

# Rockingham County Schools CTE Expansion Grant Application

Date: August 1, 2018

Primary Contact: Ken Scott, Director of CTE

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Local School Adm. Unit: Rockingham County Schools

Address: 511 Harrington Hwy. Eden, NC 27288

State Board Region: 5

Average Daily Membership: 11,700

CTE High School Enrollment: 4,915 (Duplicated)

CTE Middle School Enrollment: 2477 (Duplicated)



<b>Contents</b>	<b>Page(s)</b>
<b>1. Cover Sheet (Provided)</b>	<b>Page Cover</b>
<b>2. Description of Career and Technical Education in the local school administrative unit: Up to 10 Points</b>	<b>Pages 2 through 4</b>
<b>3. Plan for Expansion of the CTE Program to 6<sup>th</sup> and 7<sup>th</sup> grade students: Up to 35 Points</b>	<b>Pages 5 through 8</b>
<ul style="list-style-type: none"> <li>a. Identify and describe the specific programs that will be expanded and their alignment to career pathways.</li> <li>b. Describe demonstrated evidence of the significance of CTE in the local school administrative unit.</li> <li>c. Describe how a grade expansion would enhance the education program and the community including existing or planned partnerships with postsecondary education and business/industry partners.</li> </ul>	
<b>4. Request for the Amount of Funds: Up to 20 Points</b>	<b>Pages 2 through 5</b>
<ul style="list-style-type: none"> <li>a. Describe how the funds will be used.</li> <li>b. Describe any other sources of available funds to accomplish the purpose of the expansion program.</li> </ul>	
<b>5. Program Outcome Analysis: Up to 20 Points</b>	<b>Pages 5 through 8</b>
<ul style="list-style-type: none"> <li>a. Describe strategies to achieve meaningful analysis of program outcomes.</li> <li>b. Describe the tools to be used to collect and analyze program outcome data.</li> <li>c. Describe how data will be analyzed and how analyses will influence program adjustments.</li> </ul>	
<b>6. Proposed Budget (Template Provided): Up to 15 Points</b>	<b>Page 9 through 10</b>
<ul style="list-style-type: none"> <li>a. Describe how funds will be used to add personnel.</li> <li>b. Describe how funds will be used to increase career development efforts.</li> <li>c. Describe how the fund will be used to provide support services.</li> </ul>	
<b>7. Action Plan (Template Provided)</b>	<b>Page 11</b>
<b>8. Assurance Page (Provided) Charts Letters of Support</b>	Appendix

**DESCRIPTION OF C G A C A D REQUEST FOR FUNDS**

The Middle School years have been termed “the last, best chance” for struggling young people. This is why Rockingham County Schools (RCS) is excited about the North Carolina Education and Workforce and Innovation Committee’s intent to influence our young people through Career and Technical Education (CTE) programming in middle school. RCS believes that our CTE program represents an excellent opportunity to provide career direction for all of our middle grade students, as well as an opportunity to alter the life trajectory of many of our most disengaged students. This grant opportunity will allow us to impact them before they begin the progression of missing out on the excellent opportunities that are available to them within our high school programs, apprenticeship program and at our community college.

The most viable career pathways within Rockingham County are within the health care and manufacturing sectors. RCS is already making progress toward developing a pipeline of health care workers. We have increased the number of students enrolled in a health science class by 285% over the past four years. We have not been nearly as successful in steering students toward advanced manufacturing related classes. Further, interest inventory data from RCS indicate an almost non-existent interest in advanced manufacturing (Appendix Chart A). RMS has an enrollment of approximately 550 students. RMS feeds into Reidsville High School (RHS). No engineering, computer science courses are offered at either RMS or RHS. RMS was also the middle school whose students indicated the least amount of interest in a career in manufacturing. This interest gap has serious implications. RHS students enroll in fewer STEM related CTE classes and fewer CCP classes than any of our other (3) high schools. We intend to utilize the grant funds to extend our CTE program at Reidsville Middle School to develop a pipeline of students who choose to pursue a career pathway in advanced manufacturing. We believe that we

can develop a set of circumstances through the grant funding that will help RMS students become more aware of their unique set of interests and talents; help them recognize how their interests and talents are relevant to STEM related careers; and can begin to build an instructional program that will develop STEM related skills. In order to accomplish this, we will utilize the grant funding to hire a person who will both teach 6<sup>th</sup> and 7<sup>th</sup> grade students TED and computer science classes and provide the students with career guidance. We anticipate that this effort will produce the momentum necessary to justify the subsequent hire of a TED, Drafting and/or Computer Science teacher at RHS- and will produce many more RHS students who are interested in and are eligible for CCP classes as well as acceptance as an apprentice.

This grant opportunity has come at a pivotal time in Rockingham County. A wave of interest in preparing a skilled work force particularly within the advanced manufacturing sector is sweeping the county. The most notable examples are:

- The formation of Reset Rockingham. Reset Rockingham is a grass roots movement of community college leaders, Public School leaders, business leaders, economic development, non-profits and NC works leaders who have assembled with the express purpose of developing a workforce within Rockingham County that is the “envy of the state.”
- The passage of quarter cent sales tax referendum. The citizens of Rockingham registered their support of work force development (particularly in the area of advanced manufacturing) with the passage of a quarter cent sales tax referendum that will be used to construct a state of the art Advanced Manufacturing Lab on the campus of Rockingham Community College (RCC).
- The establishment of the Rockingham Apprenticeship and Technical Opportunities Partnership. (RockATOP) is currently directing its first cohort of pre-apprentices this summer. RockATOP anticipates that as many as 15 students will become registered apprentices in August of 2018. All of this first cohort will be apprenticing in the manufacturing sector of our local economy.
- Golden Leaf Grant Application. The City of Reidsville, RCC and RCS are currently collaborating on a Golden Leaf Grant Proposal that will establish a machining lab on the campus of Reidsville High School. The lab will allow RHS students the ability to enroll in several classes in RCC’s machining program.

- GEARUP Grant Application. The CTE program in collaboration with the student services division has submitted a 6-year GEARUP Application. The grant application was written with the expressed purpose of supporting Career pathways and apprenticeships specifically in the area of STEM and advanced manufacturing.
- The Eastern Triad Workforce Initiative (ETWI) formed. Rockingham County Economic, RCC, RCS, Rockingham County Workforce Development collaborated with three other counties to secure state funding that will be utilized across the region to promote apprenticeships.

All of these stakeholders recognize that the success of each effort is dependent upon the existence of a pipeline students who are interested and ready to take advantage of these excellent opportunities. A consensus has formed among these stakeholders that such a pipeline has to begin at middle school. The grant funds will be used to develop and sustain a pipeline of young people who are interested in a career in advanced manufacturing related career.

Even though we intend to specifically impact the number of students who enter an advanced manufacturing pathway, we also recognize the impact that our TED teacher/coach might have in encouraging students to pursue a wide range of STEM related careers, such as engineering, product design, computer aided design, etc. According to the STAR report, overwhelmingly the types of careers that are most highly rated require skill sets that are considered STEM related. A total of 28 of the 40 Star Jobs designated by the NC Department of Commerce in the Greensboro Region are STEM related, with 14 related to advanced manufacturing, computer and technology related fields and 12 careers related to Health Care. According to the National Science Foundation “technical STEM jobs are often among the best paying jobs available to individuals with a sub-bachelor’s degree. In 2011, the median income among workers 25 and older without a bachelor’s degree employed in STEM occupations was twice as high as the median annual earnings among comparable workers employed in other occupations.” (NSF, 2014 p. 7)

## **PLAN FOR EXPANSION AND OUTCOME ANALYSIS**

Our approach in developing a sustained pipeline of students entering advanced manufacturing can be surmised by our effort to confront two fundamental challenges. First, many of our students do not recognize excellent opportunities when they are presented to them (information gap). And second, many of our students are not (either technically or academically) ready to take advantage of excellent opportunities when they present themselves (skills gap). Our desired outcomes are as follows:

1. Increase the number of students who enroll in a drafting, computer science, TED, Robotics or Machining class at RHS from 0 to 150 students (duplicated) by 2024.
2. Increase the number of students who take advantage of CTE CCP classes from four students in 2018 to 25 by 2024.
3. Increase the number of RHS students who are accepted as RockATOP pre-apprentice from two students in 2018 to eight students by 2024.

The following section of this grant application will detail how we intend to utilize this STEM teacher/coach to help the students at RMS overcome the two challenges sited here.

### **Challenge #1: Confronting the Information Gap.**

Many of our students fail to recognize promising opportunities. Sheila Boyington attributes much of the skills gap that persists in technical and trade industries to an “information gap.” Writing in the March 2018 issue of Techniques, Boyington asserts that “evidence indicates that the impetus of the skills gap originates early in a student’s educational career, when attitudes about future pathways are formed. Unfortunately, many students have inadequate information about the career choices open to them, and as a result cannot make the decisions that might lead to science, technology, engineering and mathematics careers.” (ACTE, 2018) We recognize the

existence of this information gap within our community. It will be imperative that we expose our students to all of the excellent opportunities and diverse career paths that are available to them. This process begins with helping students to find their “vocation.” The word vocation has fallen out of favor over the past few decades; but the term is most appropriate when one considers that the root “voca” means “calling.” It is imperative that we help students discover their “voca” as early in their education career as possible so that they can embark upon an educational journey that is relevant to them and is responsive to the workforce needs of our region so that they can eventually turn their “voca” into a vocation. It is the intent of this grant to insure that a healthy percentage of those students choose a vocation in advanced manufacturing.

We intend to focus on advanced manufacturing because interest in advanced manufacturing among RCS students does not come close to meeting the need of our local economy. The manufacturing sector along with the health science sector make up almost equal parts of more than a third of the jobs available within our county (Graph B). We are pleased by the level of interest in health care exhibited by our middle grades students and encouraged by the incredible growth in enrollment (285% growth since 2013-14) in our district’s health science classes. We believe that we are well on our way to meeting the workforce demand within the health care sector. However, interest in advanced manufacturing pathways were not nearly as encouraging. The survey indicated that only four percent of our students were interested in a career in advanced manufacturing (Appendix Chart A). 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 (Appendix Chart B). We attribute this limited interest to a lack of understanding of advanced manufacturing and the opportunities that are available within the sector.

## **Challenge #2: Confronting the Skills Gap.**

RCC and RCS leadership have committed to working to increase the enrollment of RCS students in CTE oriented CCP classes. Unfortunately, we are finding that many of our students are not prepared with the requisite academic skills that would allow them the opportunity to take advantage of CCP classes. We also are faced with the reality of discounting students who are interested in an apprenticeship as a result of their failure to meet the academic requirements. This factor is particularly impactful in Reidsville, where 30.8% of students are college ready. This means that even though a student may have found his/her “voca” or calling, he/she may not be ready to take advantage of the opportunity.

The unavailability of critical STEM related technical classes constitutes a barrier for the establishment of a viable pipeline. The lack of interest in advanced manufacturing and STEM related classes have resulted in failing enrollment in Drafting and the eventual closing of the drafting program at RHS in 2017. RHS does not offer any Technology, Engineering and Design classes- or any other classes that might be considered as preparation for a career in advanced manufacturing. We hope that providing direct instruction in TED related classes to RMS students will lead to a return of drafting and the initiation of classes like Technology Engineering & Design that are related to advanced manufacturing and that constitute classes expressly preferred by RockATOP business partners.

We see this grant program as an opportunity to help all of our students gain a better understanding how the world works from a technical perspective. This focus on understanding how the world works will make it much more likely that how students will be to discover their talents and interests might be relevant to an advanced manufacturing career, but we also see this understanding as important to all student progress regardless of whether or not they choose an

advanced manufacturing pathway. Much of our students' experience with technology is completely detached from how any of it works; or how it can be leveraged to design and create. We believe that helping all students understand aspect of engineering, technology manufacturing and design will provide them with a skill set (critical thinking, analytical thinking, precision) that would be applicable across all sectors of our economy.

### **Conclusion**

Rockingham County's unemployment rate has returned to pre-recession numbers (4.2%). This low unemployment rate however conceals a major opportunity for our county. The unemployment rate does not take into account the people who are not seeking employment. According to the Bureau of Labor Statistics (BLS) a large portion of our young people are not counted in the unemployment rate. The BLS data indicates that nearly 40% of people ages 16-24 are not in the labor market (Appendix Chart D). Engaging this demographic and placing them on a career pathway would represent our county's greatest opportunity for economic improvement. As a result, it is imperative that we begin the process of directing students toward a rewarding career pathway during their middle school years.

**Proposed Budget Template**

<b>Budget Category</b>	<b>Amount</b>	<b>Additional Fund Sources</b>
Personnel ( <i>i.e., salaries and benefits, etc.</i> ) STEM Teacher/Coach Social Security Hospitalization Retirement	\$35,000 Annually \$2,678 Annually \$5869 Annually \$6601 Annually	PRC 014 will be utilized for any salary and benefit cost in excess of the grant award.
Career Development Efforts Field Experiences	1,000 Annually	PRC 014
Support Services Instructional Supplies and Equipment	3,000 Annually	PRC 017  (a substantial amount of additional funding will be committed to this project if GEARUP grant application is awarded.)
<b>TOTAL</b> <i>(must not exceed \$50,000)</i>		

**Budget Narrative:**

The funds awarded will be utilized to hire a TED Career Coach at Reidsville Middle School. The TED Career Coach will teach TED and/or Computer Science classes to 6<sup>th</sup> and 7<sup>th</sup> grade classes of students for approximately half of the instructional day. The TED teacher will engage in career development activities with 6<sup>th</sup> and 7<sup>th</sup> grade students, and will collaborate with math and science teachers in the presentation of TED oriented lessons that integrate TED principles into math and science. Expenditures will remain relatively steady throughout the years of the grant award. Funds from PRC 014 will be utilized to supplement the salary and benefits of the TED teacher when the cost exceeds the annual grant award. We anticipate substantial financial support from the Eastern Triad Workforce Initiative at least during the first year of the grant. Also, a substantial amount of funding will be available to enhance the project if our district is awarded the GEARUP grant for which we applied in July 2018. Otherwise, funding for field trips, equipment, and instructional supplies necessary for the operation of the program will be committed from PRC 014 and PRC 017.

## Action Plan

Action	Person(s) Responsible	Timeline
<p><b>Strategy 5:</b> The TED coach along with existing CTE staff will teach classes in computer science and TED. These classes will constitute an excellent opportunity for RMS students to obtain a foundational understanding of the design process, computer science, computer aided design, electronics, and robotics. This instruction will lay the ground work that would lead to the inclusion of drafting, computer science and TED classes at RHS- leading to CCP and Apprenticeship opportunities by student 11<sup>th</sup> and 12<sup>th</sup> grade years.</p>	<p>TED Coach and Existing RMS CTE Teachers</p>	<p>2019-2024</p>
<p><b>Strategy 2.</b> TED coach in will provide career exploration experiences with a specific focus on STEM and advanced manufacturing. TED coach will provide in class and field experiences designed to help students make the connection between “making things” and careers in advanced manufacturing, engineering and design.</p>	<p>TED Coach Existing CTE Staff RCC Staff</p>	<p>2019-2024</p>
<p><b>Strategy 3.</b> TED Career Coach will administer interest inventories to all RMS 6<sup>th</sup> and 7<sup>th</sup> grade students. The completion of interests assessments will lead to the completion of a 4-year plan for all RMS before moving on to high school.</p>	<p>TED Coach School Guidance Counselor</p>	<p>2019-2024</p>
<p><b>Strategy 4.</b> TED Career Coach will arrange visits to RCC and Advanced Manufacturing facilities within the county with a particular emphasis on those businesses participating in the RockATOP apprenticeship program.</p>	<p>TED Coach RockATOP Partners RCC Staff</p>	<p>2019-2024</p>
<p><b>Strategy 5:</b> The TED Career Coach will work with math and science teachers to integrate technology, engineering and design into their subject matter. The TED Career Coach will help students understand math and science as the disciplines that undergird manufacturing, engineering and design.</p>	<p>TED Coach RMS Math Teachers RMS Science Teachers</p>	<p>2019-2024</p>

# **APPENDIX**

**Charts A through D  
Letters of Support  
General Assurance Page**

## Rockingham County School 8th Grade Career Interest Results

■ % of Students

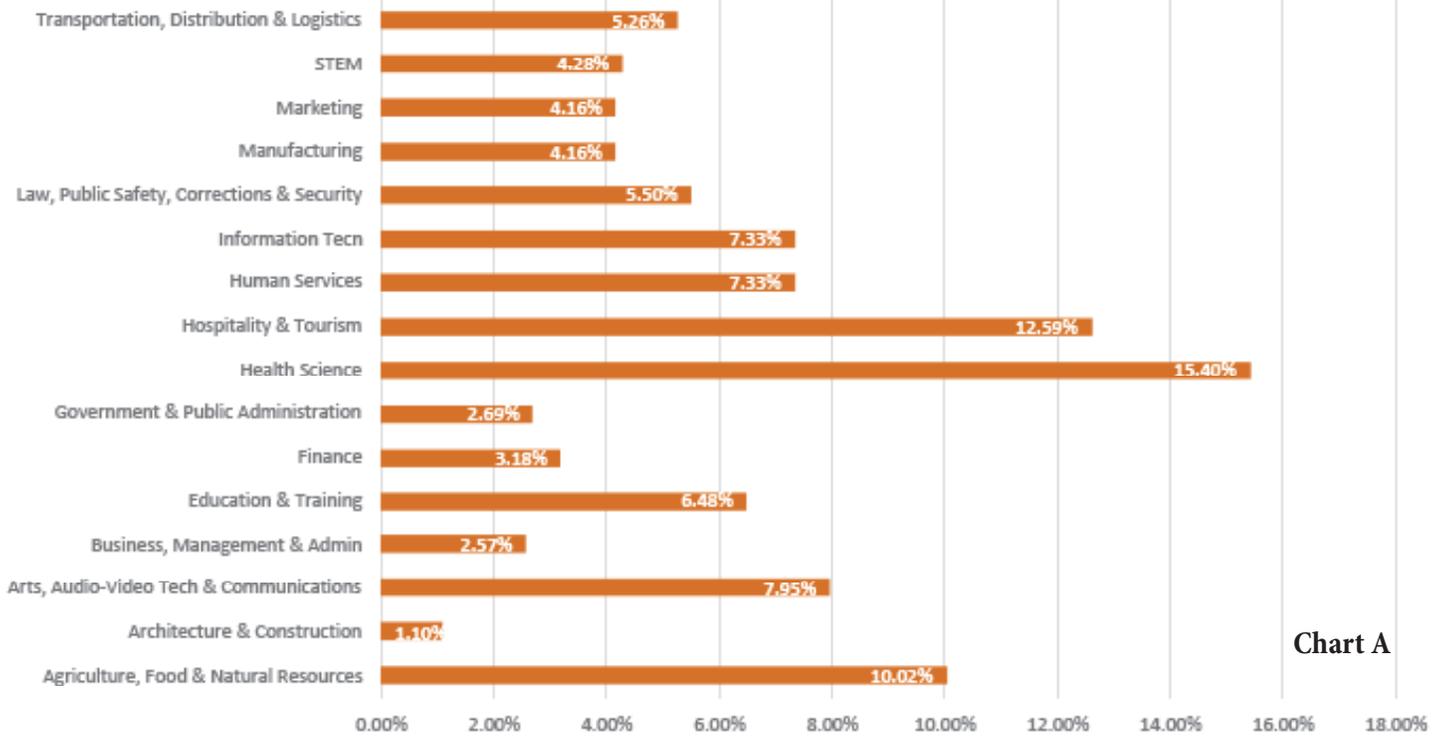
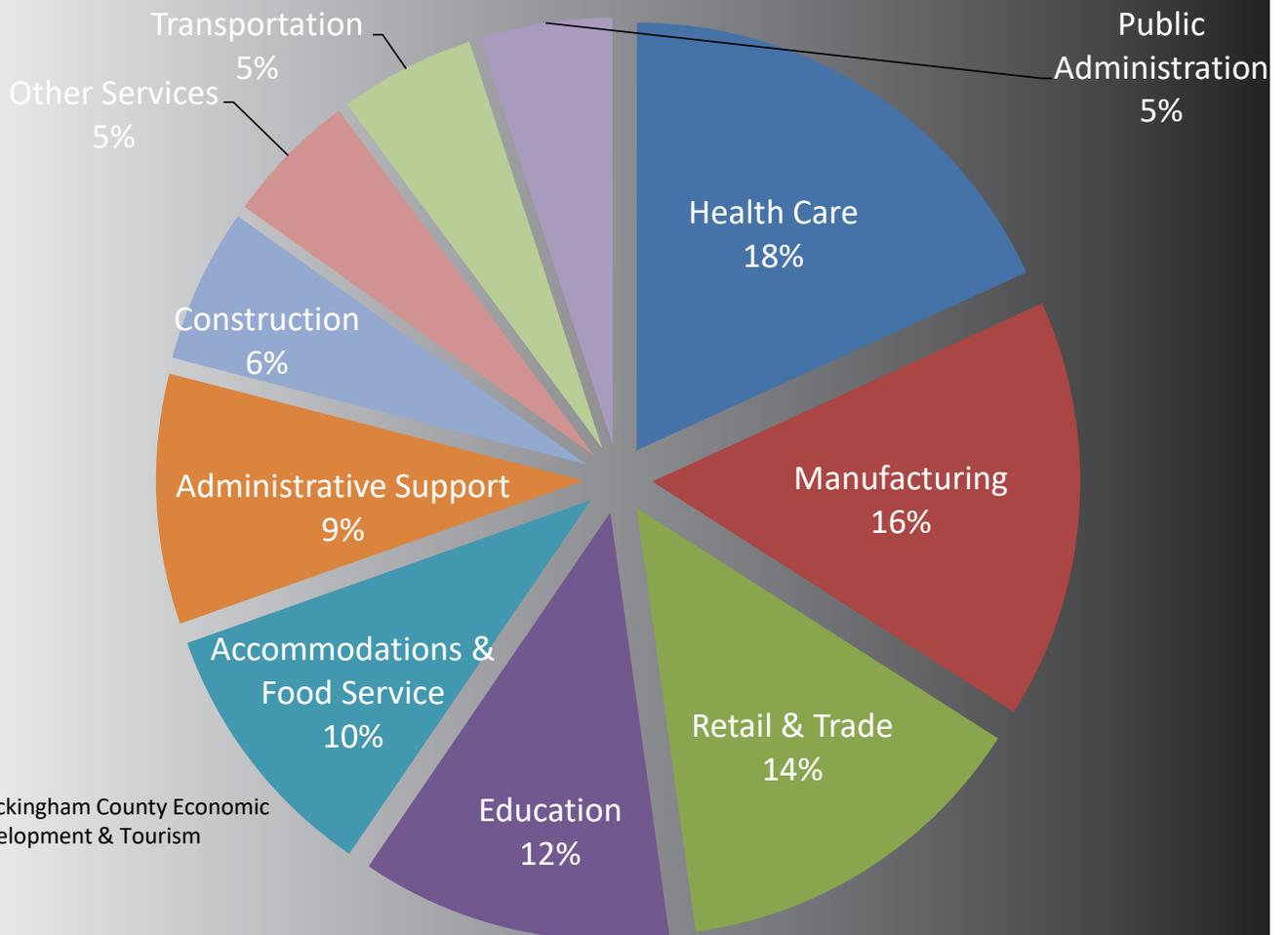


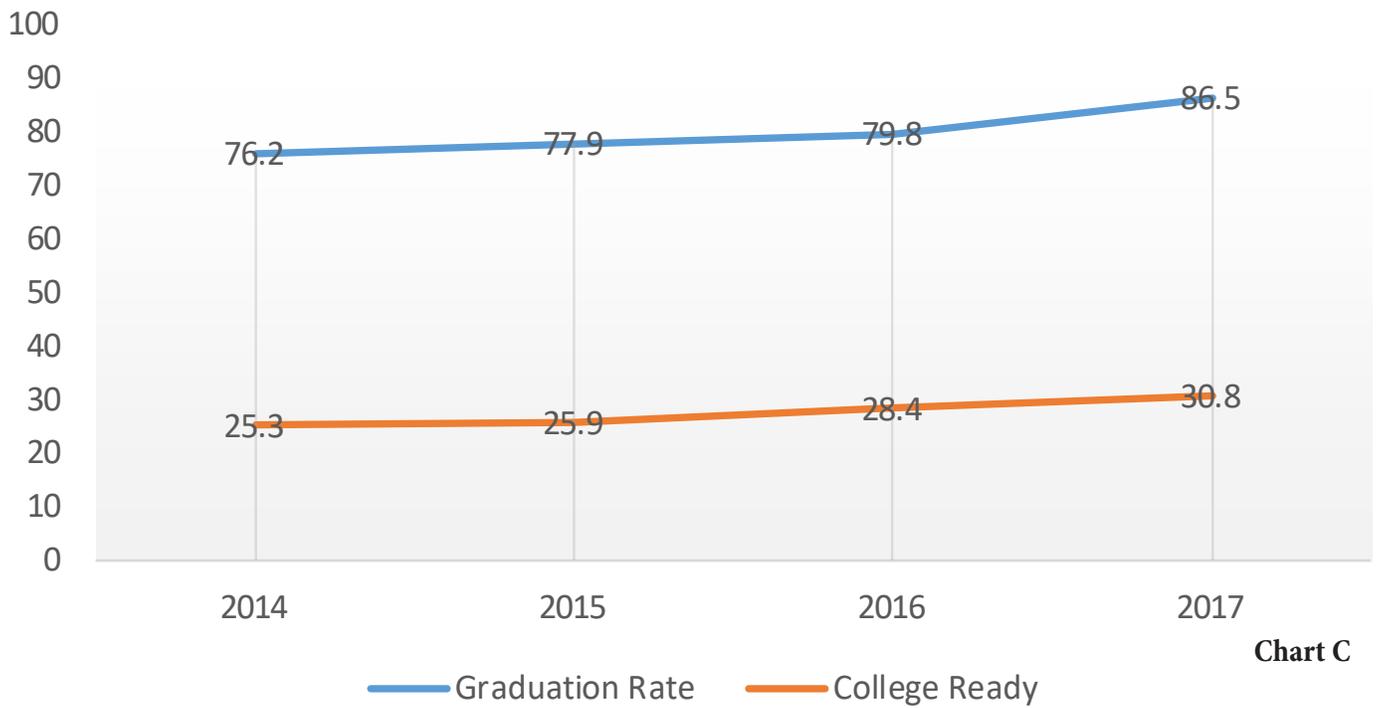
Chart A



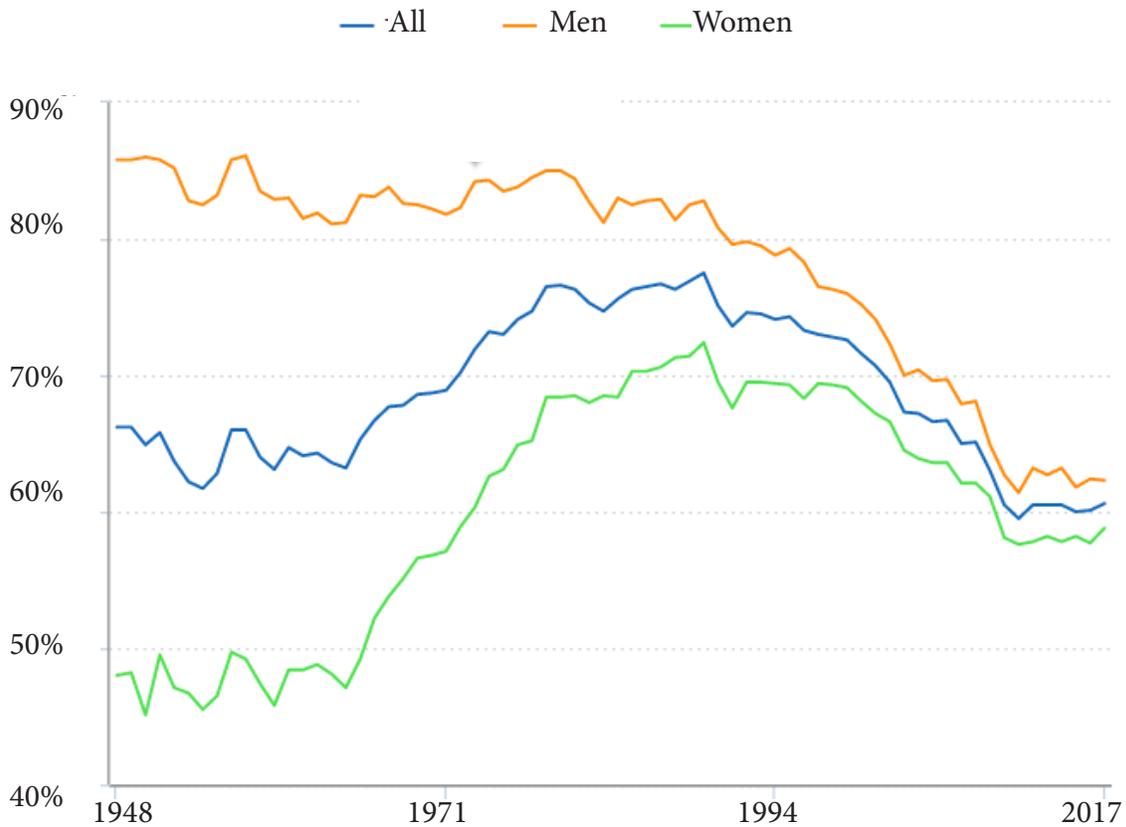
Source: Rockingham County Economic Development & Tourism

Chart B

RHS College Ready and Graduation Rate

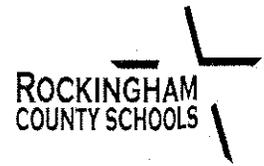


Labor force participation rates of 16 to 24 year olds in July, 1948-2017, not seasonally adjusted



Click legend items to change data display. Hover over chart to view data.  
Source: U.S. Bureau of Labor Statistics.

 Chart D



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Reidsville Middle School  
1903 South Park Drive  
Reidsville, NC 27320  
[www.rock.k12.nc.us/rms](http://www.rock.k12.nc.us/rms)

Erica Blackwell  
Principal  
336.342.4726  
[ebblackwell@rock.k12.nc.us](mailto:ebblackwell@rock.k12.nc.us)

July 30, 2018

Dear Selection Committee,

The purpose of this correspondence is to relay Reidsville Middle School's (RMS) support of Rockingham County Schools Career and Technical Education's Expanding CTE grant application. The funding from the grant will provide Technology Education that is not currently offered for our students.

We understand that this grant represents an opportunity for many of our students to gain foundational STEM oriented skills that will lead to the pursuit of a STEM related career pathway in high school. We are also excited about the prospect of increasing the number of our students who take advantage of College and Career Promise opportunities through Rockingham Community College and apprenticeship opportunities at Reidsville High School.

Reidsville Middle School will work closely with Dr. Scott to develop a schedule that will impact the greatest number of RMS students. RMS stands ready to commit any additional resources in order to insure the success of the program.

Sincerely,

Erica Blackwell

Rockingham County Schools  
511 Harrington Highway  
Eden, NC 27288

Rodney Shotwell, Ed.D.  
Superintendent  
rshotwell@rock.k12.nc.us  
336.627.2600

July 31, 2018

Dear Selection Committee,

On behalf of the Board of Education, faculty, staff and students of Rockingham County Schools, I am writing this letter in support of our Career and Technical Education (CTE) program's effort to seek funding to expand CTE programs in the middle schools of our county.

I have reviewed the plan to be submitted by Dr. Scott. I am in full support of the goals and objectives contained within the plan. I believe that the plan for Reidsville Middle School will make a meaningful difference in the lives of our young people within the Reidsville community. The Reidsville business community has begun to rally around workforce development particularly in the area of advanced manufacturing. I am looking forward to assessing the progress of the program over time. If the program is successful, then I will work with Dr. Scott to reposition current CTE and district funding to extend the program to the other middle schools within the district.

Rockingham County Schools takes great pride in its Career and Technical Education program. I applaud the North Carolina Education and Workforce Innovation Committee's effort to improve the educational and career opportunities for the students of Rockingham County.

Sincerely,

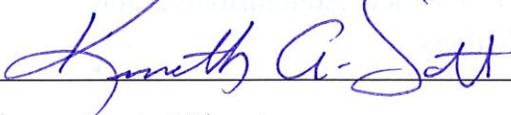


Rodney Shotwell, Ed.D.  
Superintendent, Rockingham County Schools

## General Assurances Page

We agree to comply with the following:

- Provide administrative supervision and support to foster success of the program.
- Work cooperatively with the NC Education and Workforce Innovation Commission, North Carolina State Board of Education, and North Carolina Superintendent of Public Instruction in monitoring and evaluating the program.
- Submit an annual report as part of the LEA CTE Local Plan to the North Carolina Department of Public Instruction.
- Provide personnel, time, and other resources to develop and implement the program.
- Attest that all funds will be used to develop and implement the program described in the application and approved.
- Establish fiscal control and accounting procedures for proper disbursement and accounting of program funds.



Primary Contact Signature

7-30-18

Date



Superintendent Signature

8/6/18

Date

# The CTE Programs of Rockingham County

"Connecting Student Talents and Interests with Rewarding Careers"

**CG CAREER GUIDANCE STRONGLY SUGGESTED**

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

