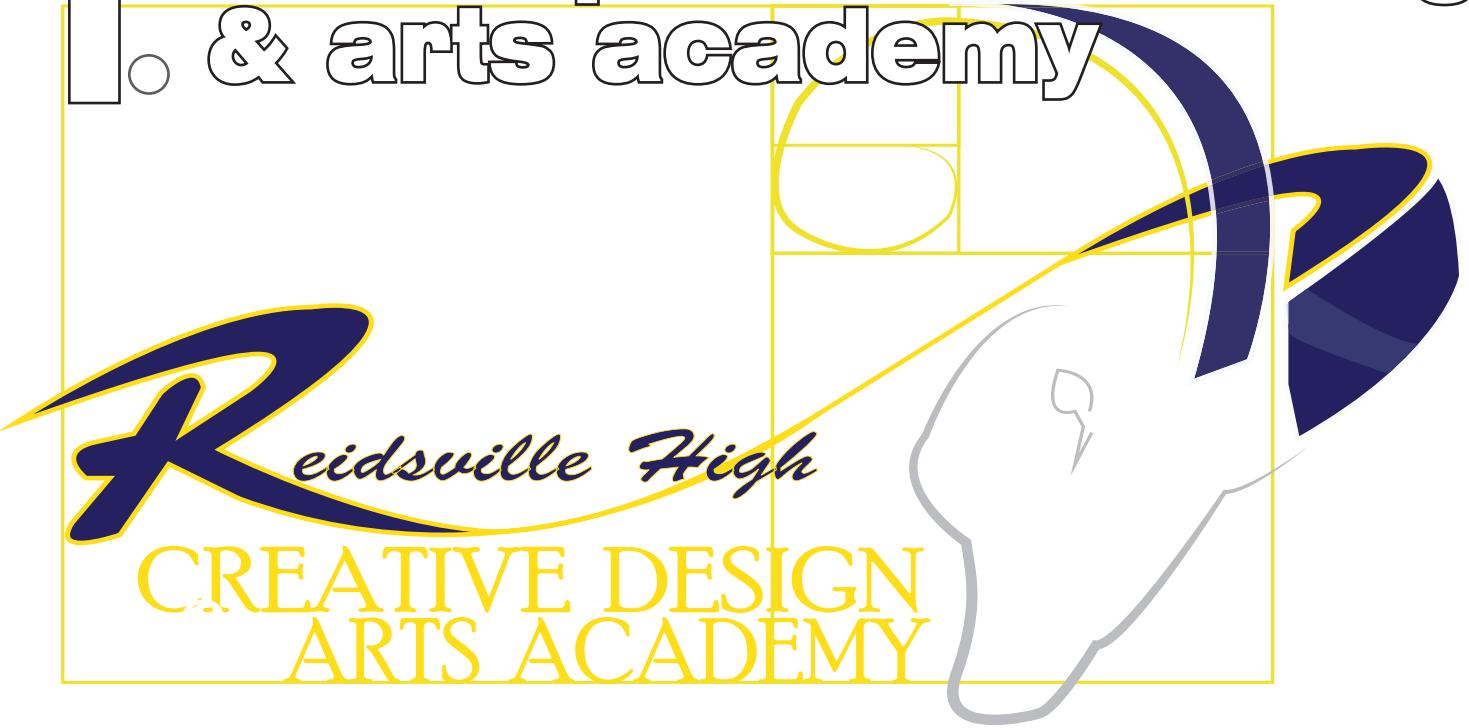


# 1. develop creative design & arts academy



## Team Members

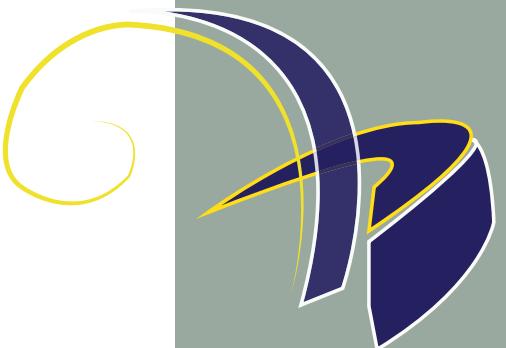
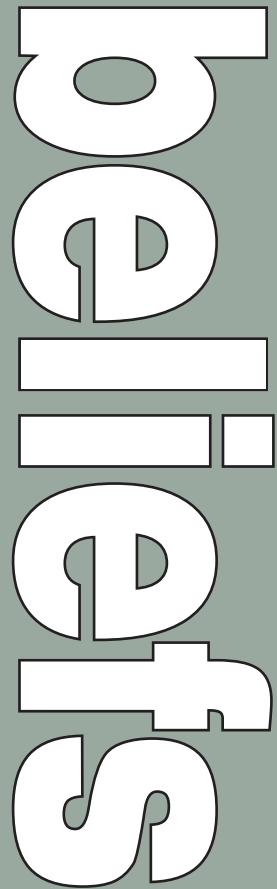
Jamie Hunt	Wentworth, Assistant Principal
Ann Mitchell	Principal, RHS
Yolanda Stubblefield	Graphic Arts/ Maker Space
Christy Barham	Instructional Technology Lead
Sharon Fikes	Media Specialist/Maker Space
Tom Murphy	Theater Arts
Janet King	IB Coordinator
Jodi Chester	Visual Arts Teacher
Matthew Rice	Chorus Teacher
Teresa Phillips	Director of Arts Council
Russell Vernon	Principal, Huntsville Elementary
Pat Harden	RCC Art Instructor
Ken Scott	CTE Director
Marilyn Payne	Rockingham Education Foundation
Demetrius Miller	RHS, Assistant Principal
Travis Pike	RHS, Band Director
Bret Hart	Art Teacher LSE/ Artist
Portia Parris	Arts Council
Ray Martin	RCC Fine Arts Coordinator
Marilyn Payne	Rockingham County Ed. Foundation
Debbie Moore	Fine Arts Festival Director
Ashley Doorn	Teacher Assistant/ Artist
Richard McGoogan	Principal, RMS
Tara Beal	Visual Math Teacher RMS

The developers of the Creative Design & Arts Academy believe:

1. Rigor follows meaningful relationships and relevant experiences.
2. The most in-demand individual in the 21st Century will be the creative problem solver.
3. Students are capable of much more than we currently expect of them.
4. All people have talent that can be developed and it is the intentional development of everyone's talent that will afford us the ability to meet the grand challenges of the 21st Century.
5. Barriers between subject areas within public schools, as well as barriers between public schools, post-secondary education and the community should be diminished if we are to take full advantage of the human capital within our community.

The Creative Design & Arts Academy seeks to:

- To capitalize on student talent and motivate even our most disenfranchised students by tailoring instruction to individual talent, interests, and learning styles.
- Intentionally develop the capacity for creativity.
- Develop meaningful relationships with adults and peers who share similar interests.
- Improve our community by producing graduates who are locally responsible and globally aware.
- Use the design process and technology as a means of helping students transition ideas from their heads and into the real world.
- Create career opportunities and promote entrepreneurship.
- Re-imagine education by intentionally employing innovative instructional practices.



The Creative Design & Arts Academy is a whole community effort to re-imagine education through the Arts. Representatives from Rockingham County Schools, RCS Career & Technical Education, the Rockingham County Arts Council, The Rockingham County Arts Festival, Rockingham County Education Foundation and Rockingham Community College met on November 18th and again on February 9th to design the “Creative Design and Arts Academy.” The name of the academy is intentional: The use of the word “Creative” underscores our over-arching intention to develop student capacity for creativity. The word “Design” was included to emphasize the Design Process as a process of thinking that is as applicable in the field of Engineering as it is within the Arts. The word Design also indicates the emphasis that will be placed on Computer Aided Design to support the process. The word “Academy” indicates our intention to purposefully integrate “academic” subjects (particularly math) with the “Arts.” CDAA students will be clustered as early as 8th grade in math classes where the instructional strategies that will be employed by the math teacher will be tailored toward students who are predominantly visual learners.



February 25th Math Discussion

The CDAA team also participated in several site visits as they planned for the academy. Members from the team visited the Arts Magnet School at Reynolds High School in Winston-Salem on December 10, 2016 (below). The school represented a good example of how the visual and performing arts can be integrated within subject matter school-wide.

*“The 21st Century is in need of artists who think like engineers and engineers who think like artists.”*



November 9th CDAA Meeting

In fact a group of Rockingham County Schools Administrators along with Mary Doggett, Math Lead Teacher for the district, met on February 25, 2016 to discuss the plight of rising 8th grade students who are performing well below grade level. The group was asked to consider strategies that could be put in place over the course of two years that would help such students understand mathematics well enough to pass the Math I exam by the end of their freshman year in high school. Their work during this time along with existing research on the subject lead to the approach that will be considered for how the CDAA will approach improving math achievement for its students.



Team Members were granted the opportunity to visit the Digital Media Academy at Middle Creek High School on February 19, 2016. The experienced allowed the visiting team members the opportunity to witness how computer aided design might play a critical role within our Academy. The emphasis on student engagement, authentic learning experiences, and creative problem solving that was on display at Middle Creek is exactly the type of atmosphere that we seek to create within our Creative Design and Arts Academy.

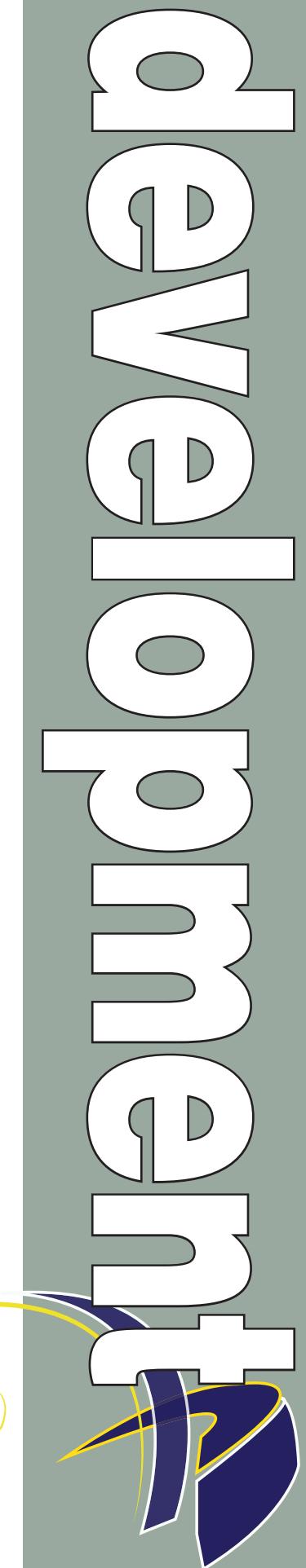


Middle Creek Digital Academy Visit

The team had an incredible visit to the North Carolina School of the Arts (UNCSA) on March 22nd. Mr. Decristo and the faculty & staff of UNCSA were extraordinarily gracious and encouraging. We were impressed by the level of engagement and commitment on the part of the faculty members with whom we toured. The faculty's commitment to the development of certain skills or "ways of thinking" that are critical to success in the 21st Century was evident. It is clear that creative problem solving, meaningful collaboration, critical thinking and self-direction are skills that they intentionally seek to develop. The visiting team saw everything from drafting to animation to robotics to welding to woodworking to apparel design & production on display at the school.



NC School of the Arts Visit



# How will the Academy capitalize on student talent and motivate even our most disenfranchised students?

(Based on Belief 4) All students want to create and all students have something to offer. The job of the educator is to help them discover that “something” and to help their students develop it in a form that can be communicated, understood, evaluated, refined, defended, and marketed.

- Tailor course sequences, instruction, online opportunities, and work-based experiences to student interest, talent and preferred mode of learning
- Assess Multiple Intelligences
- Assess Learning Styles
- Assess Interests
- Promote student-led clubs and organizations
- Promote and develop entrepreneurship and e-commerce
- Expect exhibition of student work
- Reach out to younger students; create a link between elementary, middle, high, and Rockingham Community College
- Create clear and informative course descriptions
- Consider student demeanor and attitude; develop student confidence

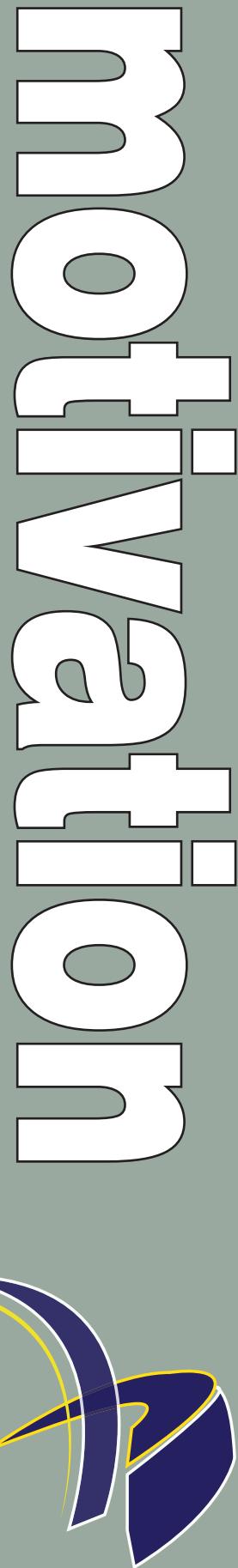
What are some indicators of success?

- 100% of At-Risk Math I students will pass the class before entering their second year of high school.
- 100% of students will develop a small business plan and/or participate in work-based learning opportunities
- 100% of students will produce a portfolio of work. Work will be critiqued by members of the Arts community.

## Creativity and Innovation in Mathematics

- a. Students compare different ways of approaching traditional mathematical problems and find innovative solutions, using practical examples where appropriate.
- b. Students listen to and evaluate others' reasoning and offer improvements and corrections, with supporting arguments. They listen to others' feedback and modify their own arguments as needed. They learn from mistakes, and make repeated attempts at solving problems.
- c. Students look for patterns that suggest creative shortcuts or simplifying frames of reference. They make generalizations from patterns they observe in repeated calculations.
- d. By discovering fresh insights and communicating them to others, students come to understand that mathematics is a creative endeavor that builds on previous knowledge.

(Partnership for 21st Century Skills)



# creativity

How will we intentionally develop the capacity to create and help students to become creative problem solvers?

(Based on Belief 3) The ability to create is essential to personal well-being and professional success. This belief is based on a recognition that Krathwahl and Anderson situated the ability to create at the pinnacle of their revision of Blooms' Taxonomy of Cognitive Abilities (Krathwahl & Anderson, 2010). The Partnership for 21st Century Skills listed creativity as one of the four skills critical to success in the 21st Century (P21, 2010).

Further, we find that creative thinking is critical to “adaptive reasoning.” Adaptive reasoning is the capacity that the National Research Council considers to be the “glue” that holds all of the other math strands together. The manner in which the Council defines adaptive reasoning is similar to the manner in which creative thinking is often defined.(National Research Council, 2008; Scott, 2015). Finally, we believe that creativity constitutes an indispensable component of what it means to be human (Maslow, 1959). In short, the factor that will drive our economy in the 21st century, the factor that drives human motivation, and the capacity that may be considered the panicle of cognitive processing all seem to coalesce around the capacity to create.



Revised Bloom's Taxonomy

Students will learn to:

- Develop Critical thinking- Learn to thoughtfully question
- Use technology and other resources to access pertinent information
- Thoroughly analyze problems
- Develop the capacity for fluent, flexible, and original thinking
- Develop the capacity (and use technology) to transition ideas from one's head and into the real world
- Develop the capacity to persevere and overcome setbacks
- Learn to take sensible risks and to look for opportunities to add value
- Help students to become resourceful, self-directed and life-long learners
- Consider writing as well as storytelling as an art

Some indicators of success would be:

95% of students will increase their creative thinking ability as measured by the Torrance Test of Creative Abilities (pre & post-test during 9th grade year)

# How would the Academy help students to develop meaningful relationships with adults and peers who share similar interests?

(Based on Beliefs 1 & 5) The development of meaningful relationships with an adult is essential if a student is to exercise the amount of attention necessary to meet rigorous challenges encountered in school and beyond. In short we believe that rigor follows relevance and relevance follows meaningful relationships.

- Collaboration within the context of instruction
- Collaboration within the context of the maker space
- Student led clubs and organizations
- Mentors
- Clubs
- Apprenticeships and Co-operative Education Opportunities
- Exhibitions
- Performances
- Expect instructors to exhibit work

Some indicators of success would be:

1. A minimum of five local artists will provide support, direction and instruction each year.
2. The improvement of student work as a result of ongoing feedback from CDAA staff as well as the local arts community.

“Our schools are filled with many brilliant kids who think that they are not those things that schools have traditionally valued are not the things that they are good at.”

Sir Ken Robinson, 2001



# community

How can we improve our community and produce graduates who are locally responsible and globally aware?

(Based on Beliefs 1, 3 & 5) Students are capable of much more than we currently expect of them. We believe that our students can be an Asset to their community even before they graduate high school. Authentic learning experiences provides the “relevance” that is essential to motivating students to apply the attention and work necessary to solve the most rigorous of challenges. It is our intention to bring the arts community into the Academy and to send the Academy students out into their community.

- Integration of all Content Areas
- Project management/collaboration
- Real world audience
- Field Trips
- Apprenticeships
- Mentors/Coaches
- Volunteerism
- Co-operative learning experiences
- College Classes
- Massive online open source classes
- Coaching/Mentors
- Exhibitions
- Performances
- Resident Artists
- Online exhibition of student work
- After hours workshops for students & community
- Tackle Larger Questions/21st Century Grand Challenges
- Partnership with RCC and other area colleges
- Encourage students to participate in organizational meeting with the Fine Arts Festivals and other arts oriented organizations.



Some indicators of success would be:

1. CDAA students will take part in a minimum of two field experiences during their 9th and 10th grade years.
2. 100% of CDAA students will take at least one college level class prior to graduating from high school.
3. 100% of CDAA students will take part in an internship and/or community enriching advanced study prior to graduating.
4. 100% of CDAA students will collaborate on a project with a member of the local arts community before graduating from high school.

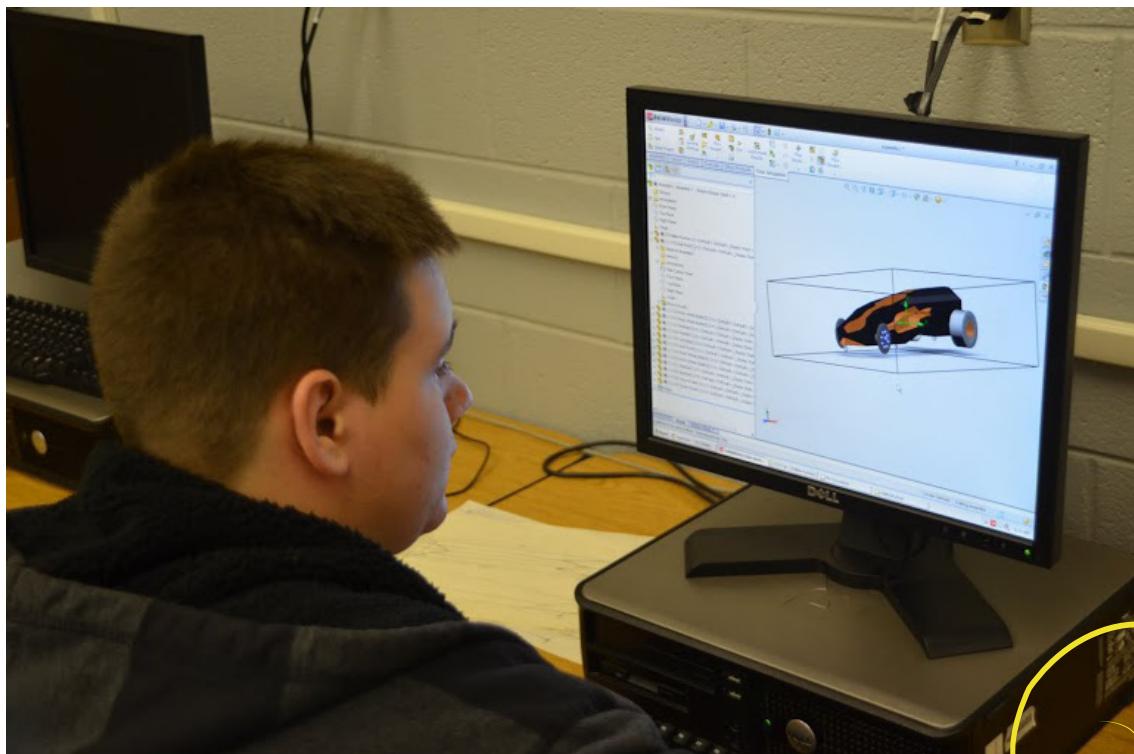
# How will we help students to use the design process and technology to transition ideas from their heads and into the real world?

(Based on Belief 3) We must equip students with the types of skills that will be necessary for success in such a fluid economy. We believe that the 21st Century economy will seek artists who think like engineers and engineers who think like artists.

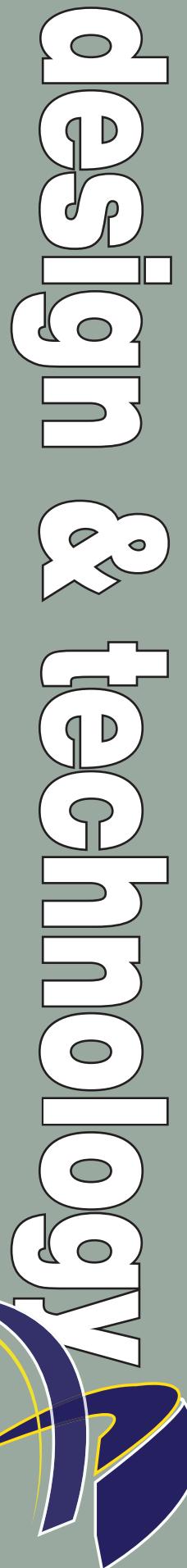
- Continue to develop Maker Space at RHS
- Teach Adobe Graphics, Web-Design, Animation, Game Art, Audio engineering
- Integrate Design Process across the curriculum
- Engage students in authentic learning experiences
- Expect the attainment of credentials such as Adobe InDesign, Adobe Illustrator, Adobe Photoshop and Adobe Dreamweaver

Some indicators of success:

1. 100% of CDAA students will achieve at least one technologically oriented industry recognized credential.
2. 100% of CDAA students will produce a digital portfolio that will be critiqued by CDAA staff members as well as members of the arts community.
3. 100% of CDAA students will have access to the most cutting edge design technology.



RCS Utilizing Computer Aided Design



# Careers

How will the Academy increase career opportunities and promote entrepreneurship?

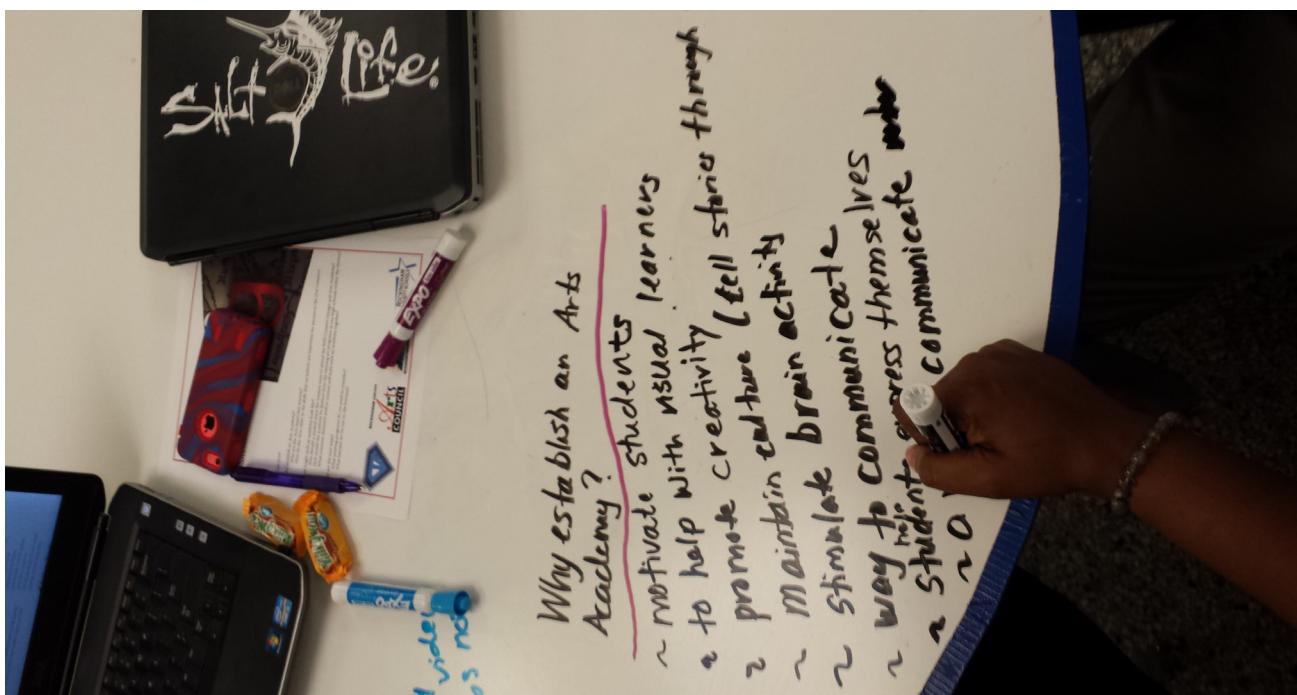
(Based on Belief #3) "We are trying to prepare students for jobs that have not been created yet, using technologies that have not been invented yet to solve problems that we don't know are problems yet."

Former Secretary of Labor, Robert Reich

- Develop creativity, critical thinking, collaboration, and communication skills
- Promote the attainment of industry recognized credentials
- Require entrepreneurship or e-commerce classes
- Encourage student enrollment in College Classes prior to graduating from High School
- Engage students in authentic learning experiences
- Use the Maker space as a space for the modeling and prototyping of ideas
- Use student talent, skill and equipment to develop products for sale that will support the academy going forward

Some indicators of success will be:

1. 100% of CDAA students will engage in a work-based learning experience and/or will create a small business plan.
2. CDAA students will generate funds for the academy through the sale of products designed and produced by academy students.



# How will the Academy instruct students in a manner that will help them develop 21st Century Skills?

(Based on Belief # 3) The acquisition of 21st Century skills will require instruction and on a belief that those who created the current system of education did not have the world in which we currently live in mind.

- Instruction will be problem & project-based
- Math class will serve as a model for the rest of the district
- The Design Process will be emphasized and along with cutting edge technology, will be used as a means of helping them transition ideas from their heads and into the real world
- Instruction will be integrated and creativity will be established as the common denominator that holds the academy together
- Instruction will provide students with opportunities to evaluate, defend & communicate ideas, and solutions
- Instruction will provide students with opportunities to provide and receive constructive criticism
- Instructional approach will help students to develop the capacity to be comfortable with a certain level of ambiguity
- Students will learn to see in 3-D and vary point of view
- Students will practice adaptive reasoning

An indicator of success would be:

1. 100% of CDAA staff will take part in in-service design and technology oriented workshops.

“We have spent the entire 20th  
Century perfecting a 19th Century  
model of education.”

Stephen Heppel



# draft course sequence

Freshman	Sophomore	Junior	Senior
<b>Digital Art (At Risk Group)</b>			
NC Math I	NC Math II	NC Math III	4th Math
English I	English II	English III	English IV
World History	US Hist I	US Hist II	Civics
Physical Science	Biology	Chemistry	Elective or Internship
PE	foreign Lang or elect.	Foreign Lang or elect.	Elective or Internship
Intro to math	Art II	CIS 70	Graphic Design II
Art I	Adobe Graphic Design	Art 121	Computer Design Basics
Intro to Design	Scientific Visualization	Graphic Design I	Computer Design Tech.
<b>Digital Art</b>			
NC Math I	NC Math II	NC Math III	4th Math
English I	English II	English III	English IV
PE	Biology	Chemistry	Civics
Physical Sci	US Hist I	US History II	Foreign Lang/elective
World History	Adobe Digital	foreign Lang/elective	Internship
Intro to Design	Art II	Game Art I	RCC Art or Adv. Study
Art I	Exploring Comp Science	Game Art II	RCC Art or Internship
Adobe Design	Scientific Visualization	Adobe Video	Entrepreneurship
<b>Studio Art</b>			
NC Math I	NC Math II	NC Math III	4th Math
English I	English II	English III	English IV
PE	Biology	Chemistry	Civics
Physical Sci	US Hist I	US Hist II	foreign lang or elect.
World History	Adobe II	foreign lang or elect	Elective or Adv. Study
Intro to Design	Art II	Art IV	RCC Art or Internship
Art I	Exploring Computer Science	Studio Art	RCC Art or Adv. Study
Adobe I	Art III	Photography or elect	Entrepreneurship
<b>Digital Music</b>			
NC Math I	NC Math II	NC Math III	4th Math
English I	English II	English III	English IV
PE	Biology	Chemistry	Civics
Physical Sci	US Hist I	US Hist II	Foreign Lang or Elect.
World History	Elective	Foreign Lang or Elect.	RCC class or Internship
Intro to Design	Adobe II	E-commerce	Entrepreneurship
Art I	Exporing Computer Science	Digital Music	RCC Class
Adobe I	Keyboarding (Music)	Music Composition	Adv. Study

# research

- Amabile, T.M. & Hennessey, B.A. (1987). *Creativity and Learning*. Washington, D.C. National Education Association.
- Anderson, L. W., & Krathwohl, D. R. (2010). Merlin C. Wittrock and the Revision of Bloom's Taxonomy. *Educational Psychologist*. 45(1) p 64-65.
- Burnaford, K. (2007). Arts Integration, Frameworks, Research and Practice. Retrieved from: [http://www.pre-texts.org/wp-content/uploads/2014/01/Arts\\_Integration\\_Frameworks\\_Research\\_Practice.pdf](http://www.pre-texts.org/wp-content/uploads/2014/01/Arts_Integration_Frameworks_Research_Practice.pdf)
- CCSS. (2010). ELA Common Core State Standards Retrieved from: [http://www.corestandards.org/assets/CCSSI\\_ELA%20Standards.pdf](http://www.corestandards.org/assets/CCSSI_ELA%20Standards.pdf)
- CCSS. (2010). Math Common Core State Standards Retrieved from: [http://www.corestandards.org/assets/CCSSI\\_Math%20Standards.pdf](http://www.corestandards.org/assets/CCSSI_Math%20Standards.pdf)
- Csikszentmihalyi, M. (1996). *Creativity: Flow and Psychology of Discovery and Invention*. New York. Harper-Collins Publishers.
- Csikszentmihalyi, M., Feldman, D. & Gardner, H. (1994) *Changing the World; A Framework for the Study of Creativity*. Westport, CT. Praeger Publishers.
- Florida, R. (2005). The Flight of the Creative Class. *Liberal Education*. 92 (3), p22-29.
- Friedman, T. (2005). *The World is Flat*. New York, NY. Farrar, Straus and Giroux.
- Gardner, H. (1982) *Art, Mind and Brain. A Cognitive Approach to Creativity*. New York, NY. Basic Books Inc.
- Guilford, J.P. (1986). *Creative Talents: Their Nurture, Uses and Development*. Buffalo, NY: Bearly Limited Publishers.
- Martinez, S., & Stager, G. (2013). *Invent to learn*. Torrance, CA: Construction Modern Knowledge Press.
- Maslow, A. (1959). Creativity in self-actualizing people. In H. H. Anderson (Ed.), *Creativity and its cultivation* (pp. 83–95). New York, NY: Harper & Row.
- National Center on Education and the Economy (2007). *Tough Choices or Tough Times*. Washington, D.C. Retrieved from [http://www.skillscommission.org/wp-content/uploads./2010/05/ToughChoices\\_EXECSUM.pdf](http://www.skillscommission.org/wp-content/uploads./2010/05/ToughChoices_EXECSUM.pdf)
- National Research Council. (2001). *Adding it up: Helping children learn mathematics*. Washington, DC: National Academy Press.
- Partnership for 21st Century Skills. (2010). Twenty First Century readiness for every student. Retrieved from [http://www.p21.org/storage/documents/policymakersguide\\_final.pdf](http://www.p21.org/storage/documents/policymakersguide_final.pdf)
- Pink, D. (2009) *Drive*. New York, New York. Penguin Group USA.
- Rasmussen, K. (1998). Looping: Discovering the Benefits of Multiyear Teaching. *ASCD*, 40(2), retrieved from: <http://www.ascd.org/publications/newsletters/education-update/mar98/vol40/num02/Looping.aspx>
- Robinson, K. (2001). *Out of our minds*. Chichester, West Sussex. Capstone Publishing.
- Scott, K. (2015). *Creativity; Conceptions of a Group of Exemplary Teachers* (Doctoral Dissertation). Retrieved from: <https://libres.uncg.edu/ir/uncg/listing.aspx?id=18183>.
- Vega, V. (2012). *A Research Based Approach to Art Integration*. Edutopia. Retrieved from: <http://www.edutopia.org/stw-arts-integration-research>.



Reidsville High School



Reidsville Middle School



Rockingham County Education  
Foundation



Rockingham County Arts Council



Rockingham County Arts Festival



Rockingham Community College



Rockingham County Schools CTE



Rockingham County Economic  
Development & Tourism



City of Reidsville  
(Economic Development)

LIVE SIMPLY. THINK BIG.

