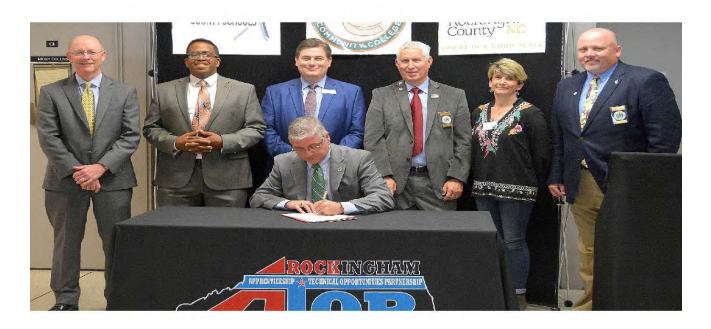


# THE CAREER & TECHNICAL EDUCATION PROGRAMS OF ROCKINGHAM COUNTY SCHOOLS



"Connecting student talent and interest to a rewarding career."

The mission of the Career and Technical Education Programs of Rockingham County Schools is to "connect our students' interests and talents with a rewarding career." We understand that the route to a rewarding career is dependent upon identifying each student's individual talents, exposing them to all aspects of industry including entrepreneurship and is dependent upon our students gaining an understanding of how the world works from an academic, technical and interpersonal/attitudinal (soft/employability skills) standpoint. As explicitly stated in the Carl T. Perkins V legislation the purpose of CTE programs are "to develop more fully the academic knowledge and technical and employability skills of secondary education students" (Perkins V. Section 2). In an effort to create such direction we seek to develop a comprehensive career pathway system that begins in middle school, continues through high school and into the work-force

Reauthorization of the Carl D. Perkins Act was signed into law by President Trump on July 31, 2018. Perkins V is the piece of legislation that affords our district approximately \$192,000 in federal funding. The state of North Carolina contributes approximately 3.9 million dollars to support Rockingham County Schools' CTE programing. In order to qualify for the federal funding local units must meet six requirements outlined in the law. The six requirements are listed on page 38 of this document. Perkins V has allowed for much local autonomy regarding how local units can demonstrate progress toward these requirements. In short, the CTE programs of Rockingham County will fulfill the requirements of the law and take advantage of the autonomy within the law by creating a comprehensive career pathway system that connects student interest and talent with a rewarding career through career exploration, skill development, authentic projects and work based learning opportunities within an atmosphere that values meaningful relationships, creativity and hard work.

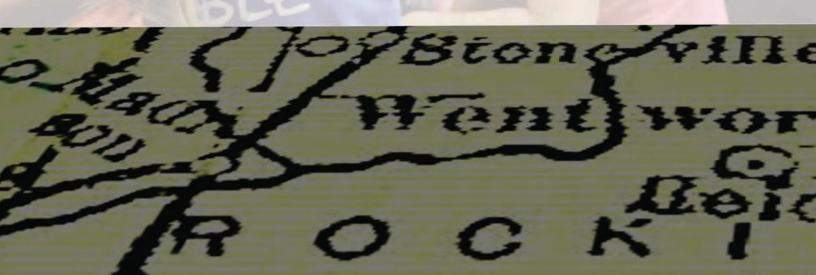
# **ECONOMIC OUTLOOK, STUDENT INTERESTS**& CAREER EXPLORATION

How can we help students discover their talents and use them to make a meaningful contribution to their community?

"For too long, education is something that we have tried to DO TO a student, rather than engaging and unleashing their Godgiven talents and aspirations. We have unwisely advised every youth that the answer to success is 'go to college' instead of a more humane message; discover your talents, understand the world's needs and find a way to apply your strengths to the world's needs."

Hans Meeder

The first step in the development of a comprehensive career pathway system is to identify student interests and talents and to identify opportunities that exist in the workforce for students to earn a living wage by utilizing such talent. This section will detail the local job market and will outline how our students interests compare to the needs of the local economy.

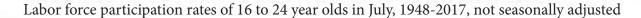


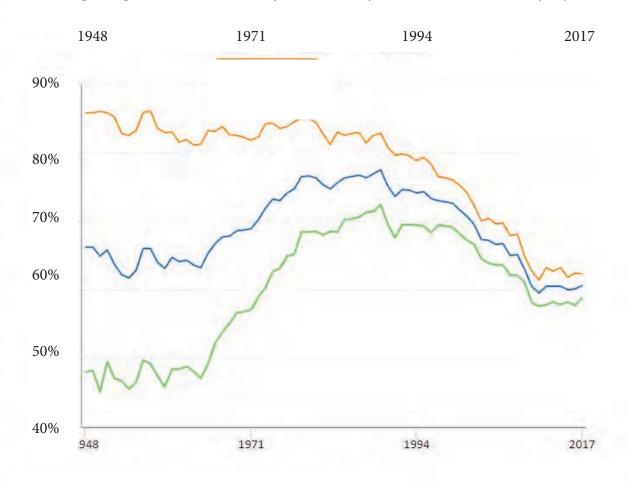


sectors make about 1/3 of the jobs available within the county. Even though the unemployment rate approaches what would be considered "full employment," our health care providers and plant operators continue to report difficulty in finding qualified individuals to meet their employment needs. One reason for this discrepancy may be the growing percent of young people who are not counted in the unemployment statistic. According to the Bureau of Labor Statistics only about 60% of individuals between the ages of 16 and 24 are currently in the



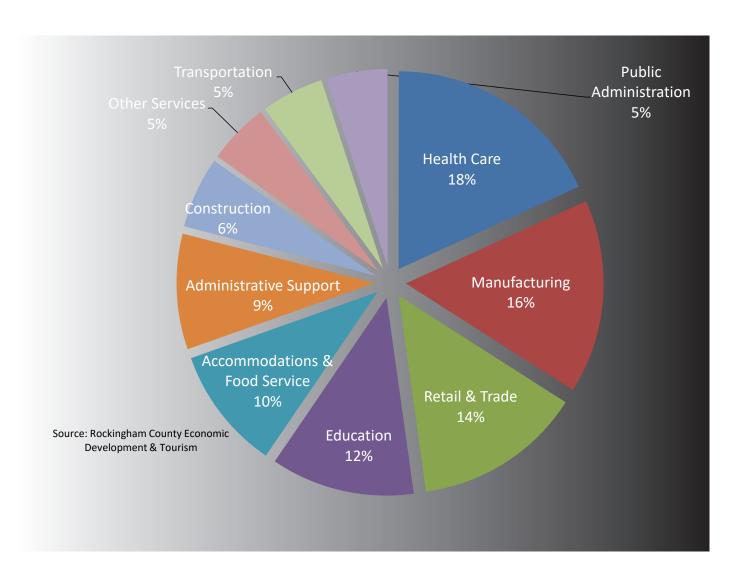
labor force. This number represents a sharp decline of 20 points from only two decades ago. The CTE leadership and staff of Rockingham County believe that re-engaging this age group and placing them on a viable career path while still in high school represents our greatest opportunity for sustained economic growth and personal well-being within our region.

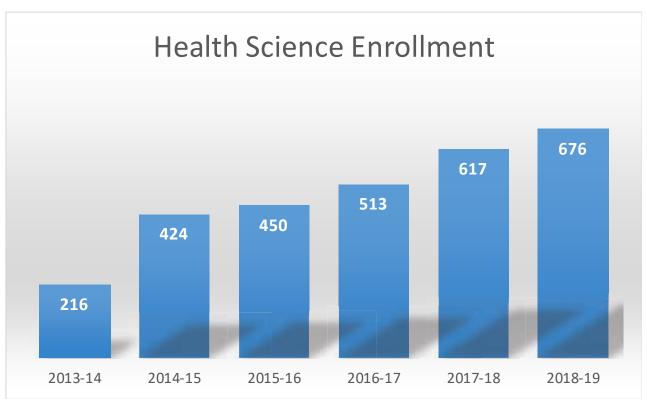




All 8th grade students completed an interest inventory during the 2017-18 school year. The results of the survey pointed to some encouraging news as well as some opportunities for improvement. The fact that 15% of our 8th grade students are interested in a career in health care is encouraging in light of the fact that the field of health care makes up 18% of our local workforce. This interest is reflected in a dramatic increase in the number of young people who have elected to enroll in a health science class. The enrollment for our health science classes increased an astounding 300% from a total of 216 students enrolled in 2013-14 to a total of 676 enrolled in health science classes in the 2018-19 school year.

We are thrilled about this increase in health science enrollment and believe that the increase will yield graduates who go on to meet the critical need of such skill within our community. However, interest in the advanced manufacturing sector was not as encouraging. The survey indicated that only four percent of our students were interested in a career in advanced manufacturing. This represents a substantial challenge for our community when we consider that advanced manufacturing jobs make up about 16% of the jobs available within our county. Business leaders indicate that the growth of their business is constrained by their inability to hire sufficient numbers of individuals who are equipped with the requisite skills and credentials.





We attribute this "interest gap" to a lack of understanding of advanced manufacturing and the opportunities that are available within the sector. The interest gap challenge may be most daunting in Reidsville. While we are not pleased with the numbers of students that opt to enroll in a college level Career and Technical Education (CTE) class from either of our four traditional high schools, Reidsville High School (RHS) students tend to take far less advantage of the opportunity. For instance, a total of 23 students from Rockingham County High School were enrolled in a college level CTE class at RCC during the 2017-18 school year, while no students from Reidsville High School (RHS) were enrolled in college level CTE classes that year. To compound the challenge, interest in manufacturing for our rising ninth grade RHS students is virtually non-existent as indicated by the afore mentioned interest inventory that was administered to all 8th grade students during the 2017-18 school year.

We tested this theory in the fall of 2018 while in the midst of an effort by the City of Reidsville, Rockingham Community College, RCS and our local business leaders to secure Golden Leaf Grant Funding for the establishment of a machining lab on the campus of RHS. At that time, we presented all Reidsville Middle School students with a short video clip that featured manual machining. After viewing the clip 67% of students indicated an interest in taking at least one machining class at Reidsville High School. The Golden Leaf effort was in direct response to the skills gap that exists in our advanced manufacturing sector. RCS was awarded \$200,000 from the Golden Leaf Foundation in March of 2019. The funding will be used to purchase five manual lathes and five manual mills that will afford RCC the ability to teach manual machining classes on the campus of RHS. RCS will contribute more than \$200,000 of its capital funds to renovate the building that will house the lab. The lab will also house our RockATOP office. Pictured below is Dan Gerlach, president of Golden Leaf Foundation presenting a check to RCS superintendent of schools, Rodney Shotwell. They are flanked by Jay Donecker, Reidsville Mayor, Steve Scott, Reidsville Industrial Alliance Chair and Mark Kinlaw, President of RCC.

We desperately need to raise the visibility of advanced manufacturing at RHS and need to help remove the transportation barrier. We believe the strategies outlined within the grant application will accomplish both of these objectives.





RockATOP Apprenticeship
Internships
CCP Opportunities (RCC)
Specific Technical Skill Development
Career Academies
Authentic Projects
Junior Acheivement
Financial Literacy

**Job Shadowing** 

Basic Computer Skills
Introduction to Design Process
Life Skills

4-Year Plan Development
Career Academy Presentaions
Career Cluster Profile
Interest Assessment
Junior Acheivement
High School Program Visits
Career Exploration Class

Junior Acheivement Career Day Events

# CAREER EXPLORATI

"What the whole world wants is a good job. This is one of the most important discoveries that Gallup has ever made."

**Jim Clifton** 

"For students in middle school and high school, let's start having conversations about the many great opportunities in fulfilling and fruitful careers that exist in North Carolina, such as web developers, electric line workers, dental hygienists, and first responders. Not all great careers require a four-year degree."

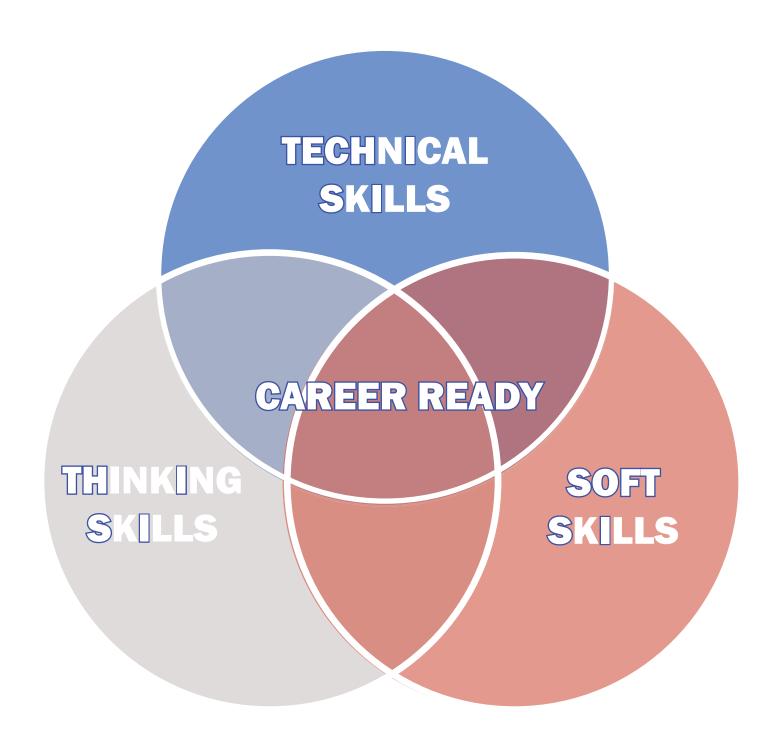
State Superintendent, Mark Johnson

The CTE Programs of Rockingham County Schools intend to provide career exploration and career development through a systematic framework designed to aid students in making informed plans and decisions about future education and career opportunities and programs of study. This goal would encompass activities that advance their knowledge of career opportunities and assist students in making informed decisions about future education and employment goals, including non-traditional fields. Career exploration begins at our elementary schools through career day events and junior achievement activities. Career exploration intensifies in middle school where middle school students participate in career exploration classes, participate in job shadowing opportunities, participate in CTE move-up days at our high schools, are presented with career academy opportunities and are introduced to the idea of an apprenticeship.

We identified two points within our career pathway system that we felt were critical to our mission of connecting student talents with a rewarding career. We identified the transition from middle school to high school as one critical point for our students, and the transition from high school to post-secondary education/ training as the other. As a result, we applied for and were granted the Catalyzing CTE Grant in 2017. We utilized the grant funding to hire a "Transitional" Career Development Coordinator" (TCDC). The TCDC conducts career presentations to all middle school students and assists them in the completion of an interest inventory and career profile. As the funding for the grant sunsets this summer, we intend to commit 013 funds to continue the TCDC position. Over the next few years we also hope to see Junior Achievement expanding into our middle schools as yet another avenue for career exploration. At the high school level, career exploration takes the form of RCS engaging RCC and our business community to conduct career expos and job shadowing opportunities as students begin to narrow their career focus. As depicted by the graphic on page 7, as our students move into high school and become more convinced of a career path, our CTE program begins to focus more on skill development and less on career exploration. Career exploration at high school takes the form of exposure to local businesses and industries via career expos, participation in field trips specific to a particular sector of our economy.



Students from the STEM Academy at McMichael High School introducing students at Western Rockingham Middle School to the opportunities available to them in STEM.



This fist section detailed our efforts to expose our students to the world around them and details our efforts to help them discover their individual talents and interest and how their talents can be utilized to support themselves by meeting a need within our community. The next three sections will be dedicated to detailing our efforts to help our students understand how the world works so they can use such knowledge to prepare themselves for the world that they will soon inherit. We have conceptualized our efforts in helping students understand how the world works in three categories: how the world works from a (1) technical skills standpoint, (2) a thinking skills standpoint and from a (3) soft/interpersonal skills standpoint that we believe are critical to their future economic success. As the graphic above depicts, we see the integration of these three capacities as overlapping to produce individuals who are truly ready for the unprecedented challenges and opportunities that they will encounter as adults.

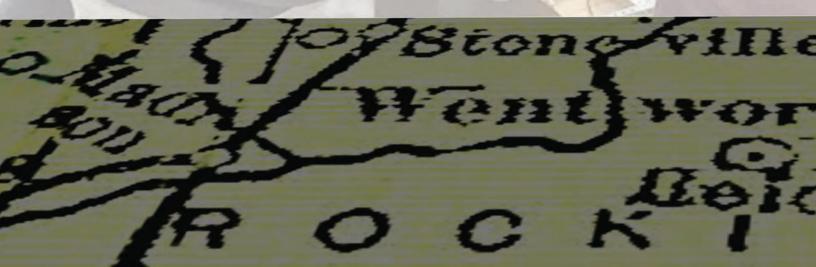


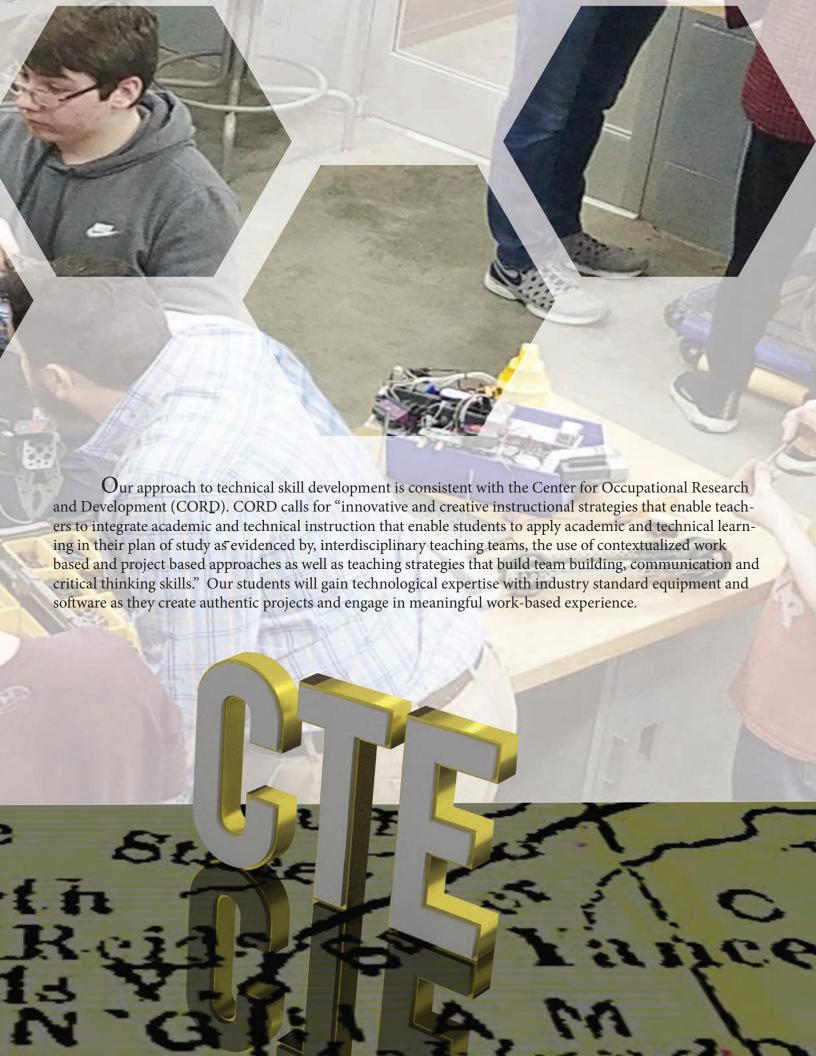
How can we help students develop their talents and help them understand how the WORLD WORKS FROM A TECHNICAL STANDPOINT?

than ever before."

George Couros

After determining student interest- we must help them develop it. This section will detail how our CTE programs intend to develop technical skill by helping students understand our the world works, economically, virtually, and physically.





Our economic progress as a community is dependent upon the contributions of all of our citizens. The CTE programs of RCS are intent upon removing barriers that prevent our young people from realizing all of the great opportunities for future training, education and employment that will afford them the opportunity to enrich their lives while making a meaningful contribution to their community. We seek to help them realize that many opportunities to obtain valuable technical skill exist in their own backyard. In particular, we view our community college as a catalyst that can substantially alter the economic trajectory of those who are willing and able to take advantages of its programs. And we view much of our CTE programs as preparation for the excellent opportunities that exist at RCC.

"Technology invites us to move from engaged to empowered. It provides opportunities to go deeper into our learning by giving us the ability to consume, and more importantly, to create."

Couros, 2015

One of RESET Rockingham's major priorities is to increase access to CTE opportunities at RCC. Several RCC classes will be taught on our high school campuses beginning in 2019. In addition, transportation will be provided for RHS and RCHS students to RCC for certain classes. We want to ensure that all willing students are able to take advantage of this opportunity. RCC, RCS received grant funding from the Reidsville Area Foundation that will be used to increase RCC staff on our campuses and will support the transportation of our students to the college. In addition, our Apprenticeship partners have committed to paying the text book expense of their participants. Also, one of our local hospitals, UNC Rockingham Medical Center, has committed \$7,000 to pay for the Anatomy and Physiology textbooks for our health science students who will be taking the class on the campus of Morehead High School in the spring of 2020.

Student attainment of industry recognized credentials is another avenue by which we seek to develop critical technical skill. RCS CTE programs are in the midst of emphasizing the attainment of industry recognized credentials as a measure of student technical achievement. We began the transition to this emphasis during the 2018-19 school year and anticipate seeing an increase in technical attainment at the conclusion of the 2018-19 School Year. In light of the newly adopted Perkins V legislation, CTE Staff will continue to pursue opportunities to award students industry recognized credentials as a measure of program success in lieu of post-assessment results.

We see the computer aided design as a promising avenue to engage students in the attainment of important technical skills. The addition of Adobe classes is relatively new to RCS, and the teachers who are teaching the content do not have a background in graphic design. The classes are also gaining in popularity within Rockingham County. The content of the classes and its appeal to the creative nature of many of our students will prove to be a motivating factor that will drive increased performance; but our teachers need to know how to best direct such motivation. As a result of these factors, we believe that supporting our teachers with resources that will assist them in teaching our Adobe classes might represent the greatest opportunity for positively impacting our overall Trade and Industry technical attainment. As with many other program areas, the ability of our students



Ms. Nina Walls and CDAA student retrieving a document from the large-format printer at Reidsville High School

to obtain industry recognized credentials will also play a role in positively impacting our technical attainment result. Adobe students at RHS have access to an industry standard large-format printer. Below a RHS Creative Design Academy student and Digital Media teacher, Ms. Nina Walls retrieve a document from the printer. We seek to help students obtain technical skill through authentic projects that allow them to utilize industry-standard equipment.. CTE funds will be used to purchase tools that support student ability to think analytically such as Vex Robotics equipment, diagnostic equipment for Health Science, Auto-Technology, Agriculture and EMT Classes.



The CTE staff hope to instill a growth mind-set as our students seek to improve technical skill. A growth mind-set is based on an atmosphere of continuous improvement. CTE staff will help students continuously improve their skill set by engaging them in project/problem based learning and by expecting them to develop the ability to think critically about their work, accept critical feedback and improve their product. CTE teachers will facilitate student presentation of work and guide students in the process of both defending their solutions/rationale and providing other students with critical feedback. Examples of presentations and critiques will be submitted to CTE Director and will be posted on the district's CTE website. We anticipate that an increase in student ability to think critically will increase their level of content understanding and will result in increased performance on their respective post-assessments.



Dr. Scott addresses 8th graders at Western Rockingham Middle School concerning their high school options.

Teachers will also be expected to help develop student ability to think creatively within the problem solving process. CTE funds will be used to provide a stipend for Intro to Design Teachers to meet over the summer to revise LCO course outline and suggest projects for the 2019-20 school year. CTE funds will also be used to purchase equipment, supplies and software that support project/problem based learning. An emphasis on creative thinking will lead to increased engagement on the part of students and will result in increased performance on their respective post-assessments. CTE funds will be used to purchase industry standard equipment and software which will afford our students the opportunity to gain technical skill through the production of authentic projects. We intend to situate these experiences within a context that builds the career skills of teamwork, effective communication and hard work that are also critical to the future economic and academic success of our students.

#### **Career Academies**

Up until this point we have outlined how CTE provides the tools, content and instruction that are relevant to today's job market and relevant to our students' talents and desire to make a meaningful contribution to their community. There exists another essential component to producing the type of young person that is ready to meet the challenges of the 21st Century. That essential component is the establishment of meaningful relationships. We are convinced that rigor follows relevant instruction and meaningful relationships. There are several ways in which CTE fosters strong relationships with our local community and numerous examples of how we invite our students to develop meaningful relationships among themselves, the school community and beyond. These opportunities include student led organizations, internships, and collaborative projects. However, the impact of content that is relevant to student interests and the development of meaningful relationships with students and staff that share such interest is most pronounced within our district's four career academies.



Dr. Shotwell chats with Sheriff Sam Page at the dedication of the new public safety facility at Rockingham County High.

Our Career Academies indeed represent the most compelling example of how "rigor follows relevant content and meaningful relationships." Each year our 8th grade students have an opportunity to apply to one of six high school academies. The creation and expansion of high school academies represent a major initiative in our effort to "ensure core integration, rigorous academic standards and strong industry experience." Rockingham County Schools has established a Public Safety Academy, a Health Science Academy, a Creative Design & Arts Academy and a STEM Academy. We are utilizing a "school within a school" model, where academy students are grouped together for applicable CTE classes and certain applicable non-CTE classes. While the first two years of each academy

include the same sequence of courses for all academy students; students gain the ability to individualize their remaining course sequence as they move into their junior and senior years. Each graduate from each academy will be a CTE completer. Each student will benefit from the collaboration of CTE teachers and core teachers as students gain insight into the relevance of core content as they apply such content knowledge in their CTE classes. Further all students within each academy will gain strong industry experience as a result of required internshiptype opportunities. The strength of each academy is that the participating young people not only engage in content that is relevant to their career aspirations but they are also grouped together with students who have similar interests and come under the supervision of instructors with the same interest. Such relationships extend beyond the walls of the school as students engage the local community in the production of authentic projects, internships, volunteerism, student led organizations and apprenticeships.



The Creative Design and Arts Academy at Reidsville High School seeks to prepare students for a wide array of design oriented fields. The academy will prepare students with the foundational visual design skills, design thinking, and computer aided design skills that will prepare them for careers in graphic design, apparel design, interior design, animation and game art design. The over arching goal of the academy is to develop creative problem solvers and entrepreneurs. All graduates of the academy will obtain industry recognized credentials in Adobe and will complete a CTE pathway.



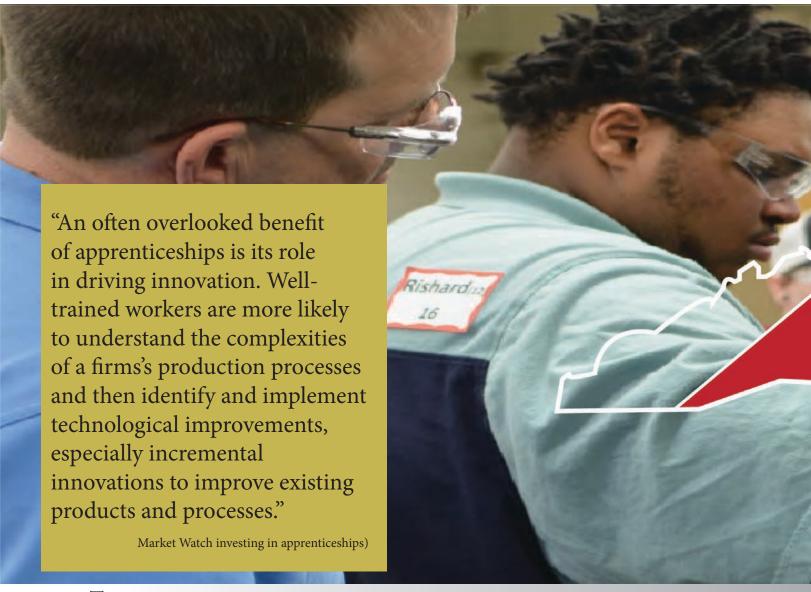
The Public Safety Academy at Rockingham County High School seeks to meet the need of our community for qualified individuals to serve as firefighters, emergency medical technicians, and law enforcement officers. All academy students will learn critical life saving skills as they work to obtain certifications in first aid, EMT and fire fighting. By the time that our public safety students graduate high school, they will have completed a CTE pathway and (with only a few more weeks of training) will be eligible for hire as a firefighter and/or EMT.



The Health Sciences Academy at Morehead High School seeks to meet the needs of a quickly expanding and evolving health care system. It is a program that recruits qualified and motivated students and prepares them for high wage and high skill health care careers. Along with the opportunity to take part in meaningful internships, and secure industry recognized credentials. Health Science Academy students will have the opportunity to take the college level Anatomy and Physiology class beginning in the spring of 2020.



The Phoenix STEM Academy at McMichael High School seeks to develop strong content knowledge in math and science along with the design thinking and technical skill that will prepare students for an array of STEM related fields. The STEM Academy seeks to create "engineers who think like artists and artists who think like engineers." In doing so, the Academy will produce the most in demand 21st Century skill- creative problem solving. Students who graduate from the STEM academy will have completed a CTE pathway.



The Rockingham Apprenticeship and Technical Opportunities Partnership (RockATOP) is the name given to the "work-based learning" arm of RESET Rockingham. RockATOP is concerned with establishing in-demand pathways that lead to a registered apprenticeship. Although internships abound in our CTE program, apprenticeship opportunities were non-existent until 2017. An apprenticeship opportunity constitutes a long-term experience that combines class work and (paid) on the job training; while an internship is short-term (usually one semester) and usually unpaid. RockATOP currently offers apprenticeships in advanced manufacturing. RockATOP is currently investigating the possibility of adding an apprenticeship in Information Technology (IT).

RockATOP was formed in 2013. The primary goal of RockATOP is to create a comprehensive career pathway system that can direct young people toward the excellent opportunities that exist for them in their own backyard. RockATOP is concerned with work-based experiences, with apprenticeship opportunities at its core. RockATOP continues to play an important role in the establishment of career pathways that lead to such work based experiences. RockATOP developed a pathway for students who might be interested in a career in advanced manufacturing during the 2014-15 school year. RockATOP completed work on a Nursing Pathway in May of 2016. This pathway includes a sequence of recommended classes that lead to internships and clinical experiences that prepare students for a two year associates degree from Rockingham Community College in Nursing (RN). Rockingham County Schools experienced a 300% increase in student enrollment in health science classes since the development of the pathway and the creation of the Health Science Academy at Morehead High School.

A total of 17 students were granted a RockATOP Apprenticeship opportunity in August of 2018. The students obtained positions in our manufacturing sector with five local companies: Machine Specialties, Pine Hall Brick, AMCOR, ABCO, Keystone and Smith-Carolina. Since that time four additional business partners joined RockATOP; they are Bridgestone Tires, Culp Industries, Henniges, and Loparex.



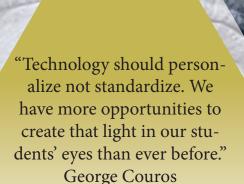
Extensive planning and collaboration between RCC, RCS, Rockingham County Economic Development and our business community was necessary to make this apprenticeship program a reality. RockATOP is led by our business partners with Ms. Nancy Tulloch Moore, Human Resource Director of Pine Hall Brick as its chair. Our TCDC, CIMC and CTE Director of Rockingham County Schools play a critical role in coordinating the efforts of the community college, RCS and our RockATOP business partners. A total of 19 students were selected for a pre-apprenticeship opportunity for the summer of 2019. We hope that each will become a registered apprentice in August. A signing ceremony for our new apprentices is set for August 13, 2019.

After discussions with several business leaders as well as community college staff, we have come to the conclusion that there exist great career opportunities for our young people that do not necessarily require an associates degree. As a result, RockATOP in conjunction with RESET Rockingham intends to investigate the prospects of working with the community college to offer relatively short term work-based learning opportunities for high school students to obtain community college credit during the school year that would lead to a paid internship in high demand sectors of our economy. The training associated with this effort would be of a shorter term than the associate's degree that is associated with a RockATOP apprenticeship.

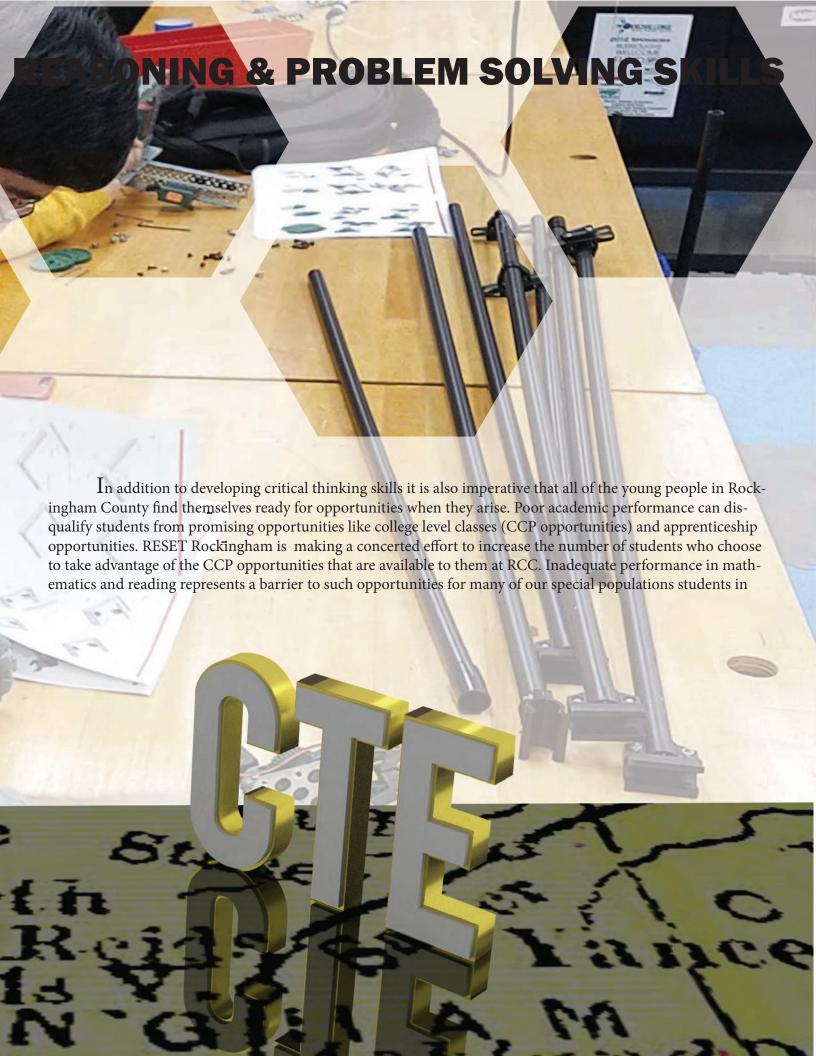
As will be detailed in the next section, we believe that it is our duty to not only provide students with the technical skill and work experiences necessary to take on jobs that are currently in demand, but it is also our duty to help our students develop ways of thinking that are transferable to any number of careers and transferable to other content areas. We believe that we have entered an "Innovation" era where the accumulation of content knowledge is no longer sufficient to secure success. Content knowledge must be combined with "ways of thinking" that allow students the ability to solve unforeseen problems and to seek economic opportunities. As a result, we believe that optimal technical attainment will be accomplished by developing the types of thinking skills that are going to allow our students to adjust to such a fluid and unpredictable future.



How can we help students obtain the knowledge, skills and ways of thinking that will allow them to adapt to such a rapidly changing economy?



We understand that disruptive technology can alter the economic landscape at a moments' notice and can render once promising careers obsolete virtually overnight. As a result, the CTE programs seek to provide students with the knowledge and skill necessary for immediate employment as well as the thinking skills and attitudes that will afford them the ability to adjust to such a rapidly changing economic landscape. This section will detail the thinking skills that the CTE programs of Rockingham County intend develop in our students that would act as an hedge in their lives against such disruptive technological advances.



particular. It will be a priority of CTE staff is to ensure that such academic performance not represent a barrier to career goals of special populations students. CTE staff will identify students who have demonstrated an interest in a career pathway (Particularly STEM, Advanced Manufacturing and Health Science) and will consult with regular Ed. Staff, exceptional childrens' staff and ESL staff to provide interventions that will place them in the necessary academic position to take advantage of CCP and apprenticeship opportunities during their 11th and 12th grade years. We found that the suggestions for reaching many of our special population groups i.e.: hands-on project, and graphic representation lie at the core of effective CTE instruction. We also believe that design thinking and creativity are higher order mental processes that can be emphasized in our CTE programs that would be transferrable to our students core subject areas.

## **Design Thinking and Creativity**

Our CTE programs' emphasis on design thinking and creative thinking is in reaction to the unprecedented advancement in technology and the impact that it will have on future jobs. This emphasis on creative problem solving also mirrors the type of thinking that will be expected of our students in our math classes in particular. The National Research Council (NRC) underscores the importance of students engaging in thinking that extends beyond the memorization math processes. According to the NRC it is an imperative in the 21st Century that students use their knowledge of math processes, in combination with their creative and reasoning skills to solve unfamiliar problems. This capacity to understand math beyond the simple memorization of process is critical to success in the 21st Century, because as the council asserts, "anyone whose mathematical skills are limited to computation has little to offer today's society that is not better done by an inexpensive machine" (NRC, 1989). While math and language arts integration were prescribed in Perkins IV, this realization of the importance of creative problem solving may have contributed to Perkins V opening the door for the integration of the Arts in CTE where applicable. We see this as an opportunity to broaden the appeal of CTE within our middle and high schools as we help students develop the capacity to think creatively.

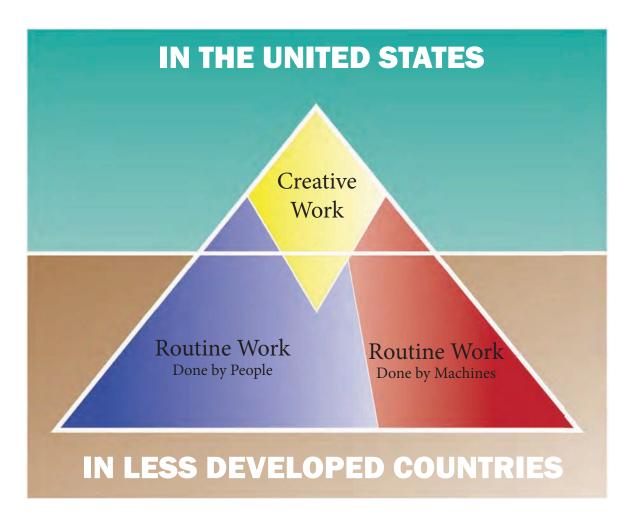
We see this move as consistent with the findings of the The New Commission on the Skills of the American Workforce developed a report entitled Tough choices or Tough Times which forecasts what the US economy would look like in ten years "if all goes well". The commission determined that "The best employers the world over will be looking for the most competent, most creative, and most innovative people on 'the face of the earth and will be willing to pay them top dollar for their services." Technology and improvement of life ushered in a move from "mass production" to "mass individualization" consumer will increasing desire products that are customized to their particular desire. So as "steam power" eclipsed "muscle power" in accomplishing routine

manual labor ushered in the industrial Age. Computer power is quickly eclipsing much of the routine mental work of individuals in the 21st Century. The jobs that remain will be those that require higher mental processes like creative problem solving, design thinking and entrepreneurial thinking; or manual labor that requires a level of physical dexterity or customer service that robots have yet to mimic, like welding, plumbing, HVAC and many sectors of health care. In short RCS is committed to providing all of its teachers with staff development opportunities that will yield an ever increasing capacity to engage all learners now, while providing them with the knowledge and skills which we believe will be most in demand in the 21st Century.



Actors posing in costumes designed and created by Ms. Gwen Nance's Apparel students after a performance at Rockingham County High School

# WHY DESIGN?



The graphic taken from the report on the right illustrates that the majority of the routine work available in the near future will be either done by machines or outsourced to less developed countries. This graphic illustrates that success in more developed countries will be dependent on capacities that cannot be completed by a machine or easily outsourced. Such capacity is increasingly becoming recognized as the capacity to create. Lorin Anderson and David Krathwohl echo the importance of this capacity as they placed "creating" at the panicle of their revision of Bloom's Taxonomy.

While lower level applications such as measurement and basic arithmetic can be reinforced in many of our program areas, we intend to impact the "math practices" identified by the NC Math standards, through the design process and computer aided design in particular. Similarly, concerning North Carolina English and Language Arts Standards we intend to not only support technical vocabulary development but also intend to develop student capacity for effectively communicating ideas as well as effectively critiquing the ideas of others.

"Whatever the mix of strategies employed, the end game is for students to internalize knowledge and develop creativity, problem-framing, and problem solving, so they face the challenges of the real world with confidence."

Hans Meeder, 2016

Creating

Evaluating

Analyzing

**Applying** 

Understanding

Remembering

The STEM Academy at Dalton McMichael High School has taken the lead in emphasizing design thinking and creative problem solving. All STEM Academy students are exposed to both very technical computer aided design as well as more creative CAD programs. STEM Academy students take an Introduction to Design class that was developed in Rockingham County with the expressed purpose of introducing students to the world of design while developing their capacity for creative thinking. Pictured on page 22, are a group of STEM Academy students engaged in such creative problem solving.

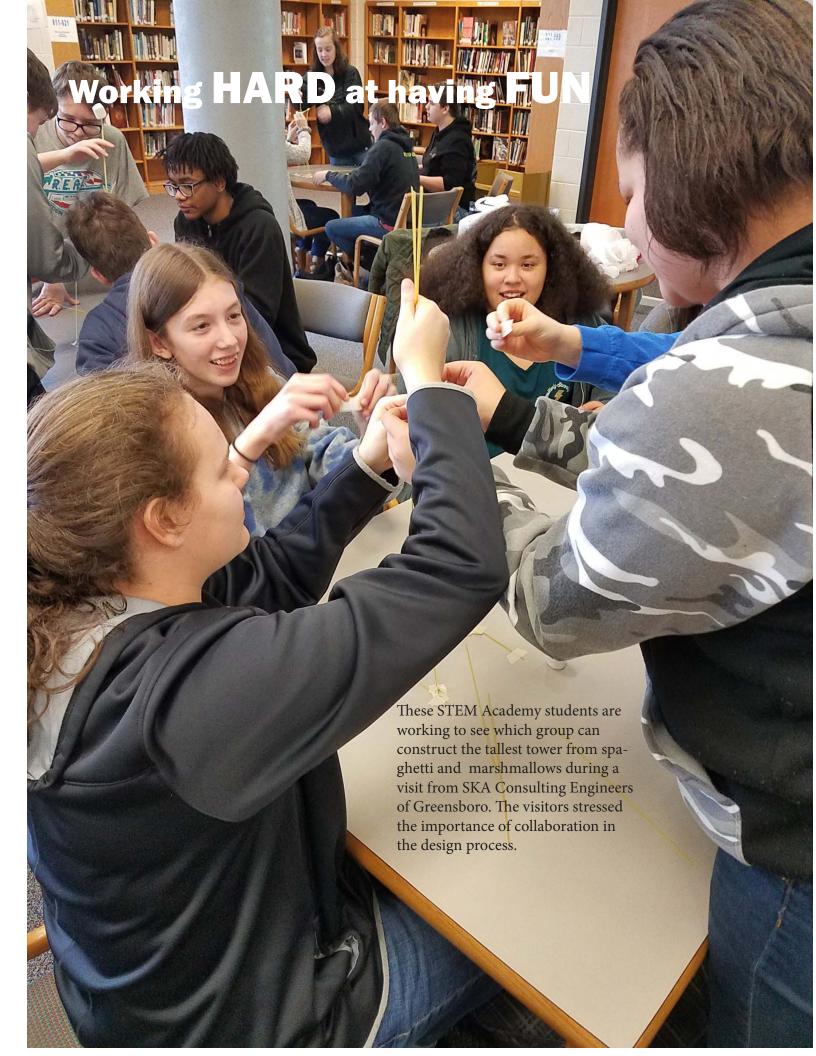
m The Creative Design and Arts Academy at Reidsville High School was initiated in August of 2018. The purpose of the academy is to engage students who are interested in the visual arts, introduce them to the world of computer aided design, and develop creative problem solving capacity in an effort to prepare them for all types of design oriented careers (animation, graphic design, interior design, apparel design and product design.) Reidsville High School is our most economically impacted high school. One of the schools' major challenges is to increase the percent of students who attain the status of "college and career ready." We believe that our approach to creative problem solving can help. We administered an interest inventory to the 7th grade students at Reidsville Middle School in May of 2019. The principal of Reidsville Middle, RHS CDC and CTE Director will identify those students who manifest some interest in design and who struggle with mathematics based on 6th grade EOG results. We intend to group these students together in their 8th grade math class. We believe that grouping students together that exhibit a propensity for visual learning may help them to perform better in mathematics while serving as a pipeline for our design academy. We intend to schedule those students in a math class where the math teacher will integrate design and mathematics. Many of these students will be tracked into a design oriented CTE pathway at high school. We understand that graphical representation of complex concepts and the assignment of hands-on project is an effective strategy for reaching our ESL students in particular. (Hernandez-Gantes & Blank, 2009).

Evidence of creative problem solving contained within student work will be consistently posted on our district's CTE website. Further, CTE staff will engage core curriculum teachers via CTE led workshops that demonstrate how many of the tools and content contained within CTE classes can help support the "ways of thinking" that core curriculum teachers are attempting to develop in their students. CTE staff will lead such workshops within the district over the next four years. CTE teachers are in a position to demonstrate how content understanding, analytical thinking, critical thinking and creative thinking are all necessary in the process of problem solving. Further, at the conclusion of the process students are provided with the opportunity to develop their communication skills by presenting and defending their solutions to their peers, teachers and/or community members.

The exponential advancement in technology has produced an overall improvement in world-wide GDP and quality of life which is ushering in a transition from an economy dominated by "mass production" to one that will be dominated by "mass individualization." As "steam power" eclipsed "muscle power" in accomplishing routine manual labor ushered in the Industrial Age. Computer power is quickly eclipsing much of the routine mental work of individuals in the 21st Century. The jobs that remain will be those that require higher mental processes like creative problem solving, design thinking and entrepreneurial thinking; or manual labor that requires a level of physical dexterity or customer service that robots have yet to mimic, like welding, plumbing, HVAC and many health care related careers. In short RCS is committed to providing all of its teachers with staff development opportunities that will yield an ever increasing capacity to engage all learners now, while providing them with the knowledge and skills which we believe will be most in demand in their future.

"If innovation is the primary driver of prosperity, then perhaps stagnant incomes imply that the problem is the rate at which new inventions and ideas are being generated, rather than the impact of technology on the working and middle class."

> Nobel Prize winning economist, Robert Solow



# **SOFT SKILL ATTAINMENT**

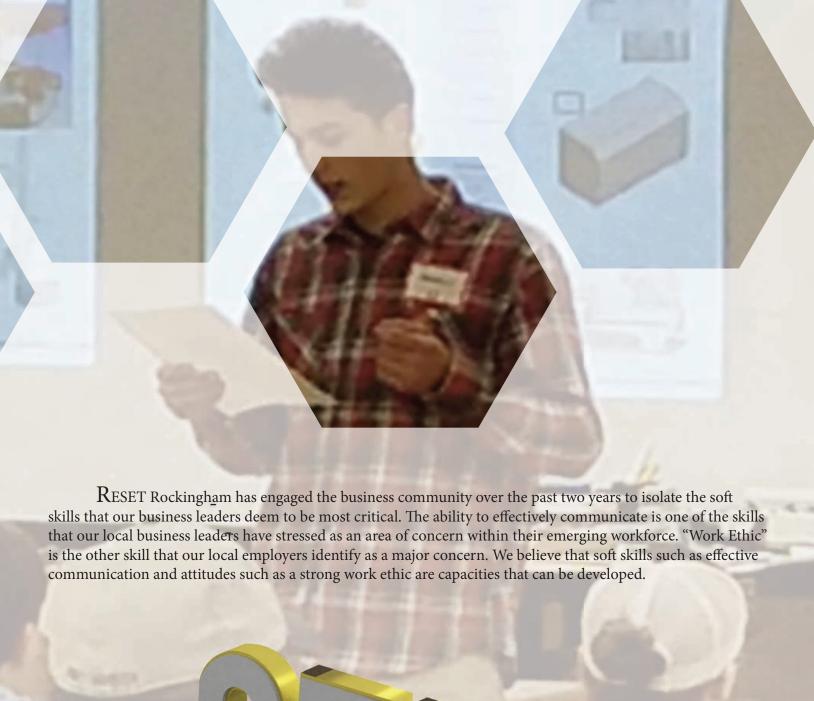
How can we help students understand how the World Works From A Soft Skills and Interpersonal Skill Standpoint?

"Consistency over the long-run is everything."

Angela Duckworth

All of the technical skills gained and thinking skills developed may be all for not if one does not posses critical soft skills. This section will detail how the CTE programs of RCS intend to help develop the interpersonal and attitudinal skills that will afford our students the ability to flourish in the job market.



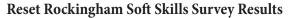


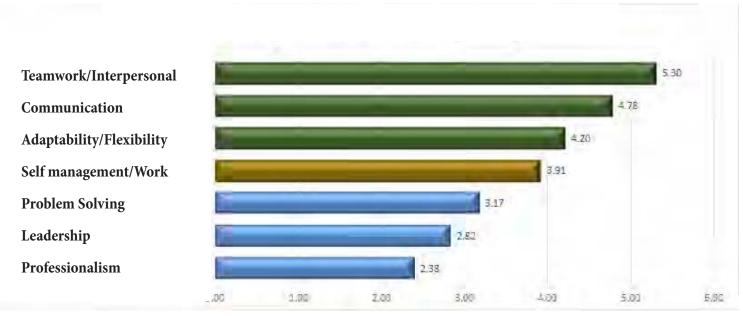


#### **Work Ethic**

The Reset Rockingham Soft Skills Work Group chose "work ethic" as the initial focus of attention. The choice was based on data gathered by RESET Rockingham which indicated "work ethic" as the number one concern of local employers surveyed. While the skill of communication actually produced an overall higher average rating, more employers rated "work ethic" as their number one concern over any other trait.

During the fall of 2018, Reset Rockingham plans sent an open-ended survey to RCS staff members, RCC staff members and our business community concerning work ethic. The survey informed recipients of RESET Rockingham's goal of making Rockingham County known across the state as a place where its citizens exhibit strong work ethic. A survey was sent to our business community organizations, community college staff and RCS staff. The survey asked the recipients to identify one or two things that can be done to make this goal a reality? The survey also invited recipients of the survey to a Work Ethic Panel discussion, and invited them to submit questions that they would like to ask RCS Staff, RCC staff, community leaders and local business leaders regarding the development of work ethic. The work ethic panel discussion took place on November 27, 2018. Pictured on page ---- are the members of our community that were asked to participate on the panel during the event on November 27th. The event was attended by business leaders, community college staff, RCS staff, two county commissioners and several RCS board of education members. RESET Rockingham hopes that the discussion will compel decision makers to consider how the policies and procedures that they enact impact the quality of our emerging workforce.







RESET Rockingham panel discussion participants during event on November 27, 2018

#### **Communication Skill**

Communication was the soft skill that ranked highest (on average). This ranking by our business leaders as well as our duty to impact student achievement in language arts, prompts us to implement strategies that will develop student ability to effectively communicate. As mention in the section on "Thinking Skills' CTE Teachers will utilize the design process as a means of helping students transition ideas from their heads and into the real world. An integral part of this process is to help students establish the communication skill necessary to effectively defend their solutions to problems as well as the skill necessary to thoughtfully critique the work of classmates. Such an emphasis should also improve student performance on language arts assessments as the ability to defend and to articulate a particular position remains a consistent theme in the ELA NC State Standards. CTE Teachers will be expected to provide students with opportunities to present their projects to their peers. This strategy is aligned with the ELA NC Standard which expects students to "integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words" (NC ELA Anchor Standard R.7) The strategy is also aligned to the ELA standard that calls for students to "prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on other's ideas and expressing their own ideas clearly and persuasively" (NC ELA Anchor Standard SL.1).

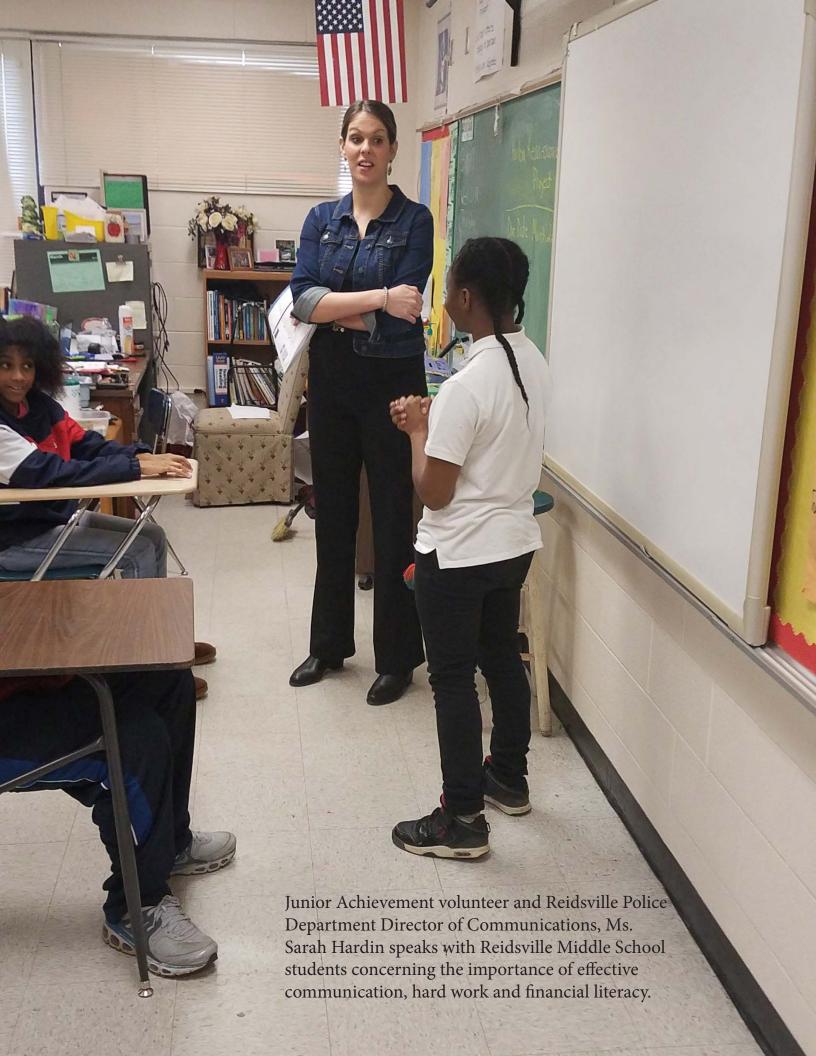
"The fate of a nation rides on the financial literacy and entrepreneurial energy for its kid."

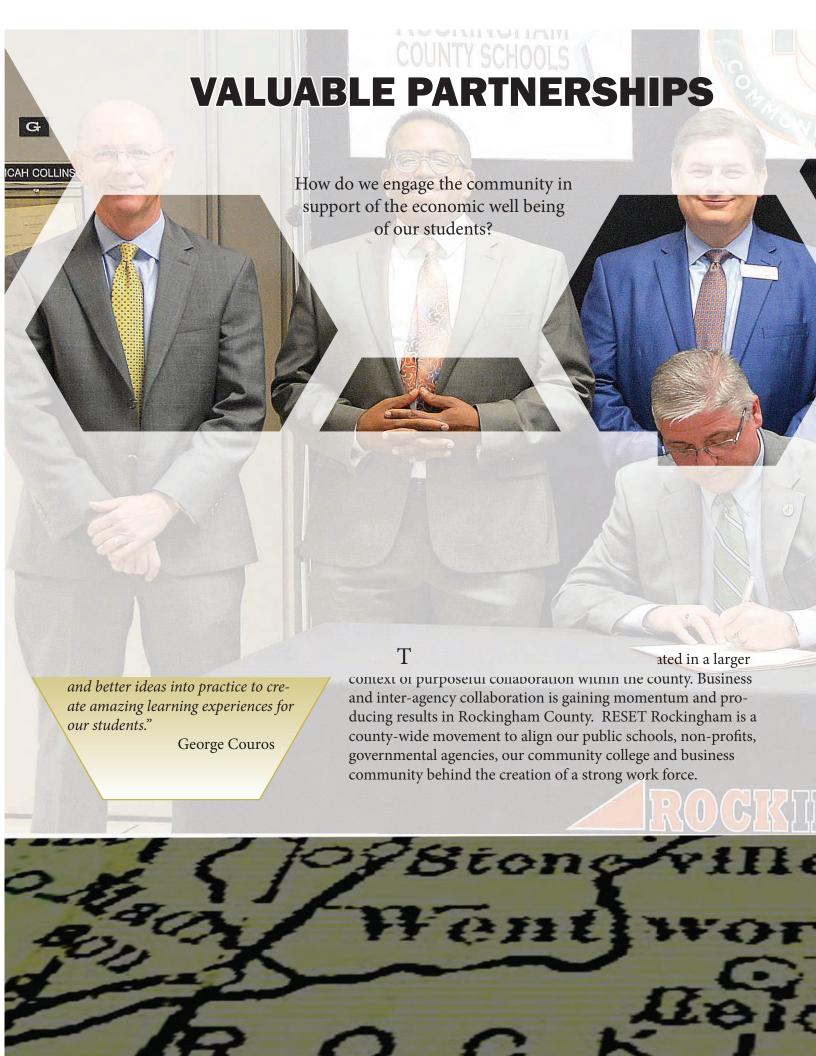
Jim Clifton

### Financial Literacy & Entrepreneurship

As Jim Clifton (author of The Coming Jobs War ) asserts in the quote above, it will be absolutely critical for K-12 education to help our students become financially literate. Junior Achievement believes that this education has to start early. Junior Achievement of the Triad is dedicated to inspiring and preparing young people to succeed in a global economy. Specifically, the organization provides K-12 programs which help students: 1)learn about and manage money; 2) explore careers and develop soft skills; 3) start a business. Two years ago, Junior Achievement and Rockingham County Schools developed a strategic plan for the implementation of Junior Achievement programs with the goal of deepening the organization's community impact. The organization is utilizing a successive program delivery approach which allows it to systematically expand grade by grade, year by year and school site by school site. This approach allows students to have Junior Achievement for multiple years in a row bolstering their academic experiences and ensuring they are ready for their futures. One hundred percent of Junior Achievement's programs are delivered by community volunteers. This is not by mistake, volunteers are the secret sauce and lifeblood of Junior Achievement. Volunteers come from a variety of industries and walks of life to show our students by example there are many pathways to success; to show our students that the community-people outside of their parents and teachers are there to support them and help them be successful. The effort over the past two years was galvanized by Steve Scott, owner of Tri-State Steel. During that time, Junior Achievement has established programs in all four attendance zones. Rockingham County Schools is fortunate to have great business partners like, Elite Performance Chiropractic, Tri-State Steel, the City of Reidsville, The Eden Police Department, Proliant, Home Trust Bank, Ruger, First National Bank, Gildan, WGSR TV, Woodforest National Bank, Henniges Automotive, and Edward Jones. In short, everyone benefits when we have a generation of young people who understand the value of work and who are financially literate.

As an economic imperative, our young people have to become self directed and motivated life long learners. The incessant march of technology will increasingly render certain technical skills irrelevant. This economic climate makes the development of an entrepreneurial spirit within our young people all the more relevant. The ever increasing capacity for technology to render jobs irrelevant points to an imperative that many of our students' ability to earn a living will be dependent on their ability to find a niche in the emerging economy. In the words of Hans Meeder, students need to "discover their talents, find out what the world needs, and find a way to apply their strengths to meet the need." In the 21st Century, job security will increasingly rely on one's ability to learn and adapt quickly; it will rely on one's agency, entrepreneurial spirit and willingness to "work" toward the continuous improvement of his/her knowledge base and skill set. The CTE programs of Rockingham County Schools intend to expand entrepreneurship course offerings over the coming years and intend to continue to work with partners such as the State Employees' Credit Union and Junior Achievement to provide financial literacy opportunities.







RESET Rockingham settled on work ethic, communication, and ---- as our initial points of emphasis. The Technical Skills work group is intent upon identifying the technical skills that are most in demand within our community and developing course sequences and experiences to meet the demand. The technical skills work group has been working toward bringing college-level classes to our high school campuses.



# RESET

# Rockingham

# **INSPIRED WORKFORCE SOLUTIONS**



College level advanced manufacturing classes will be held on the campus of RHS beginning in the spring of 2020. College level Anatomy and Physiology will be taught on the campus of Morehead High School and a Web Page Design class to be held on the campus of Dalton McMichael High School. RockATOP is the workforce development arm of RESET Rockingham. The basic skills work group will be concerned with working to ensure that academic success does not present a barrier for our students' career aspirations. And the communication/ evaluation work group seeks to coordinate the efforts of the other work groups and to promote CTE within the county. Reset Rockingham has taken on the role of CTE Business Advisory Council. Reset Rockingham's Steering Committee meets quarterly; with monthly management team meetings. Reset Rockingham's mission is "to create a work force that is the envy of the state." Pictured above is Dr. Mark Kinlaw, President of RCC and Chair RESET Rockingham discussing progress toward RESET goals with the RESET Rockingham Steering Committee.

# RESET Rockingham

Overview



# Mobilizing for Change

Improving our quality of life involves local people working together to RESET our culture and transform the conditions and outcomes that matter to Rockingham County.



# Building a Workforce Pipeline in Rockingham County

# Vision

- Create a workforce that is the envy of the state
- Develop career opportunities for all
- Provide a reason for businesses to come to Rockingham County
- Provide a reason for our youth to remain in Rockingham County

# **Steering Committee**

Dr. Mark Kinlaw
Dr. Rodney Shotwell
Jan Critz
Debbie Tuggle
Caroline Brigmon
Wendy Walker-Fox
John Deline
Nancy Tulloch
Roy Gibson

Facilitation & Strategic Planning

Rural Forward NC

# Workgroup Leads

Soft Skills Sharon Galloway

Basic Skills Mason Porter

Technical Skills Dr. Kenny Scott

Work based Experience
Laura Coffee

Workforce Placement Shawn Gorman

Communication/Evaluation

Dawn Charaba



# **Inspired Workforce Solutions**

Visit our website at <a href="http://www.gorockinghamcountync.com/workforce/resetrockingham/">http://www.gorockinghamcountync.com/workforce/resetrockingham/</a> or our Facebook page.

The remainder of this section detail additional efforts within our community to work together behind work force development. Further support for granting students with greater access to RCC classes will be realized as a result of collaboration between RCC and RCS. The institutions were successful in receiving grant funding from the Reidsville Area Foundation that will provide transportation for RCHS and RHS 11th and 12th grade students to the campus of RCC to enroll in Early Childhood, Criminal Justice, and Web Technology classes. RCC has modified its schedule for these classes in order to align with the RCS calendar.

The Reidsville community has become increasingly invested in the career and technical education programs at Reidsville High School and Rockingham County High School. The Chamber of Commerce hosts a Business Showcase each fall. The chamber invites 11th and 12th grade students from Reidsville High School and Rockingham County High School to participate. The students are afforded to the opportunity to interact with local business leaders and hear about the career opportunities available in their community. Staff from RCC are also present at the event to help students understand the post-secondary education and training that is required for such career opportunities.

RCS, RCC the town of Reidsville and local business partners have provided an externship experience for RCS teachers. The groups believed it important for RCS staff to become acquainted with the excellent opportunities that exist for our young people in advanced manufacturing within our county. Each participant will have the opportunity to tour local plants and will learn more about what RCC has to offer students in way of preparing them to assume such careers.

As noted earlier, the town of Reidsville along with the Reidsville Industrial Alliance were instrumental in securing the Golden Leaf Grant to fund a machining lab on the campus of RHS. The benefits of placing a machining lab at RHS are threefold. Number one: RHS has by far the fewest number of students who take advantage of CTE classes at RCC both during high school and immediately afterwards. Number two: placing a machining lab on the campus of RHS will raise the visibility of advanced manufacturing- affording students with an opportunity to gain a better understanding of this critical sector of our economy, along with an appreciation of the tremendous opportunities that such a career path can afford. Finally, RHS students who complete the certificate program would see themselves as vested in a promising career path and would therefore be more likely to continue their education and training beyond high school. The existence of a newly proposed state of the art advanced manufacturing lab on the campus of RCC in addition to the foundational machining lab at RHS would all but insure many of our students' interest in continuing their education in advanced manufacturing at RCC. We can reignite our students' interest in making things (manufacturing) if they are provided with excellent facilities and the right opportunities.

The State Employees Credit Union has also partnered with RCS to bring the Reality of Money simulation to each of our high schools during the 2018-19 School Year. The Reality of Money simulation affords students the opportunity to take a peak into the reality of the expenses that they will incur as adults and the impact that poor credit card debt and life style expenses can have on a prescribed budget. According to the Carolina Credit League, learning outcomes for the simulation include: Students learn the value of "living below your means;" the value of maintaining a good credit score; education can be a key driver of financial success; learning how to budget helps build financial success and that life choices matter.

RockATOP also participates in a four-county consortium of apprenticeship partners. RockATOP collaborates with Alamance County, Randolph County and Guilford County to support each others apprenticeship efforts. Each county partnership is responsible for hosting a best practices workshop each year. The collaboration has been instrumental in the development of RockATOP. The four county partners came to be known as the Eastern Triad Workforce Initiative (ETWI). ETWI secured 3.2 million dollars in funding from the state of North Carolina to promote apprenticeships within the region and to provide personnel to support our efforts. ETWI is currently seeking funding for the 2019-20 School Year.

Support for our efforts continue to grow within our community. Junior Achievement continues to expand within our schools. UNC Rockingham Health Care committed 7,000 for the purchase of Anatomy and Physiology books for our health science students. The Western Rockingham Rotary Club donated \$500 to support RESET Rockingham's efforts. We also enjoy extensive support from the Rockingham Education Foundation and the Reidsville Area Foundation.

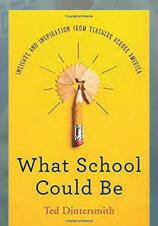
# Re-imagine Education with us on June 11, 2019

RESET Rockingham in conjunction with the Eastern Triad Workforce Initiative is sponsoring an opportunity for the public to take a glimpse into what education could be for our young people.

You will learn about the exciting programs already available to our young people. You will also learn about the wonderful opportunities that are planned for our students in the near future.

You will be invited to view the award winning documentary "Most Likely to Succeed." The film paints a very compelling and encouraging picture of the future of education. The film will compel you to imagine what education could be for all children given the incredible advances in technology and the boundless access to information that has taken place over the past few decades.





Join us on the campus of Rockingham County High School Register for the event at http://rockatop.org/RESETevent.html Film trailer found here: https://teddintersmith.com/mltsfilm/

1:00 p.m. State of CTE Discussion

2:00 p.m. See what our students are up to in CTE

2:40 p.m. Most Likely to Succeed Film

The first 25 people to register will recieve a copy of Ted Dintershiths' enlightening book "What School Could Be."







# **Super CTE Staff**

## McMichael High School Phoenix

Holland - Career Development Windie Freeman - Business Michelle Byers - Marketing

John Butler - Technology, Engineering & Design

Jennifer Flynt - Family & Consumer Science

Maggie Jones - Health Science Chris Higgs - Business

Shannon Terrell - Adobe Design Donna Holder - Health Science

Matt Hill - Drafting Mo Bell - Agriculture

# Western Rockingham Middle School

Carolyn Bayliss - Business James Jones - Business



## **Morehead High School Panthers**

Sheila Thompson - Digital Media

Max Dooley - Tech, Engineering & Design

Leesa Dabbs - Health Science

Allyson Edwards - Health Science

Blair Pruitt - Auto Technology

Marsha Roark - Business

Erika Bozeman - Marketing

Wenger - Family & Consumer Science

Norfolk - Family & Consumer Science

Jean Manuel - Health Science

Diane Thomas - Business

Christy Henlsey - Career Development

#### **Holmes Middle School**

Marsha Roark - Business/ Computer Science

John Brown - Business/ Computer Science

Tim Carter - Business/ Computer Science

#### **Reidsville High School Rams**

Collette Broadnax - FACS
Greg Corbett - Adobe Design
Yolanda Stubblefield - Career Development
Vivian Moore - Health Science
Nina Walls - Adobe Design
Rosalina Webster - Public Safety
Martha King - Business
Katyln Knable - Business

#### Reidsville Middle School

Chuck Jones - Business Jean Stone - Business



# CTE Support Staff

Ken Scott - CTE Director
Beth Smith - CIMC
Lydia Craddock - Transition Career Coordinator
Lori Hancock - Administrative Assistant
Gary Cassidy - Technology Specialist
Brea Pass - RockATOP Assistant



CIMC, Beth Smith with CTE Administrative Assistant Lori Hancock

## **Rockingham County High School Cougars**

Gwen Lance - Family & Consumer Science
Rick Bacuiska - Marketing
Tim Buck - Business/ Adobe
Sharon Jones - Agriculture
Robert Craddock - Drafting
Jim Carroll - Career Development
Derrick Shelton - Auto Technology
Freda Strickland - Family & Consumer Science
Nedine Rowe - Health Science
Teresa Harris - Health Science
Betty Jean Cardell - EMT
Josh Evans - Fire Fighter Tech.

## **Rockingham County Middle School**

Jackie Whicker - Family & Consumer Science Jerry Robertson - Business Tim Carter - Business



Reidsville Middle School business Teacher, Jean Stone



TCDC, Lydia Craddock and RockATOP Assistant Bria Pass

#### Perkins V - Uses of Funds

- 1. Provide career exploration and career development through a systematic framework designed to aid students, including the middle grades, before enrolling and while participating in a career and technical education program, in making informed plans and decisions about future education and career opportunities and programs of study.
- 2. Provide professional development for teachers, faculty, school leaders, administrators, specialized instructional support personnel, career guidance and academic counselors, or paraprofessionals.
- 3. Provide within career and technical education the skills necessary to pursue careers in high-skill, high-wage, or in-demand industry sectors or occupations;
- 4. Support integration of academic skills into career and technical education programs and programs of study;
- 5. Plan and carry out elements that support implementation of CTE programs and programs of study that result in increasing student achievement of the local levels of performance, which may include –
- 6. Develop and implement evaluations of the activities funded by Perkins V, including evaluations to complete the local comprehensive needs assessment.



STEM students compete in CO2 car race during a State of STEM event at McMichael High School on May 23, 2019



# **CTE Super Teacher Tips**

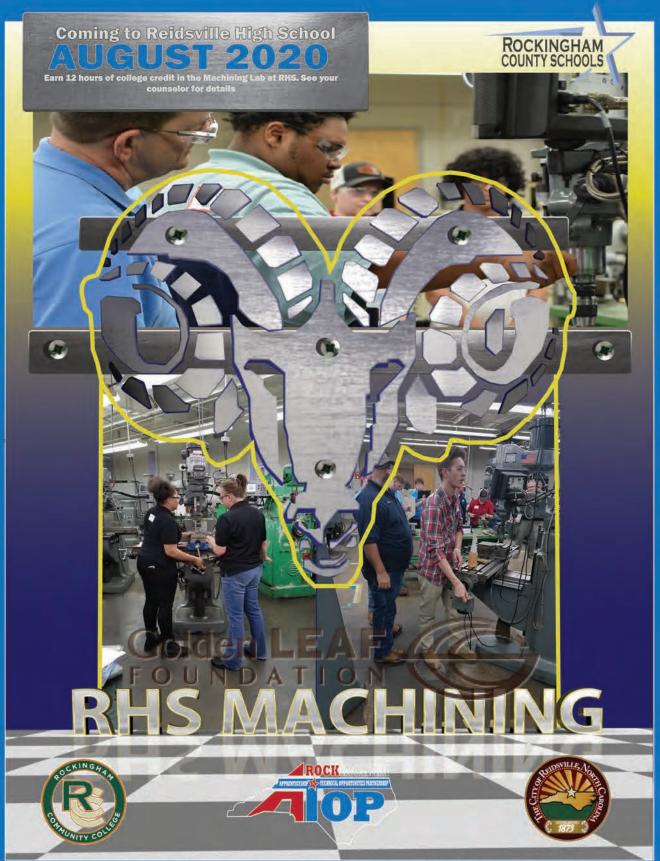
- 1. Be clear about what students are to learn; explain why it is important to know (Marzano, Sinek).
- 2. Be a connector; connect students with future classes, experiences and influential people (NACTE).

- 3. Engage students in authentic projects (Meeder).
- 4. Utilize non-linguistic representations of content (Marzano, ELL).
- 5. Provide timely feedback on student progress (Marzano).
- 6. Build on student strengths, interests and prior knowledge (Marzano).

10. Expect sustained and purposeful ef-

fort (NRC, Marzano)





Miranda Dalton Golden Leaf Foundation Marilyn Chism Golden Leaf Foundation Jay Donecker Reidsville Mayor Preston Mitchell City Manager Mark Kinlaw RCC President Kris Brooks Dept. Chair, RCC Jennifer Lester CTE Director, RCC Steve Scott Reidsville Industrial Alliance Lydia Craddock RockATOP Laura Coffee Workdorce Dev., RCC Rodney Shotwell Superintendent, RCS Ann Mitchell RHS Principal Yolanda Stubblefield RHS CDC Beth Smith CIMC, RCS Ken Scott CTE Director, RCS

This opportunity was made possible by the collaborative efforts of the City of Reidsville, Rockingham Community College, The Reidsvill industrial Alliance, Rockingham County Schools and the generosity of the Golden Leaf Foundation. Eleventh and twelfth grade students whave the opportunity to gain 12 Journs of college credit in a new machining lab on the campus of Reidsville High School. The course credit we place participants in a good position to continue advantance at RCC, he accepted as a RockATOP Apprentice, and immediate employment.



Allow us to help you discover your talents and connect them with a rewarding career. See your career coordinator for more information

# RIGOR = RELEVANCE + RELATIONSHIPS

