learn about life-cycles of project development and use models to develop applications. Attention will be placed on how user interfaces affect the usability and effectiveness of a game or an application. Programming constructs will be employed which will allow students' applications to interact with "real world," stimuli. The course exposes students to privacy, legality, and security considerations with regards to the software industry.

11.46100 Networking Foundations – Grades 10-12

How do computers communicate? How are you connected? Start with a building block of knowledge of networks, local area networks, IP Addresses, subnetting, and data routes from a LAN to WAN. This course is designed to provide students with the background necessary to understand the local area networking information on workstations and networking. Students will learn the processes involved in designing, implementing, upgrading, managing, and otherwise working with networks and network technologies.



Computer Programming Opportunities

<u>Occupation</u>	<u>Level of Education</u>	<u>Salary</u>
Web Developers	Bachelor's Degree*	\$79,600
Network and Computer System Administrators	Bachelor's Degree*	\$73,000
Application Software Developers	Bachelor's Degree	\$85,700

*Certification

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Carpentry Pathway Description

This pathway is designed to provide students with practical information regarding safety, advanced power tools and stationary machinery. Students are instructed in all areas of safety, including ladder, scaffolding, trenching and the use of safety harnesses. Students are introduced to the State of Georgia Building Code and learn the theoretical knowledge needed to lay out rafter, stairs and walls. Students will have the opportunity to take the National Occupational Competency testing Institute (NOCTI) exam, which is a performance-based test.

Level	Course Name	Course Code	Course Abbreviation
Level 1	*Occupational Safety and Fundamentals	46.54500	ACT-OSF
Level 2	*Introduction to Construction	46.54600	ACT-IC
Level 3	*Carpentry I	46.55000	ACT-CI
Level 4	*Carpentry II	46.55100	ACT-CII
Supplementary	Work-Based Learning/Internship		

*Required for Pathway Completion

Course Descriptions

46.54500 Occupational Safety and Fundamentals – Grades 9-12

This course is the foundational course that prepares students for a pursuit of any career in the field of construction. It prepares the student for the basic knowledge to function safely on or around a construction site and in the industry in general. It provides the student with the option for an Industry Certification in the Construction Core. It also includes the basic knowledge and skills needed in the following areas: construction math, hand and power tools used in the field, general blueprints, and basics of rigging safety.

46.54600 Introduction to Construction – Grades 10-12

The goal of this course is to introduce students to the history and traditions of the carpentry, masonry, plumbing, and electrical craft trades. Students will explore how the various crafts have influenced and been influenced by history. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade.

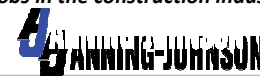
46.55000 Carpentry I – Grades 10-12

This course provides an overview of the building materials used in the carpentry craft. It teaches techniques for reading and using blueprints and specifications especially as related to the carpentry craft. It provides specific knowledge and skills in site layout and floor and wall framing systems. It includes the basic industry terminology for a carpentry craftsman.

46.55100 Carpentry II – Grades 10-12

This course provides the knowledge of various kinds of roof systems. It provides knowledge and skills for layout and cutting of the various types of roof rafters. It provides knowledge and skills for installing exterior doors, windows, and skylights. It also provides the student with knowledge and skills to layout, cut, and install various types of stairs and the code requirements needed to properly do so.

*****Cross Keys, in partnership with Anning-Johnson Construction Company, is training and preparing students to fill jobs in the construction industry. Students trained in interior finishing will join the apprenticeship program at Anning-Johnson.**



Carpentry Opportunities

<u>Occupation</u>	<u>Level of Education</u>	<u>Salary</u>
Cabinetmaker	High School/Training Program	\$28,290
Carpenter	Apprentice/Training Program	\$35,700
Construction Manager	Associate's Degree	\$79,700

Construction

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Masonry Pathway Description

In this pathway students will demonstrate theoretical competency in general estimating of masonry materials, concrete footings, paving applications, masonry steps, flue chimney building codes, and various concrete applications. Students will demonstrate the installation of pavers, masonry steps and concrete flatwork. Students will demonstrate competency in building codes, arch and fireplace construction, fireplace history and the function of a fireplace. Students will have the opportunity to take the National Occupational Competency testing Institute (NOCTI) exam, which is a performance-based test.

Level	Course Name	Course Code	Course Abbreviation
Level 1	*Occupational Safety and Fundamentals	46.54500	ACT-OSF
Level 2	*Introduction to Construction	46.54600	ACT-IC
Level 3	*Masonry I	46.57000	ACT-MI
Level 4	*Masonry II	46.57100	ACT-MII
Supplementary	Work-Based Learning/Internship		

*Required for Pathway Completion

Course Descriptions

46.54500 Occupational Safety and Fundamentals – Grades 9-12

This course is the foundational course that prepares students for a pursuit of any career in the field of construction. It prepares the student for the basic knowledge to function safely on or around a construction site and in the industry in general. It provides the student with the option for an Industry Certification in the Construction Core. It also includes the basic knowledge and skills needed in the following areas: construction math, hand and power tools used in the field, general blueprints, and basics of rigging safety.

46.54600 Introduction to Construction – Grades 10-12

The goal of this course is to introduce students to the history and traditions of the carpentry, masonry, plumbing, and electrical craft trades. Students will explore how the various crafts have influenced and been influenced by history. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade.

46.57000 Masonry I – Grades 10-12

This course provides knowledge and skills needed to operate hand tools, power tools, and equipment used in mixing mortar safely. It provides the knowledge and skills needed for cutting, laying, and finishing masonry units. It provides the math knowledge and skills needed to calculate distances, areas, and volumes common in masonry work. It also provides the knowledge of the types and properties of mortar and materials used in a concrete mixture.

46.57100 Masonry II – Grades 10-12

This course provides the basic knowledge needed for all types of concrete and masonry units and their applications. It provides additional skills needed for cutting, laying, and finishing masonry units. It provides the knowledge and skills to use ties and reinforcing materials while installing masonry units. It also provides knowledge and skills related to the processes used in placing masonry units.



Masonry Opportunities

<u>Occupation</u>	<u>Level of Education</u>	<u>Salary</u>
Carpet, Floor, & Tile Installers/Finishers	Apprentice/On-the-Job Training	\$31,910
Brick Mason	Apprentice/Technical College	\$39,667

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Electrical Pathway Description

This pathway provides a program through which students learn the theoretical information regarding various conductors and properties, types of insulation, termination principles, Ohm's Law calculations, identify run of types of wire and cable, and selection of boxes and fittings. Students will demonstrate the ability to use the National Electrical Code (NEC) and other applicable building codes and standards and apply code-related requirements using entry-level skills. Students will have the opportunity to take the National Occupational Competency testing Institute (NOCTI) exam, which is a performance-based test.

Level	Course Name	Course Code	Course Abbreviation
Level 1	*Occupational Safety and Fundamentals	46.54500	ACT-OSF
Level 2	*Introduction to Construction	46.54600	ACT-IC
Level 3	*Electrical I	46.56000	ACT-EI
Level 4	*Electrical II	46.56100	ACT-EII
Supplementary	Work-Based Learning/Internship		

*Required for Pathway Completion

Course Descriptions

46.54500 Occupational Safety and Fundamentals – Grades 9-12

This course is the foundational course that prepares students for a pursuit of any career in the field of construction. It prepares the student for the basic knowledge to function safely on or around a construction site and in the industry in general. It provides the student with the option for an Industry Certification in the Construction Core. It also includes the basic knowledge and skills needed in the following areas: construction math, hand and power tools used in the field, general blueprints, and basics of rigging safety.

46.54600 Introduction to Construction – Grades 10-12

The goal of this course is to introduce students to the history and traditions of the carpentry, masonry, plumbing, and electrical craft trades. Students will explore how the various crafts have influenced and been influenced by history. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade.

46.56000 Electrical I – Grades 10-12

This course builds on the concepts of electrical safety introduced in Occupational Safety. It provides knowledge of the hardware and systems used by an electrician and the basic skills to install them. It provides a general knowledge of electrical systems including series, parallel, and series-parallel circuits. It provides the basic skills and knowledge to navigate and use the National Electrical Code. It provides an introduction to the skills and knowledge of conduit bending and installation.

46.56100 Electrical II – Grades 10-12

This course focuses on proper selection, inspection, use, and maintenance of common electrical test equipment; introduces the types and applications of raceways, wire-ways, and ducts; focuses on the types and application of conductors and covers proper wiring techniques, electrical prints, drawings and symbols; covers the electrical devices and wiring techniques common to commercial and industrial construction and maintenance, and covers the electrical devices and wiring techniques common to residential construction and maintenance.



Electrical Opportunities

<u>Occupation</u>	<u>Level of Education</u>	<u>Salary</u>
Electrician	Apprenticeship/On-the-Job Training	\$40,700
Power-Line Installers & Repairers	Apprenticeship/Long term On-the-Job Training	\$42,720

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Plumbing Pathway Description

This pathway is designed to provide students with information regarding safety, beginning with Material Safety Data Sheets (MSDS) electrical safety, and the safe use of power and hand tools. Students will examine the installation of drain, waste and venting, the use of copper tubing and steel piping and the installation of hangers and supports. Pipe sizing, residential fixtures and appliances, and the proper use of fittings are also covered. Students will be able to install residential plumbing fixtures, thread pipe and explain basic drain cleaning. Students will have the opportunity to take the National Occupational Competency testing Institute (NOCTI) exam, which is a performance-based test.

Level	Course Name	Course Code	Course Abbreviation
Level 1	*Occupational Safety and Fundamentals	46.54500	ACT-OSF
Level 2	*Introduction to Construction	46.54600	ACT-IC
Level 3	*Plumbing I	46.58000	ACT-PI
Level 4	*Plumbing II	46.58100	ACT-PII
Supplementary	Work-Based Learning/Internship		

*Required for Pathway Completion

Course Descriptions

46.54500 Occupational Safety and Fundamentals – Grades 9-12

This course is the foundational course that prepares students for a pursuit of any career in the field of construction. It prepares the student for the basic knowledge to function safely on or around a construction site and in the industry in general. It provides the student with the option for an Industry Certification in the Construction Core. It also includes the basic knowledge and skills needed in the following areas: construction math, hand and power tools used in the field, general blueprints, and basics of rigging safety.

46.54600 Introduction to Construction – Grades 10-12

The goal of this course is to introduce students to the history and traditions of the carpentry, masonry, plumbing, and electrical craft trades. Students will explore how the various crafts have influenced and been influenced by history. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade.

46.58000 Plumbing I – Grades 10-12

This course provides basic skills and knowledge needed to apply OSHA and EPA safety concepts and practices as related specifically to the plumbing trade. It includes the use of plumbing tools and materials. The student is introduced to the basic knowledge and application of plumbing codes. Also included is the basic skills and knowledge required to handle, estimate, and store materials used in the plumbing trade. Involved in this process is the correct interpretation and application of basic information from architectural and construction working drawings, especially as related to plumbing installation.

46.58100 Plumbing II – Grades 10-12

This course provides the basic skills and knowledge to install water supply systems as well as drain, waste, and ventilation systems. This involves basic installation from rough-in through trim out of a variety of fixtures. It involves practice with the skills and knowledge necessary to apply plumbing codes to specific circumstances. This course also builds on the skills and knowledge of the student to be able to read, interpret, and apply information from architectural and construction working drawings, especially as related to plumbing installation.



Plumbing Opportunities

<u>Occupation</u>	<u>Level of Education</u>	<u>Salary</u>
Pipelayer	Apprenticeship/Technical College	\$32,880
Plumber	Apprenticeship/Technical College	\$44,600

Cosmetology

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Cosmetology Pathway Description

This pathway introduces the cosmetology profession. Instruction is provided on the various methods of disinfection, sanitation, and safety used in the cosmetology industry. This pathway introduces various types of scalp treatments, hair and scalp structures, and hair disorders. Training is provided in a lab or classroom setting. Instruction is provided on the laws, rules and regulations and how they govern the cosmetology and barber industry. There is emphasis on the importance of salon management and the knowledge and skills necessary to build a successful business. Including a focus on the importance of interpersonal skills and basic techniques in salesmanship and customer services. Integrates job readiness skills and professional ethics.

Level	Course Name	Course Code
Level 1	*Introduction to Personal Care Services	12.54400
Level 2	*Cosmetology Services II	12.41000
Level 3	*Cosmetology Services III	12.41100
Level 4	*Cosmetology Services IV	12.54900
Supplementary	Cosmetology Internship I	12.55100
Supplementary	Cosmetology Internship II	12.55200
Supplementary	Cosmetology Internship III	12.55300
Supplementary	Licensure and Employment Opportunities (HS_LEO)	12.55400
Supplementary	Advanced Cosmetology Services (HS_ACS)	12.55500
Supplementary	Cosmetology Internship IV	12.55600
Supplementary	Cosmetology Internship V	12.55700
Supplementary	Cosmetology Practicum VI	12.55800

*Required for Pathway Completion

Course Descriptions

12.54400 Introduction to Personal Care Services - Grades 10-12

This course introduces both fundamental theory and practices of the personal care professions including nail technicians, estheticians, barbers, and cosmetologists. Emphasis will be placed on professional practices and safety. Areas addressed in this course include: state rules and regulations, professional image, bacteriology, decontamination and infection control, chemistry fundamentals, safety, Hazardous Duty Standards Act compliance, and anatomy and physiology. Students will experience basic hands on skills in each area to help them determine the pathway they are most interested in pursuing. By completing courses in the personal care services pathways, students can potentially earn credit toward the hours required by the Georgia State Board of Barbering and/or Cosmetology or hours toward their license as an esthetician or nail technician. Pre-requisite for this course is advisor approval.

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Course Descriptions (cont.)

12.41000 Cosmetology Services Core II - Grades 10-12

This course is designed to provide instruction in classroom/laboratory safety rules and procedures. It also provides an opportunity to learn introductory competencies in the fundamental theory and skills required for hair cutting, permanent waving & relaxing, basic hair and scalp treatments, and the theory related to diseases and disorders of skin and hair. After successful completion of Salon Services Core I and Salon Services Core II, the student will have acquired the 250 hours required by the Georgia State Board of Cosmetology to work on cliental in the salon.

12.41100 Cosmetology Services Core III - Grades 10-12

This course provides the student the opportunity to enhance the basics from previous courses in the fundamental theory and skills required for hairstyling design, including: hair shaping, pin curls, finger waves, roller placement, blow-drying techniques, thermal cutting, braiding and hair extensions. It also provides instruction in the theoretical study of anatomy & physiology, as it relates to the study of cosmetology.

12.54900 Cosmetology Services Core IV - Grades 10-12

This course is designed to provide an opportunity to further enhance competencies in haircutting techniques. Safety will be stressed, along with instruction in the selection of proper hair cutting implements and proper style selection. Also, instruction will be provided on the theory of electricity and the use of electrical appliances in the salon.

12.55400 Licensure and Employment Opportunities (HS_LEO) - Grades 10-12

This course is designed to provide the student an opportunity to develop the competencies needed to own and/or manage a salon. Also, completion of this course allows the student to fulfill the hours required by the Georgia State Board of Cosmetology for the licensure examination. Key competency areas include: State & Local Laws, Human Resources, Planning, Management, Retailing, Marketing, Receptionist Duties, and Client Retention.

12.55500 Advanced Cosmetology Services (HS_ACS) - Grades 10-12

The course is designed to provide instruction in the area of advanced skin care. Specifically, the student will have the opportunity to learn competencies in hair removal, corrective make-up applications, lash & brow tinting, cosmetic surgery, facials, manicures, and artificial nails. Safety and sanitation procedures will be stressed throughout the course in all procedures. Sufficient practice is included in order for the student to acquire the required number of procedures by the Georgia State Board of Cosmetology.

Cosmetology Opportunities



Occupation

Level of Education

Salary

Manicurists and pedicurists

Training Program/Specialty College

\$19,190

Master Cosmetologist

Technical/Specialty College

\$38,000

Barber

Technical/Specialty College

\$41,000

Health Science - Dental

Cross Keys
High School
Technology
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Dental Science Pathway Description

This pathway is designed for students wishing to pursue a career in the area of Dental Science. Students will receive initial exposure to dental health science technical skills and attitudes applicable to dental health occupations.

Level	Course Name	Course Code
Level 1	*Introduction to Dental Science Technology	25.48000
Level 2	*Essentials of Dental Science Technology	25.48800
Level 3	*Dental Science Technology II	25.48900
Supplementary	Dental Science Technology Internship	25.48400

*Required for Pathway Completion

Course Descriptions

25.48000 Introduction to Dental Science Technology – Grades 10-12

The Introduction to Dental Science Technology Course is designed to provide an overall framework of basic skills utilized in the dental health occupations. Course content includes in-depth study and practical applications of: career planning, legal and ethical responsibilities, microbiology, infection control, first aid, cardiopulmonary resuscitation, vital signs, and dental instruments and materials. Academics and other related sciences are integrated throughout the course. The students are required to meet both national and intrastate professional guidelines as designated by applicable regulatory agencies such as the Occupational Safety and Health Administration (OSHA), Center for Disease Control (CDC) and Georgia Board of Dentistry.

25.48800 Essentials of Dental Science Technology – Grades 10-12

Essentials of Dental Science Technology introduces the student to technical skills in dental assisting. The course content includes in-depth study and practical applications of: office procedures, patient management, dental charting, chair side assisting, dental terminology, anatomy and physiology, and pathology.

25.48900 Dental Science Technology II – Grades 10-12

Dental Science Technology II introduces the student to technical skills in the area of laboratory procedures and radiology. The course content includes in-depth study and practical applications of: oral health and nutrition, pharmacology and anesthesia, radiology, laboratory procedures, and other specialty areas in dentistry.

25.48400 Dental Science Technology Internship – Grades 10-12

Students wishing to pursue a career in the area of Dental Science Technology will receive practical experiences in the area of dental health occupations. The internship may be taken upon the student's completion of course Essentials of Dental Science Technology and/or after completion of the Dental Science Technology II. The recommended course length is 150 contact hours. The student must work with a professional healthcare provider in the area of a dental health occupation for a minimum of 50 hours.

**Upon completion of the program, students are qualified to work in a dental setting. Additional hours and experience prepares the student to complete national certification through the Dental Assisting National Board (DANB).

Dental Science Opportunities

<u>Occupation</u>	<u>Level of Education</u>	<u>Salary</u>
Dental Assistant	Training Program	\$34,388
Dental Lab Technician	Training Program	\$68,000
Dental Hygienists	Associate's Degree	\$69,689
Dentist	Doctorate Degree	\$52,362



Health Science

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Therapeutic Services-Patient Care Pathway Description

Students wishing to pursue a career in the Healthcare Industry will receive initial exposure to healthcare science skills and attitudes applicable to healthcare including the concepts of health, wellness, and preventive care.

Level	Course Name	Course Code	Course Abbreviation
Level 1	*Introduction to Healthcare Science	25.52100	HS – IHS
Level 2	*Essentials of Healthcare	25.44000	HS – EHS
Level 3	*Patient Care Fundamentals	25.43600	HS – PCF
Supplementary	Allied Health and Medicine	25.43700	HS-AHM

*Required for Pathway Completion

Course Descriptions

25.52100 Introduction to Healthcare Science-Grades 9-12 (Prerequisite)

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 prerequisite for this course is advisor approval.

25.44000 Essentials of Healthcare 10-12

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.

Therapeutic Services Opportunities

<u>Occupation</u>	<u>Level of Education</u>	<u>Salary</u>
Emergency Med Technicians/Paramedics	Moderate on-the-job training/certification	\$27,070
Licensed Practical Nurse (LPN)	Associate's Degree	\$35,550
Registered Nurse (RN)	Bachelor's Degree	\$63,200



Health Science

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Course Descriptions (cont.)

25.43600 Patient Care Fundamentals-Grades - 10-12

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. Students meeting all academic, attendance, and age requirements may sit for the Georgia Registry's Examination. Successful completion of the Georgia Registry Examination allows students to seek employment in the state of Georgia as a Certified Nurse Assistant. (Programs and instructors must affiliate with and be approved by the GA Medical Care Foundation www.gmcf.org in order for students to be able to sit for the GA Registry Examination. Requirements for equipment, clinical hours, etc. can be found through the GA Medical Care Foundation.)

25.43700 Allied Health and Medicine - Grade 11-12

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.

Therapeutic Services Opportunities

<u>Occupation</u>	<u>Level of Education</u>	<u>Salary</u>
Medical Technologists	Bachelor's Degree	\$53,000
Physical Therapist	Advanced Degree	\$78,800



Manufacturing (Robotics)

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Manufacturing Pathway Description

This pathway provides students with an introduction to manufacturing technology and its relationship with society, individuals, and the environment. This pathway also includes a study of the various managed activities which are used to develop, produce, use, and assess production technology. Research and development, production, and marketing techniques are reviewed. In addition, students learn about a wide variety of production techniques. Fabrication and assembly steps are highlighted. Assuring product quality is also explored.

Level	Course Name	Course Number	Course Abbreviation
Level 1	*Foundations of Manufacturing and Materials Science	21.44100	ENGR-FMMS
Level 2	*Robotics and Automated Systems	21.44500	ENGR-RAS
Level 3	*Production Enterprises	21.44400	ENGR-PE
Level 4	Manufacturing Internship	21.45800	ENGR-MI

*Required for Pathway Completion

Course Descriptions

21.44100 Foundations of Manufacturing and Material Science – Grades 9-12

Foundations of Manufacturing and Materials Science is the introductory course for the Manufacturing career pathway. This course provides students with opportunities to become familiar with related careers and develop fundamental technological literacy as they learn about the history, systems, and processes of manufacturing. In addition, the course will provide an overview of the safe use of tools and equipment used in the industry.

21.44500 Robotics and Automated Systems – Grades 10-12

Upon completing this course, students will be able to apply their knowledge of computer aided design (CAD), computer numerical control (CNC), robotics, computer assisted manufacturing (CAM), programmable logic controllers, automated guided vehicles (AGV), and computer integrated manufacturing (CIM).

21.44400 Production Enterprises – Grades 10-12

The purpose of this course is to give students an understanding of how to design and implement a production system. Students learn how businesses engage in the production of products beginning with pre-production activities and continuing through post-production activities.

21.45800 Manufacturing Internship – Grades 10-12

This course is designed to allow students to experience the workplace through an internship opportunity.



Manufacturing Opportunities

<u>Occupation</u>	<u>Level of Education</u>	<u>Salary</u>
Manufacturing/Production/Industrial Control	Related Work Experience/Technical Training	\$35,000
Production Manager	Associate's Degree	\$45,000
Industrial Engineering Technician	Associate's Degree	\$48,330
Manufacturing Engineering/Design/Fabrication	Bachelor's Degree	\$65,000
Industrial Engineer	Bachelor's Degree	\$76,880

Career Technology Student Organizations

Cross Keys High School Technology Center



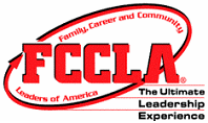
DECA <http://www.deca.org>

Distributive Education Club of America is a student-centered, educational/professional organization with a program of leadership and career development designed specifically for students enrolled in marketing education. Marketing education prepares students for rewarding careers in marketing, management and entrepreneurship. DECA enhances that education by providing marketing-related activities based directly on classroom study.



FBLA <http://fbia-pbl.org>

Future Business Leaders of America-Phi Beta Lambda is a nonprofit education association of students preparing for careers in business and business-related fields. The FBLA Mission is to bring business and education together in a positive working relationship through innovative leadership and career development programs.



FCCLA <http://www.fcclainc.org>

Family, Career and Community Leaders of America, Inc. (FCCLA) is a nonprofit national career and technical student organization for young men and women in family and consumer sciences education in public and private school through grade 12.



FFA <http://www.ffa.org>

The FFA is a national organization dedicated to preparing members for leadership and careers in the science, business and technology of agriculture. Local, state and national activities and award programs provide opportunities to apply knowledge and skills acquired through agriculture education.



HOSA <http://www.hosa.org>

HOSA is a national student organization endorsed by the U.S. Department of Education and the Health Science Technology Education Division of ACTE. HOSA's two-fold mission is to promote career opportunities in the health care industry and to enhance the delivery of quality health care to all people. HOSA's goal is to encourage all health occupations instructors and students to join and be actively involved in the HSTE-HOSA Partnership.



SkillsUSA <http://www.skillsusa.org>

SkillsUSA is national organization that provides quality education experiences for students in leadership, teamwork, citizenship and character development. It builds and reinforces self-confidence, work attitudes and communications skills. It emphasizes total quality at work, high ethical standards, superior work skills, life-long education and pride in the dignity of work. SkillsUSA also promotes understanding of the free enterprise system and involvement in community service activities.



TSA <http://www.tsaweb.org>

Technology Student Association (TSA) is a national, non-profit organization for students with an interest in technology. TSA members learn problem-solving, decision-making, critical thinking and leadership skills as they relate to design, communications, power, energy, transportation, engineering, manufacturing, construction and biotechnology. TSA strives to meet the educational needs and challenges of all students in an increasingly and ever-changing technological world.



CTI <http://www.garvi.org>

Career and Technical Instruction (CTI) provides students with disabilities the opportunity to successfully participate in career technology education programs. CTI also ensures delivery of appropriate services and accommodations for students that participate in career technology education programs.

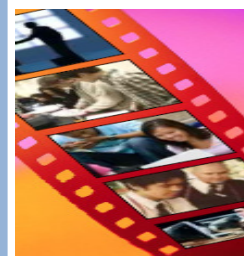
Benefits of Membership:

- Career Exploration
- Community Service
- Leadership Conferences
- Networking
- Professional Development
- Scholarships
- Publications



Work-Based Learning and Advisory Committees

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Work-Based Learning

Work-Based Learning Programs are structured educational experiences that integrate classroom learning (school-based) with productive, structured work experiences (work-based), related to a student's career goal.

Key Components:

- School-based learning
- Work-based learning
- Connecting activities
- Work-Based Learning
- Provides paid or unpaid work experience
- Promotes a partnership between education and industry
- Integrates academic and technical instruction

Work-Based Learning provides an opportunity for juniors and seniors to start preparing for a career while still in high school. Individual programs of study in the freshman and sophomore years prepare students for a successful work-based learning experience.

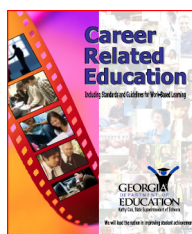
Through Work-Based Learning, students are able to earn wages while learning from skilled professionals, increase career options and future employability, strengthen academic skills, experience the connection between education and real-life work skills, earn post-secondary credit while in high school and experience potential careers in the workplace.

Work-Based Learning enables employers to play an active role in shaping the quality of their future workforce. Through Work-Based Learning, employers are able to increase skill levels of potential workers, work with educators to develop curriculum based on industry standards, recruit and screen potential employees, reduce turnover of entry-level employees through the hiring of Work-Based Learning graduates and improve competitiveness in the international marketplace.

Advisory Committees

Advisory Committees effectively support successful Career Technology Education programs by keeping the teachers and the curriculum current and relevant to business and industry. The primary purpose of Program Advisory Committees is to serve as a resource and a connection to the workplace for Career Technology teachers. Advisory Committees at the individual school level can make important contributions by keeping faculty apprised of local business and industry needs, providing professional development opportunities, and assisting the school in planning and implementing relevant programs for students.

Advisory Committees are an important part of Career Technology because the members are currently working in the area they represent. The expertise of individuals from business and industry plays an integral role in providing high-quality programs, in addition to fostering the development of a trained and educated workforce.



Work-Based Learning Benefits Students by:

- Providing opportunities to apply academic proficiencies.
- Establishing a clear connection between education and work
- Increasing motivation and retention by showing the relevance of academic and occupational instruction
- Enhancing skill development and developing workplace responsibility
- Improving post-graduation job prospects by establishing professional contacts for future employment
- Providing opportunities for leadership development
- Establishing positive work habits and attitudes
- Encouraging completion of secondary education and enrollment in postsecondary education

Cross Keys High School Technology Center Career & Technical Education Information Guide



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