Russellville City Schools

CAREER & TECHNICAL EDUCATION

PROGRAM CATALOG

Pursuing

EXCELLENCE

RUSSELLVILLE

"Find your passion, start your future, and impact tomorrow."

Career and Technical Education Center

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Dr. Tim Guinn – Administrative Assistant

Russellville High School Administration

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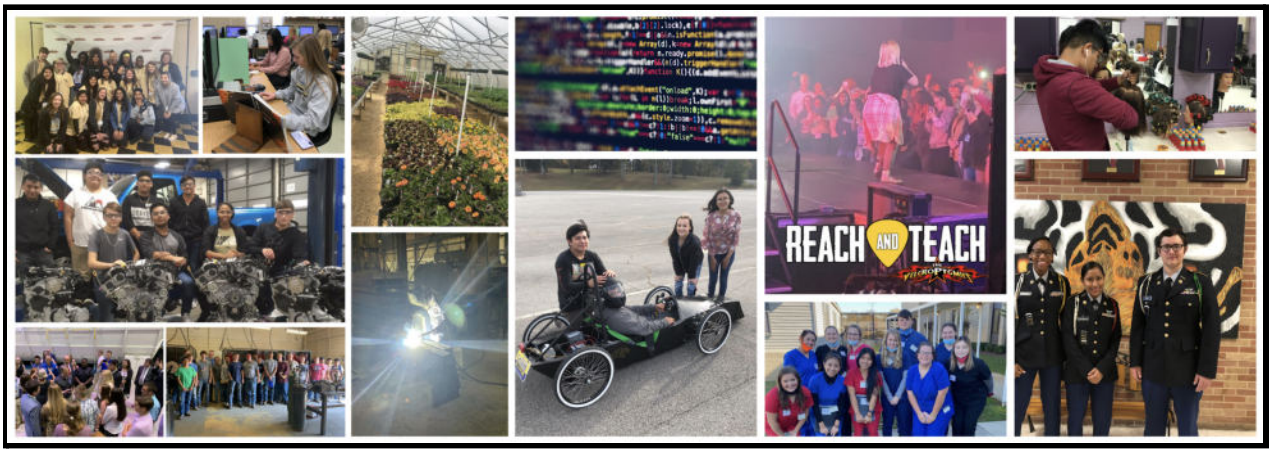
Jennifer Butler - Assistant Principal
Derek Ergle - Assistant Principal
Shelley Montgomery - Career and Technical Education Director

Russellville High School Guidance

Jeremie Kinney - Counselor
Alissa Moore - Counselor
Jennifer Reed - Career Coach



Contacts, Courses, and Credentials

Program	Instructor(s)	Courses Offered
Agriculture, Food, & Natural Resources / Plant Systems	Donnie Nichols: donnie.nichols@rcs.k12.al.us Gabe Willis (Turfgrass only): gabe.willis@rcs.k12.al.us	Agriscience, Agriscience 2, Horticulture, Greenhouse Production, Fish and Wildlife, Landscape Design, Turfgrass Management
Automotive Services	Casey Hill: casey.hill@rcs.k12.al.us	Maintenance and Light Repair A, B, C, & D
Business Management & Administration	Dr. AnnaKay Holland annakay.holland@rcs.k12.al.us	RHS: Business Tech Applications, Advanced Business Tech Applications, Entrepreneurship, Multimedia Design, Publications, Career Preparedness
Business Management & Administration (RMS)	Lauren Holland: lauren.holland@rcs.k12.al.us Melissa Godsey: melissa.godsey@rcs.k12.al.us	Computer Skills, Computer Science Discoveries, Robotics, Career Preparedness and PLTW App Creators
Cybersecurity	NWSCC Instructor (dual enrollment)	Computer Maintenance, Network Communications, Cyber Defense, Network Security
Engineering	Gabe Willis gabe.willis@rcs.k12.al.us	Foundations of Engineering, Engineering Applications, Engineering Systems, andEngineering Research and Design
Finance	Dr. AnnaKay Holland annakay.holland@rcs.k12.al.us	Business Tech Applications, Career Preparedness, Accounting, Advanced Accounting
Food, Wellness, and Dietetics	Cindy Coan cindy.coan@rcs.k12.al.us	Family & Consumer Sciences, Foods and Nutrition, Parenting, Event Planning, Senior Career Pathways
Health Science	Dr. Stephanie Oliver: stephanie.oliver@rcs.k12.al.us	Foundations of Health Science, Health Science Internship, Health Science Internship 2, Introduction to Pharmacy, Medical Terminology, Nurse Aid Training
JROTC - ARMY	Sgt. Michael Conner michael.conner@rcs.k12.al.us	Leadership Education Training: JROTC I, JROTC 2, JROTC 3, JROTC 4
Manufacturing	Casey Hill casey.hill@rcs.k12.al.us	Architecture, Construction, and Manufacturing, NCCER Industrial Maintenance - Mechanical 1, 2, & 3
Network Systems and Computer Service	Brea Colagross brea.colagross@rcs.k12.al.us	IT Fundamentals, AP Computer Science Principles, Exploring Computer Science, Cybersecurity
Teacher Academy	Cindy Coan cindy.coan@rcs.k12.al.us	Education and Training, Teaching I & II, Education and Training Internship
Welding	Jacob Ayers: jacob.ayers@rcs.k12.al.us Justin Steele: justin.steele@rcs.k12.al.us	WDT 108, 109, 122, 123, 119, 124, 110

RCS CTE Credential and Certification Opportunities

RCS Career & Technical Education

Agriscience	Landscape Managament Technician Specialty Crops Certification Urban Forestry Technician Hunter Education Certificate
Business / Finance	Microsoft Office Specialist: Word, PowerPoint, Excel, Access, and Outlook Microsoft Office Expert: Word, Excel, and Access
JROTC	ARMY JROTC Leadership Certificate
Health Science	Certified Nursing Assistant Certified Pharmacy Technician Certified Patient Care Technican Certified Medical Admin Assistant CPR Certification Lifeguard Certification
Cosmetology	Barbicide Certified Guest Service Professional
Food, Wellness, & Dietetics	ServSafe
IT / Computer Science	TestOut Security Pro Certification TestOut IT Fundamentals Pro Certification
Engineering	Solid Edge CAD Certification
Auto Tech	Automotive Service Excellence Student Brakes Certification
Welding	NWSCC Welding Certification

Agriculture, Food, & Natural Resources

PLANT SYSTEMS

Course: Agriscience
Course Description: This course provides students with a general overview of the Agriculture, Food, and Natural Resources cluster. This course contains five pathways—Power, Structure, and Technical Systems; Environmental and Natural Resources Systems; Animal Systems; Plant Systems; and Agribusiness Systems. Students will be involved in classroom and laboratory activities in each of the five pathway areas. Topics included in this course include career opportunities, safety, technology applications, agribusiness leadership, environmental science, soil science, plant science, forestry, animal science, aquaculture, wildlife science, pest management, woodworking, metalworking, small engines, electrical wiring, and plumbing.

Course: Fundamentals of Agriscience II (Building Construction)
Course Description: Fundamentals of Agriscience is a course that provides students with a fundamental overview of the Agriculture, Food and Natural Resources cluster, which contains five pathways – Power, Structure, and Technical Systems; Environmental and Natural Resources Systems; Animal Systems, Plant Systems, and Agribusiness Systems. Emphasis will be placed on basic safety, construction math, hand tools, power tools, construction drawings, basic rigging, communication skills, employability skills, and material handling.

Course: Fish and Wildlife Management
Course Description: Fish and Wildlife Management is a course that provides students with the opportunity to gain knowledge regarding the management of natural resources. Topics included in the course are career opportunities, outdoor safety, history, issues, classification, fish and wildlife ecology, fish and wildlife management, endangered species, fish and wildlife pest management, and outdoor recreation.

Course: Greenhouse Production and Management
Course Description: Greenhouse Production and Management is a course related to the production of greenhouse crops. Topics include career opportunities, safety, plant propagation, growing media, plant identification, greenhouse production, pest control, business management, and equipment and facilities. The hands-on approach to learning is a key component in this course.

Course: Horticultural Science
Course Description: Topics in Horticultural Science include career opportunities, safety, plant physiology, growing media, greenhouse facilities, greenhouse and nursery crop production, plant identification and classification, pest management, hydroponics and vegetable gardening, and technological application.

Course: Landscape Design and Management
Course Description: The Landscape Design and Management course allows students to become more knowledgeable about and appreciative of landscape design and management. Topics include career opportunities, safety, landscape design, plant selection, landscape growth and the environment, landscape establishment and management, interior plantscaping and xeriscaping, landscape business management, and technology. This course is offered every other year.

Course: Forestry
Course Description: Forestry is a course designed to enable students to become knowledgeable of forestry and wood technology. Students acquire an appreciation for increased emphasis on managing and conserving forests for the future. Topics include career opportunities, safety, history, dendrology, tree measurement, mapping, silviculture, forest products, and forest protection.

Course: Sports Turfgrass Production and Management
Course Description: This course prepares students for sports turfgrass careers. Emphasis is placed on turfgrass growth, turfgrass management, sports fields, turfgrass tools and equipment, business management, and technology.

Course: Senior Career Pathway Project - Agriculture, Food, & Natural Resources
Course Description: A one-credit course designed for students who have completed a minimum of two career and technical education courses to select an area of interest; engage in in-depth exploration of the area; employ problem-solving, decision-making, and independent learning skills; and present a culminating pathway project before a selected audience.

WELDING

Course: Welding 1: Dual Credit / Dual Enrollment
Course Description: This course provides students with instruction in safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of oxy-fuel cutting, carbon arc cutting, and plasma arc cutting. Upon successful completion of this course, students will earn college credit for Welding 108 through NWSCC. NWSCC tuition fee may be waived if funds are available.

Course: Welding 2: Dual Credit / Dual Enrollment
Course Description: This course provides students with instruction on safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of carbon arc cutting and plasma arc cutting. Upon successful completion of this course, students will earn college credit for Welding 122 through NWSCC. NWSCC tuition fee may be waived if funds are available.

Course: Welding 3: Dual Credit / Dual Enrollment
Course Description: This course provides students with instruction on safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of carbon arc cutting and plasma arc cutting. Upon successful completion of this course, students will earn college credit for Welding 109 through NWSCC. NWSCC tuition fee may be waived if funds are available.

Course: Welding 4: Dual Credit / Dual Enrollment
Course Description: This course is designed to introduce students to the proper set-up and operation of shielded metal arc welding equipment. Emphasis is placed on striking and controlling the arc, and proper fit up of fillet joints. This course is also designed to instruct students in the safe operation of plasma arc and carbon arc cutting. Upon completion, students should be able to make fillet welds in all positions using electrodes in the F-4 groups in accordance with applicable welding code and be able to safely operate plasma arc and carbon arc equipment and perform those operations as per the applicable welding code. Upon successful completion of this course, students will earn college credit for Welding 123 through NWSCC. NWSCC tuition fee may be waived if funds are available.

Business Management & Administration

Course: Career Preparedness
Course Description: Career Preparedness focuses on three integrated areas of instruction – academic planning and career development, financial literacy, and technology. Course content ranges from college and career preparation, to computer literacy skills, to ways to manage personal finances. Simulations and projects promoting leadership skills offer further opportunities for application of knowledge and skills. Acquisition of these skills is achieved by incorporating content and strategies that allow students to meet the required 20-hour online experience as defined by the ALSDE. **All 9th graders are required by the ALSDE to take this course.**

Course: Business Technology Applications
Course Description:A one-credit foundation course designed to assist students in developing technological proficiencies in word processing, spreadsheets, databases, presentations, communications, Internet use, ethics, and careers using technology applications.

Course: Advanced Business Technology Applications
Course Description: This course is designed to provide students with skills in computer technology and using integrated software with basic business applications. This course utilizes computers as a business tool through the use of database, spreadsheet, word-processing, and presentation software, along with Internet research. This course is a must for anyone wanting to attend college. A major emphasis is placed on guiding students through real-world experiences to ease the school-to-career transition. Students can receive articulated college credit for CIS 146 through NWSCC for this course. **Microsoft certifications are offered in this course free of charge.**

Course: Entrepreneurship
Course Description: This course provides students with the skills needed to effectively organize, develop, create, and manage a business. This course includes business management and entrepreneurship, communication and interpersonal skills, economics, and professional development foundations.

Course: Management Principles (Business Internship)
Course Description:A one-credit course designed to provide students with an understanding of the organizational functions of businesses, including quality concepts, project management, and problem solving. Students also participate in a business internship program. This is where students are placed in different businesses in the community to observe and obtain "hands-on" work experience during class time. Students must provide their own transportation for this program.

Course: Multimedia Design
Course Description: Multimedia Design (T4—Teens Teaming with Teachers and Technology) is designed to provide students with skills involving presentations, desktop publishing, web publishing, and digital graphics. In this class, students will work with one or more teachers to incorporate technology into one or more lesson plans. These projects will range from PowerPoint Presentations, to video production, to web pages.

Course: Multimedia Publications (Annual Staff)
Course Description: This course is designed to provide students with the ability to utilize digital equipment and multimedia digital imaging software, produce interactive media projects, and develop publication layouts. Students use various hardware peripherals as well as the Internet for integrating skills to create a variety of publications (yearbook, newspaper, newsletters, program books, etc.). This is a junior-senior course and students must be pre-approved by the instructor.

Finance

Course: Accounting
Course Description: This course is designed to place emphasis on basic principles, concepts, and procedures of accounting. Students are introduced to techniques of keeping special types of business records. Computer accounting applications and computer spreadsheets are also incorporated into the course. Students will gain valuable experience by completing business records for simulated businesses. This course is vital for anyone interested in a business career. This course is also helpful for students wanting to learn how to complete personal budgets, keep track of checking accounts, file taxes, and handle personal finances.

Course: Advanced Accounting
Course Description: This course offers increased emphasis in the "why" of accounting and a blend of advanced accounting principles and procedures using modern accounting tools. Throughout this course students will use computer accounting applications and modern accounting tools such as computer spreadsheets. Students will also be introduced to work simulations in order to explore career opportunities.

Government & Public Administration

ARMY JROTC

Course: JROTC 1
Course Description: Unit 1 – Citizenship in Action: This course engages students in the practice of basic citizenship customs and traditions and explores the opportunities for non-military and military national service. ***May count as PE credit and/or Career Preparation.**

Course: JROTC 2
Course Description: Unit 2 – Leadership Theory and Application: This course accesses attributes of leadership, explores leadership styles and behaviors, analyzes situations that require leadership, and relates leadership skills to the JROTC program.

Course: JROTC 3
Course Description: Units 3-6 – Foundations of Army JROTC and Getting Involved / Service to the Nation: This course will help student cadets build essential skills needed to maximize learning potential and future success and lay the groundwork for service learning. Students will recognize the value of their varied learning styles and multiple intelligences. Student cadets will be able to apply learning strategies to improve their critical thinking, study, and communication skills. Student cadets will also be able to develop and expand their abilities to resolve conflict and prevent violence. These leadership units will help student cadets prepare for life after high school while helping them focus on career and personal planning.

Course: JROTC 4
Course Description: Units 3-6 – Foundations of Army JROTC and Getting Involved / Service to the Nation: This course will help student cadets build essential skills needed to maximize learning potential and future success and lay the groundwork for service learning. Students will recognize the value of their varied learning styles and multiple intelligences. Student cadets will be able to apply learning strategies to improve their critical thinking, study, and communication skills. Students enrolled in this course will have the opportunity to use their leadership skills in JROTC leadership positions, as well as planning and executing training events such as the JROTC Ball, and field trips.

Health Science

Course: Foundations of Health Science
Course Description: This is a one-credit course that introduces students to a wide range of health careers. Integrated academics combined with health care knowledge and skills provide the framework for a strong health care delivery system in the 21st century. This course is the prerequisite for all the health science courses except for Medical Terminology. It is recommended for students who want to prepare for further study in an array of health-related fields at the postsecondary level.

Course: Health Science Internship I
Clinical Fee Covers: CPR, Liability Insurance, TB Skin Test. This fee does not cover the cost of the flu shot or scrubs.
Course Description: This is a one credit course that provides students with the knowledge and skills necessary for becoming a healthcare worker or for preparing students for postsecondary health care education programs. Theory and laboratory components comprise at least 10% of the course. Health Science Internship 1 is designed to be completed in a hospital, extended care facility, rehabilitation center, medical office, imagery laboratory, or other health care facility.

Course: Health Science Internship II
Clinical Fee Covers: CPR, Liability Insurance, and TB Skin Test. This fee does not cover the cost of the flu shot or scrubs.
Course Description: This is a two-credit course that provides students with the knowledge and skills necessary for becoming a healthcare worker or for preparing students for postsecondary health care education programs. Theory and laboratory components comprise at least 10% of the course. Health Science Internship 1 is designed to be completed in a hospital, extended care facility, rehabilitation center, medical office, imagery laboratory, or other health care facility. **This course is a year-long course that meets every day.**

Course: Medical Terminology: Dual Credit / Dual Enrollment
Course Description: This is a one-credit course that is currently being offered as a dual credit/dual enrollment course through Northwest-Shoals Community College that is designed for students to develop health care specific knowledge for a career in the medical field. The course uses an integrated approach for teaching the language of medicine to the health care student by incorporating medical terminology with anatomy and physiology and the disease process. Upon successful completion of this course, students will earn college credit for OAD 211 through NWSCC.

Course: Nurse Aide Training
Clinical Fee Covers: CPR, Liability Insurance, and TB Skin Test. This fee does not cover the cost of the flu shot or scrubs.
Course Description: This is a two-credit course, scheduled during both semesters, that is designed for high school seniors to develop health care specific knowledge for a career in the medical field. Students will pursue skill mastery in the classroom, laboratory, and also participate in intensive job-specific training in the clinical area. Students must successfully complete an approved program and pass the National Nurse Aide Assessment certification exam in order to become a Certified Nurse Aide (CNA).

Course: Introduction to Pharmacy
Clinical Fee Covers: CPR, Liability Insurance, TB Skin Test. This fee does not cover the cost of the flu shot or scrubs.
Course Description: Introduction to Pharmacy is a one-credit course that introduces senior students to the pharmacy profession. Course content emphasizes the history of medicine, mathematics, technology, and legal issues. This course has a laboratory component allowing students the opportunity to observe skills learned in class at local pharmacies. Upon successful completion of this course, students are eligible to take the Pharmacy Technician Certification once they have obtained their high school diploma.

Course: Emergency Medical Services: EMS 118
Course Description: This course is required to apply for certification as an Emergency Medical Technician. This course provides students with insights into the theory and application of concepts related to the profession of emergency medical services. Specific topics include: EMS preparatory, airway maintenance, patient assessment, management of trauma patients, management of medical patients, treating infants and children, and various EMS operations. This course is based on the NHTSA National Emergency Medical Services Education Standards. Upon successful completion of this course, students will earn college credit for EMS 118 through NWSCC. **NWSCC tuition fee may be waived if funds are available.**

Course: Emergency Medical Services: EMS 119
Course Description: This course is required to apply for certification as an EMT. This course provides students with clinical education experiences to enhance knowledge and skills learned in the EMS 118, Emergency Medical Technician Theory and Lab. This course helps students prepare for the National Registry Exam. Upon successful completion of this course, students will earn college credit for EMS 119 through NWSCC. **NWSCC tuition fee may be waived if funds are available.**

Human Services

COSMETOLOGY

Course: Introduction to Cosmetology: Cosmetology 1 (Franklin Co Career Tech Center)
Course Description: This course is designed to provide students with a study of concepts related to the cosmetology profession. Students gain initial practical experience in sanitation, shampooing, hair shaping, and hairstyling and are not limited to manicures, pedicures, facial care, cosmetics, shampooing, and conditioning theory.

Course: Hair Coloring: Cosmetology 2 (Franklin Co Career Tech Center)
Course Description: This course is designed to focus on the theory of chemical services related to chemical hair texturing. Students gain initial, practical experience in performing various chemical texturing activities. (Hair Coloring and Permanent Waving, Chemical Relaxing, and Soft Curly Perms Theory)

Course: Chemical Services: Cosmetology 3 (Franklin Co Career Tech Center)
Course Description: Chemical Services is a one credit course that focuses on the theory of chemical services related to chemical hair texturing. Specific topics include basics of chemistry and electricity, properties of the hair and scalp, and chemical texture services. Students also gain initial practical experience in performing various chemical texture services.

Course: Introduction to Spa Techniques: Cosmetology 4 (Franklin Co Career Tech Center)
Course Description: Introduction to Spa Techniques is a one credit course that focuses on the structure and function of various systems of the body, massage techniques, skin care, and hair removal.

Course: Advanced Spa Techniques Application: Cosmetology 5 (Franklin Co Career Tech Center)
Course Description: Advanced Spa Techniques Application is a one credit course that provides students with study and experience in advanced hair removal, cosmetic application, skin care, and massage techniques.

Course: Salon Practices and Management: Cosmetology 6 (Franklin Co Career Tech Center)
Course Description: Salon Practices and Management is a one-credit course that enables students to develop entry-level management skills for the cosmetology industry. Students practice all phases of cosmetology in a salon setting. Upon successful completion of this course, students will be able to demonstrate professional work ethics and communication skills, job seeking management skills, and exhibit knowledge of the technology used in salons.

Human Services

FOOD, WELLNESS, & DIETETICS

Course: Family and Consumer Science
Course Description: Family and Consumer Science is designed for 9th and 10th grade students as a general course. The focus is on preparing the student to establish and maintain a satisfying home and family life and work life. Course Content provides opportunities for students to explore family food, clothing, technology, relationships and resource management. Family, Career and Community Leaders of America (FCCLA) is an integral part of the curriculum, enhances leadership development skills and provides opportunities for community service.

Course: Parenting
Requirement: Participation in an Infant Simulation for 1 weekend during the semester.
Course Description: This course focuses on knowledge and skills related to family life and child development. This course includes the study of family dynamics, personal growth, preparation for marriage and parenthood, child growth and development, and career opportunities in family life and child development. Family, Career and Community Leaders of America (FCCLA) is an integral part of the curriculum, enhances leadership development skills and provides opportunities for community service.

Course: Foods and Nutrition
Course Description: Foods and Nutrition is a one-credit course taught in grades 11-12. Students will learn concepts related to food preparation techniques, healthy dietary choices, etiquette and the relation of diet to the current food supply and food production techniques. Students will also apply social media and digital design techniques, photographic styling applications, and journalism skills to market food items. Family, Career and Community Leaders of America (FCCLA) is an integral part of the curriculum, enhances leadership development skills and provides opportunities for community service.

Course: Senior Career Pathway Project Human Services
Course Description: This is a one-credit course taught in grades 11-12. Senior Career Pathway Project (SCPP) is a capstone course designed for career and technical education students who have completed two or more career and technical education courses. This course allows students to utilize their secondary coursework through an experience that showcases their learning. It provides an opportunity for a student to choose an area of interest and engage in an in-depth exploration of the area while demonstrating problem-solving, decision-making, and independent-learning skills. The SCPP contributes to an educational plan of challenging courses and practical experiences that prepares students for the workplace or for pursuing further education. During the SCPP the student works with his or her coordinating teacher, academic teachers, and with a product or process mentor who has expertise in the student's field of study. At the conclusion of the SCPP, the student presents or demonstrates knowledge gained to an audience consisting of the coordinating teacher, academic teachers, the product or process mentors, peers, and community and business representatives.

Course: Introduction to Early Care and Education (CHD 100/ NWSCC)
Course Description: This is a dual enrollment course offered through Northwest-Shoals Community College. This is a 3 hour NWSCC credit course and a 1.0 credit course at RHS. The course is taught on the RHS campus with a NWSCC instructor. This course introduces students to the child education and care profession. It is designed to increase understanding of the basic concepts of child development and the developmental characteristics of children from birth through age 8/9 years. This course is the foundation for planning appropriate activities for children and establishing appropriate expectations of young children. This class also offers an opportunity to study the developmental domains (social, emotional, cognitive/language and physical). Course includes observations of the young child in early childhood settings. A*vailability of this course is dependent upon sufficient demand.*

Course: Creative Experiences for Young Children (CHD 202/ NWSCC)
Course Description: This is a dual enrollment course offered through Northwest-Shoals Community College. This is a 3 hour NWSCC credit course and a 1.0 credit course at RHS. The course is taught on the RHS campus with a NWSCC instructor. This course focuses on fostering creativity in preschool children and developing a creative attitude in teachers. Topics include selecting and developing creative experiences in language arts, music, art, science, math and movement with observation and participation with young children required. Upon completion, students should be able to select and implement creative and age-appropriate experiences for young children. A*vailability of this course is dependent upon sufficient demand.*

Human Services

TEACHING & TRAINING

Course: Education and Training:
Course Description: A one-credit foundation course designed for students who are interested in pursuing a career in education. The required school-based laboratory is a well-equipped classroom. This course is a prerequisite for Early Childhood Education I, Teaching I, Educational Leadership, and Professional Support Services in Education.

Course: Teaching I:
Course Description: This course aids students in implementing the teaching and learning processes. The prerequisite for this course is Education and Training. The required school-based laboratory is a well-equipped classroom.

Course: Teaching II:
Course Description: This course provides students with advanced knowledge and skills used in the education field. The prerequisites for this course are Education and Training and Teaching I. The required school-based laboratory is a well-equipped classroom.

Course: Education and Training Internship:
Course Description: This course is designed for students interested in pursuing an internship experience in an educational field. Students who have completed Teaching II, Early Childhood Education II, Professional Support Services in Education, or Educational Leadership are eligible to enroll in the Education and Training Internship. A school-based laboratory (actual classroom providing grade level subject-matter instruction) is required for the internship.

Information Technology

CYBER SECURITY

Course: Computer Maintenance Dual Credit / Dual Enrollment
Course Description: This course provides students with hands-on practical experience in installing software, operating systems, trouble-shooting, and maintaining systems. The class will help to prepare participants for the A+ Certification sponsored by CompTIA.

Course: Network Communications Dual Credit / Dual Enrollment
Course Description: This course is designed to introduce students to the basic concepts of computer networks. Emphasis is placed on gaining an understanding of the terminology and technology involved in implementing networked systems. The course will cover the OSI and TCP/IP network models, communications protocols, transmission media, networking hardware and software, LANs (Local Area Networks) and WANs (Wide Area Networks), Client/Server technology, the Internet, Intranets and network troubleshooting. Upon completion of the course, students will be able to design and implement a computer network. Students will create network shares, user accounts, and install print devices while ensuring basic network security. They will receive hands-on experience building a mock network in the classroom. This course will help prepare students for the CCNA and Network + certifications. This is a CORE course for the AAT, AAS CIS programs. CIS 161 or CIS 273 may be used as a suitable substitute for this course. If used as a substitute, this is a CORE course.

Course: Cyber Defense Dual Credit / Dual Enrollment
Course Description: This course provides students with information on the concept of cyber defense. Topics include information relative to legal aspects of cyber-attacks, threats to various levels of national and local social infrastructure, financial systems, personal data, and other direct and indirect threats. As part of this course students explore current and historical cyber threats and U. S. policy regarding infrastructure protection.

Course: Network Security Dual Credit / Dual Enrollment
Course Description: This course provides a study of threats to network security and methods of securing a computer network from such threats. Topics included in this course are security risks, intrusion detection, and methods of securing authentication, network access, remote access, Web access, and wired and wireless network communications. Upon completion, students will be able to identify security risks and describe appropriate countermeasures.

Information Technology

PROGRAMMING & SOFTWARE DEVELOPMENT

Course: Information Technology (IT) Fundamentals
Course Description: A one credit course that introduces students to the knowledge base and technical skills for information technology careers. Students study the nature of business and demonstrate knowledge of the functions of information systems in business.

Course: Computer Science Explorations
Course Description: Exploring Computer Science is an introductory year-long high school computer science course for students in Grades 9-10 focused on foundational computer science concepts and computational practices. Students will be introduced to the breadth of the field of computer science through an exploration of engaging and accessible topics. The course is designed to focus on the conceptual ideas of computing and help students understand why certain tools or languages might be utilized to solve particular problems. The goal of Exploring Computer Science is to develop in students the computational practices of algorithm development, problem solving and programming within the context of problems that are relevant to the lives of today's students. Students will also be introduced to topics such as interface design, limits of computers, and societal and ethical issues. Exploring Computer Science is designed to be a college preparatory high school course and thus, should provide a rigorous, but accessible, introduction to computer science. No previous computer science experience is required. ***This course may serve as a math credit.**

Course: AP Computer Science Principles
Course Description:A one credit college-level course following the curriculum established by the College Board Advanced Placement (AP) program for computer science; emphasizes object-oriented programming methodology with a concentration on problem-solving and algorithm development. ***This course may serve as a math credit.**

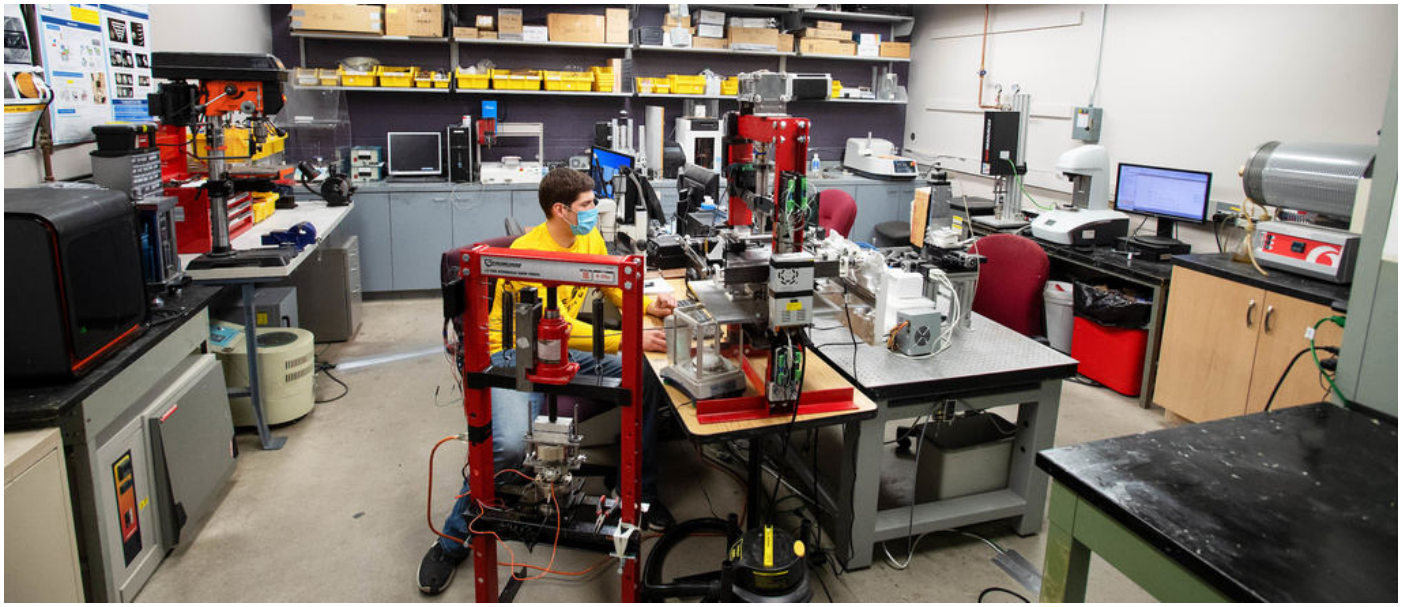
Course: AP Computer Science A
Course Description:AP Computer Science A is equivalent to a first-semester, college-level course in computer science. The course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Java language. The AP Computer Science A course curriculum is compatible with many CS1 courses in colleges and universities. ***This course may serve as a math credit.**

Manufacturing

INDUSTRIAL SYSTEMS - MECHANICAL

Course: Architecture, Construction, and Manufacturing:
Course Description: A one-credit course that introduces students to core knowledge and skills in the areas of design, preconstruction, construction, maintenance, operations, and installation and repair which are foundational to courses related to careers in architecture, construction and manufacturing industries. This course is not a prerequisite for entering a specific pathway.

Course: NCCER Industrial Maintenance - Mechanical 1:
Course Description: A one-credit course that provides an overview of the basics of an industrial technician's responsibilities and skills. Topics include safety, measurement, basic employability skills, material handling, rigging, construction mathematics, and construction drawings. Educators may choose to incorporate additional standards to build upon those which are required.



Course: NCCER Industrial Maintenance - Mechanical 2
Course Description: A one-credit course that builds on Industrial Maintenance I to provide a detailed look into the skills and knowledge required to be an industrial technician. Topics include tools of the trade, fasteners and connections, oxy-fuel cutting, gaskets and packing, pumps, valves, and lubricants. Educators may choose to incorporate additional standards to build upon those which are required.

Course: NCCER Industrial Maintenance - Mechanical 3
Course Description: A one-credit course that provides advanced knowledge of industrial applications. Topics include machine drawings, pumps, drive systems, material handling and hand rigging, and disassembly and reassembly of pumps and compressors.. Educators may choose to incorporate additional standards to build upon those which are required.

Science, Technology, Engineering, & Math

ENGINEERING

Course: Engineering I – Foundations of Engineering
Course Description: Foundations of Engineering is a course designed to offer students an overview of the engineering profession and fundamental skills utilized in general engineering. Students investigate various engineering disciplines and related career paths. They develop communication and teamwork skills as well as increase their understanding of basic scientific and mathematical principles used in problem solving through the engineering design process.

Course: Engineering II – Applications of Engineering
Course Description: Applications of Engineering and Technology offers students an investigative view of the engineering profession and the fundamental skills utilized in the field. Students continue investigating engineering disciplines and related career paths. Students will expand leadership and teamwork skills through creativity, collaboration, communication, and critical thinking. Additionally, students will increase their understanding of science, technology, engineering, and mathematics (STEM) principles used in problem-solving through the engineering design process.

Course: Engineering III – Computer Engineering and Technology
Course Description: Computer Engineering and Technology is designed to explore the process of taking a software idea and turning it into a profitable product. Students will gain knowledge of the phases of a software life-cycle (planning, design, implementation, testing, deployment, and maintenance). Technology will be introduced by exposing students to industry standard tools for implementing the System Development Life Cycle (SDLC) process. This course will be focused on the SDLC but will expose the students to the various architectures used for a successful project. While not required, it is recommended that students have some prior knowledge of programming \languages, databases, operating systems, and platforms.

Course: Engineering IV – Capstone of Engineering and Technology
Course Description: Capstone of Engineering and Technology allows students to expand and apply previous knowledge to solve engineering problems. In this course, students will conduct research and develop solutions to complete a capstone project in the engineering field. Project-based learning reinforces the application of science, technology, engineering, and mathematics (STEM) concepts and skills. Technology applications are utilized in this course to enable students to visualize, model, prototype, solve, and report on comprehensive design problems. Collaboration and teamwork are vital components of producing the capstone project.

Transportation, Distribution, & Logistics

AUTOMOTIVE SERVICES

Course: Auto Technology 1 (Maintenance and Light Repair A & B)
Course Description: The first part of this course prepares students for entry into Automotive Maintenance and Light Repair B. Students explore career opportunities and requirements of a professional service technician. Content emphasizes beginning transportation service skills and workplace success skills. Students study safety, tools, equipment, shop operations, basic engine fundamentals, and basic technician skills. The second part of this course prepares students for entry into Automotive Maintenance and Light Repair C. Students study automotive general electrical systems, starting and charging systems, batteries, lighting, and electrical accessories. Content emphasizes beginning transportation service skills and workplace success skills.

Course: Auto Technology 2 (Maintenance and Light Repair C & D)
Course Description: The first part of this course prepares students for entry into Automotive Maintenance and Light Repair D. Students study and service suspension and steering systems, and brake systems. Content emphasizes beginning transportation service skills and workplace success skills. The second part of this course prepares students for entry into the automotive workforce or into post-secondary training. Student's study and service automotive HVAC systems, engine performance systems, automatic and manual transmission/transaxle systems, as well as practice workplace soft skills

Course: Auto Technology 3 (Service Tech A & B)
Course Description: The first part of this course further prepares students for entry into the automotive workforce or post-secondary training. Students continue their studies of automotive systems but in more depth and detail. The second part of this course further prepares students for entry into the automotive workforce or post-secondary training. Students continue their studies of automotive systems but in more depth and detail.

Course: Painting and Refinishing I & II (Franklin Co Career Tech Center)
Course Description: This course will run all year and is located at the Franklin County Career Technical Center in Belgreen. This is a one-credit course designed to provide students with an introduction to current technologies in the basic principles of automotive finishes.

RCS CTE would like to thank members of each RCS CTE Advisory Committee for their continued support. If you or your business is interested in joining one of our advisory committees, please contact the program advisor that best aligns with your business or industry.

Currently, members of our advisory committees represent a wide range of business and industries in North Alabama. Some of these are pictured below.