



Nesbitt Discovery Academy

Connecting Community, Curriculum
and Careers





Nesbitt Chargers-Charged Up About Our Future

Imagine a school where students are engaged from the time they enter in the morning until the time they leave in the afternoon. Imagine a place where the glass wall of the classrooms open and close when needed and sensory lights come on when people enter the room. Does a school like this really exist? Is this really possible? Absolutely it does and Buncombe County Schools benefit from it daily. Nesbitt Discovery Academy is a twenty-first century, redesigned, STEM-themed high school that was built with the purpose of connecting community, curriculum, and careers within Buncombe County in Asheville, NC.





LAS VEGAS

ACTE's CareerTech

VISION



Invent Your Tomorrow





Introductions

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Where We Came From

- Spring 2011 Career Education Center Closes
 - CEC focused on elective/vocational courses such as welding, masonry and cosmetology
- Fall 2011 collaborative planning begins, with stakeholder involvement, for 1st STEM themed high school in Western North Carolina
 - Students, Parents
 - NC New Schools
 - Leadership from Buncombe County Schools
 - Leadership from Post-Secondary Education and Business and Industry
 - Asheville Chamber of Commerce



Rationale-Why STEM In Western North Carolina

- STEM Occupations are expected to grow 17.9% between 2008-2018. Non STEM related jobs expected to grow by 9%
- Those employed in STEM jobs earn 26% higher wages. An estimated 3 million STEM related jobs go unfilled because of learning and skills gap. US Dept. of Defense cites the shortage of American engineers as a crisis that threatens national security
- The Asheville Area Chamber of Commerce has designated STEM as one of its economic cluster areas in which to focus



NON-Negotiables

- STEM Theme-Investigative Approach to Teaching
- College and University Partnerships
- Apprenticeships and Internships-Based on student interests and goals
- Immersion in Technology-1:1 Initiative
- Continued Stakeholder Input



TimeLine

2012-2013

- Funding Evaluated
- Stakeholder Meetings
- Marketing Initiative
- Curriculum Development
- Construction Begins-Late Summer
- Application for Innovative High School Status

2013-2014

- Continue Marketing
- Continue Stakeholder Meetings
- Student Recruitment
- Identify Principal
- Identify Teachers and Staff
- Professional Development for Staff
- Summer Orientation for Students and Staff

Construction Begins: Fall 2013-Summer 2014



Phase I Complete-August 2014



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2016

Class of 2018- Entered- Fall 2014

- 100 students selected by application and lottery process
 - 44 women & 56 men
 - 19% minorities
 - 31% low socio-economic
 - 50% first generation
 - Diverse academic background and ability
- 5 teachers, 1 CDC, 1 Counselor, 1 Secretary, half-time EC teacher and a principal



Class of 2018, 2019 and 2020

- Students still selected by application and lottery process.
- Student body consists of freshmen, sophomores and juniors.
- 296 students: 138 women and 158 men
- 16.7% minorities
- 35% low socio-economic
- 50% first generation
- 17 teachers, 1 CDC/assistant principal, 1 Counselor, 1 Secretary, half-time EC teacher and a principal



First Year Course Offerings for the Class of 2018

- English I Honors
- Math I or Math II Honors
- Earth Science Honors
- Physical Science
- American History I Honors
- PLTW Intro to Engineering & Design
- ACA 115 (AB Tech)
- CIS 110



Current Course Offerings-High School Level

- English I, II & III Honors
- Math I
- Math II & III Honors
- Physical Science
- Earth Science, Chemistry and Biology Honors
- American History I, American History II and Civics Honors
- Spanish I & II
- PLTW Courses-college level weight
 - Introduction to Engineering
 - Principles of Engineering
 - Computer Integrated Manufacturing
 - Environmental Sustainability
 - Civil Engineering and Architecture
- NCVPS Online Courses



Current Course Offerings-College Level

- ACA 115-Success & Study Skills
- Cis 110-Intro to Computers
- Cis 115*-Intro to Programming & Logic
- Psy 150*-General Psychology
- Soc 210*-Intro to Sociology
- Art 111*-Art Appreciation
- Mus 110*-Music Appreciation
- Eng 111*-Writing & Inquiry
- Eng 112*-Writing & Research Dis.
- Mat 171*-Pre-Calculus Algebra
- Mat 271*-Calculus I
- Mat 272*-Calculus II
- Bio 111*-General Biology I
- Bio 112*-General Biology II
- Chem 151*-General Chemistry
- Hea 110*-Personal Health & Wellness

**Transferrable college credit in NC*

Current Course Offerings-NCVPS Courses

- Spanish I, II & III
- French I & II
- Latin I, II & III
- German I & II
- Chinese I & II
- Japanese I & II
- Russian I & II
- German I & II
- Computer Programming I
- Psychology
- Forensic Science
- Anatomy and Physiology



STEM

So Much More Than Science, Technology, Engineering & Math

- Rigorous Environment with High Expectations
- Integrated/Student Centered Curriculum
- Project-Based Learning
- Investigative Approach
- Hands-on Activities
- Immersion in Technology
- Focus on Collaboration, Creativity, Reflection and Analytical Thinking
- Focus on 21st Century, Essential Skills
- Partnerships
- Real-world Experiences/Job Shadowing



System of Student Support

- Comprehensive Counseling Plan
- Individualized Scheduling
- 504/IEP Plans
- ACA 115
- Success Lab/Mentor Teachers
- Smart Lunch-Hour long lunch for tutoring and enrichment
- Open Communication
- Course Planning with Post-Secondary Educators
- Technology Support





After Two Years-Still Charged Up!!

2014-2015

- 75% proficiency on Math I EOC
- 88.9%-95.8% course average on NCFE's
- 269 applications for Class of 2019
- Duke Energy Grant
- NC School Report Card Grade of an A

2015-2016

- 100% proficiency on Math I EOC
- 94.9% proficiency on English II EOC
- 89.9% proficiency on Biology EOC
- 260 applications for Class of 2020
- STEM School of Distinction in NC
- NC School Report Card Grade of an A



Student Perspective

Imagine, that as a student, you wake up every morning and are thoroughly excited about going to school. You know that each day will bring something fresh and exciting to even the subjects that you once thought were mundane. You will be constantly challenged by the teachers, whether it be a new way to think about a typical problem, or having to design a lesson plan to teach the younger students once you have finished your classwork. Sounds too good to be true, right? Well, it isn't.

Dedicated, hardworking, and curious students paired with energetic, knowledgeable, and caring teachers create a learning experience like no other. The students of NDA have an infectious desire to learn. This desire can be seen in every question-filled classroom that you walk into. Even better than that, the teachers have an evident desire to challenge their students. The phrases, "Figure it out," and, "Why", are commonly said to push students to think on deeper levels, which can sometimes be frustrating, but would be missed if they ever suddenly disappeared.





What's next for Nesbitt Discovery Academy?

- Phase II of Construction will be completed
- August, 2017- 100 new Freshmen will enter and the first Senior Class will prepare to graduate.
- All Seniors will participate in an internship experience linking their career interest with our local community business and industry partners.
- Which brings us to the next big challenge---What does internships for 100 seniors really look like? How will this happen???

Transportation- Schedule- National Career Clusters-
Career Interest- Business Commitment





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Work-based Learning for seniors at Nesbitt Discovery Academy

1 st 9 weeks 100 students Group A= 50 students Group B = 50 students				
All students will take their English, Math, and Science Classes first semester				
All courses first semester will be 1 hour and 30 minutes each in length (90 minutes each day)				
Monday	Tuesday	Wednesday	Thursday	Friday
AB Tech English	AB Tech English	AB Tech English	AB Tech English	Friday will be used as a Student Support Day for AB Tech Courses, EDD and Internship Course work
AB Tech Math	AB Tech Math	AB Tech Math	AB Tech Math	
AB Tech Science	AB Tech Science	AB Tech Science	AB Tech Science	
PLTW EDD	PLTW EDD	PLTW EDD	PLTW EDD	
Internship Group A	Internship Group B	Internship Group A	Internship Group B	
Internship B reports to internship site for the entire day	Internship A reports to internship site for the entire day	Internship B reports to internship site for the entire day	Internship A reports to internship site for the entire day	Teachers will be available and will also be able to conduct site visits with students enhancing the experience

AB Tech Courses- 3 or 4 College hours- ex. 2400 or 2700 minutes – with this schedule, each group receives 180 minutes each week – X 18 weeks for the semester = 3240 minutes. This mirrors a college schedule.

Students will not come to Discovery on their internship day. They will check in via digital tools. Students will be able to spend 6 hours each day or 12 hours per week on their internship site. During their internship experience, students will be able to have two experiences. These will be personalized to meet each individual's student's future plans.



Home of the Chargers










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Career Cluster	Cluster Description	Career Pathways	Local Opportunities
 Agriculture, Food & Natural Resources	Do you enjoy working with plants and animals? Interested in working to conserve natural resources or protect the environment? This cluster includes careers in the production, processing, management, distribution, and marketing of agricultural products, including food, plants, animals, fibers, wood, and crops.	Agriscience Systems Animal Systems Environmental Service Systems Food Production & Processing Systems Natural Resources Systems Plant Systems Power, Structural & Technical Systems Construction Design/Pre-Construction Maintenance Operations	Cooks and all Food Service positions Farm Design Farmyard Assistant Equine Center staff
 Architecture & Construction	Do you want to design, build, and maintain structures where people live, work, and play? This cluster includes careers in designing, planning, managing, building, and maintaining the built environment.	Construction Design/Pre-Construction Maintenance Operations	Heavy Equipment Operator Construction Staff/Member Special Events set up staff
 Arts, Audio/Video Technology & Communications	Do you like to perform? Do you love to use your artistic creativity on the job? This cluster includes careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content, including visual and performing arts and design, journalism, and entertainment services.	Audio & Video Technology & Film Journalism & Broadcasting Performing Arts Printing Technology Telecommunications Visual Arts	Graphic Designer Assistant Art Director Audio Tour Attendant
 Business, Management & Administration	Are you entrepreneurial? Do you like to plan and organize activities? This cluster includes careers in planning, managing, directing, and evaluating business functions essential to effective business operations.	Administrative & Information Business Analysis Business Financial Management Accounting & Accounting Human Resources Marketing	HR Operations Coordinator HR Director of Operations Project Manager
 Education & Training	Do you enjoy teaching others? Are you comfortable with public speaking? This cluster includes careers in education, training, and providing learning support services, including administration and library services.	Administration & Administrative Support Professional Support Services Teaching/Training	Training & Development Coordinator Training & Information Specialist Training Services Coordinator
 Finance	Do you like to work with numbers? Do you want to help people plan for their financial future? This cluster includes careers in financial and investment planning, banking, insurance, and business financial management.	Banking & Related Services Business Financial Management Financial & Investment Planning Insurance Services	Accountant Benefits Administrator Corporate Controller
 Government & Public Administration	Are you interested in government and politics? Would you like to help you law? This cluster includes careers in planning, managing, and providing government services at the federal, state, and local levels, including legislative, administrative, and regulatory services.	Governance National Security Planning Public Management & Administration Regulation Revenue & Taxation	Sustainability Manager Town services such as roads, electric power, and trash removal President of Agriculture, Government Relations, & Land Planning
 Health Science	Do you enjoy helping people feel better? Would you like working in a hospital or other medical facility? This cluster includes careers in planning, managing, and providing health information, support services, and biotechnological research and development.	Biotechnology Research & Development Diagnostic Services Health Information Support Services Therapeutic Services	Clinic Office Coordinator Emergency Services Manager Safety Specialist

In compliance with federal laws, Bismarck County Schools administers all educational programs, including its Career and Technical Education program, employment activities and admissions without discrimination because of race, religion, national or ethnic origin, color, age, sex, military service, disability, or gender, except where exemption is appropriate and allowed by law.

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 Architecture & Construction	Do you want to design, build, and maintain structures where people live, work, and play? This cluster includes careers in designing, planning, managing, building, and maintaining the built environment.	Construction Design/Pre-Construction Maintenance Operations	
 Arts, Audio/Video Technology & Communications	Do you like to perform? Do you love to use your artistic creativity on the job? This cluster includes careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content, including visual and performing arts and design, journalism, and entertainment services.	Audio & Video Technology & Film Journalism & Broadcasting Performing Arts Printing Technology Telecommunications Visual Arts	Project Presentation and Poster Design Project Conception, Filming, and Editing Leadership and professional development roles
 Business, Management & Administration	Are you entrepreneurial? Do you like to plan and organize activities? This cluster includes careers in planning, managing, directing, and evaluating business functions essential to effective business operations.	Administrative & Information Support Business Analysis Business Financial Management Accounting & Accounting Human Resources Marketing	Creation and presentation of software/computer program script
 Education & Training	Do you enjoy teaching others? Are you comfortable with public speaking? This cluster includes careers in education, training, and providing learning support services, including administration and library services.	Administration & Administrative Support Professional Support Services Teaching/Training	
 Finance	Do you like to work with numbers? Do you want to help people plan for their financial future? This cluster includes careers in financial and investment planning, banking, insurance, and business financial management.	Banking & Related Services Business Financial Management Financial & Investment Planning Insurance Services	
 Government & Public Administration	Are you interested in government and politics? Would you like to help you law? This cluster includes careers in planning, managing, and providing government services at the federal, state, and local levels, including legislative, administrative, and regulatory services.	Governance National Security Planning Public Management & Administration Regulation Revenue & Taxation	
 Health Science	Do you enjoy helping people feel better? Would you like working in a hospital or other medical facility? This cluster includes careers in planning, managing, and providing health information, support services, and biotechnological research and development.	Biotechnology Research & Development Diagnostic Services Health Information Support Services Therapeutic Services	Health & Air Quality Applied Science Research

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THE 16 NATIONAL CAREER CLUSTERS FIND THEM ALL AT MISSION HEALTH!



AGRICULTURE, FOOD AND NATURAL RESOURCES
o Therapeutic gardening (CarePartners)



ARCHITECTURE AND CONSTRUCTION
o Facilities planning and design
o Maintenance



ARTS, A/V TECHNOLOGY AND COMMUNICATIONS
o Creative services (graphic design and photo/video production)
o Communications, public relations and social media
o Music therapy (CarePartners)



BUSINESS, MANAGEMENT AND ADMINISTRATION
o Entry level to senior leadership roles in all facets of Mission Health



EDUCATION AND TRAINING
o Center for Leadership and Professional Development
o Professional clinical educators
o Career Exploration Center



FINANCE
o Entry level to senior leadership roles directing, managing and assisting with Mission Health's financial operations
o Business analytics



GOVERNMENT AND PUBLIC ADMINISTRATION
o Community and government relations



HEALTH SCIENCE
o The highest numbers of careers at Mission involve direct patient care - nurses, CNAs, physicians, nurse practitioners, rehabilitation therapists, pharmacists, laboratory, radiology and more
o Also includes clinical research, genetics and informatics



HOSPITALITY AND TOURISM
o Food services, environmental services (housekeeping) and laundry
o Guest services and reception/information desks



HUMAN SERVICES
o Social workers, counselors and intake coordinators
o Chaplains



INFORMATION TECHNOLOGY
o Help desk technicians, programmers and leadership roles
o Hardware specialists
o Software specialists
o Project managers



LAW, PUBLIC SAFETY, CORRECTIONS AND SECURITY
o Security services and risk management
o Attorneys



MANUFACTURING
o Orthotics and prosthetics
o Innovation lab



MARKETING, SALES AND SERVICE
o Marketing specialists
o Recruiters
o eCommerce



SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS
o Many of the same categories as Health Science
o Building and equipment engineers
o Data analytics and clinical informatics



TRANSPORTATION, DISTRIBUTION AND LOGISTICS
o Parking services
o Materials management
o Vehicle fleet management



Mission
Health

<p>Hospitality & Tourism</p>	<p>Do you want to help other people enjoy their leisure time? Would you like to work in a hotel or in a restaurant? This cluster includes careers in the management, marketing, and operations of restaurants and other food services, lodging, attractions, recreation events, and travel-related services.</p>	<p>Lodging Recreation, Amusement & Attractions Restaurant & Food/Beverage Services Travel & Tourism</p>	<ul style="list-style-type: none"> Front Desk Staff (bellman, concierge and desk agents) Food & Beverage Staff (banquets, bartenders, restaurant, kitchen) Housekeeping Group Sales
<p>Human Services</p>	<p>Do you like to help people? Would you enjoy teaching people how to improve their lives? This cluster includes careers that involve teaching to families and to human needs.</p>	<p>Consumer Services Counseling & Mental Health Services Early Childhood Development & Services Family & Community Services Personal Care Services</p>	<ul style="list-style-type: none"> In-house IT Manager
<p>Information Technology</p>	<p>Do you like technology? Do you enjoy working with computer hardware, software, multimedia, or network systems? This cluster includes careers related to the design, development, support, and management of hardware, software, internet, multimedia, and systems integration services.</p>	<p>Information Support & Services Interactive Media Network Systems Programming & Software Development</p>	
<p>Law, Public Safety, Corrections & Security</p>	<p>Do you like to help protect other people's safety? Do you want to help enforce the law? This cluster includes careers in planning, managing, and providing legal, public safety, corrections, protective services, and homeland security, including professional and technical support.</p>	<p>Corrections Services Emergency & Fire Management Services Law Enforcement Services Legal Services Security & Protective Services</p>	
<p>Manufacturing</p>	<p>Do you like to design and make things? Are you comfortable working with machines? This cluster includes careers in planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities, such as production planning and control, maintenance, and manufacturing process engineering.</p>	<p>Maintenance, Installation & Repair Manufacturing Production Process Development Production Quality Assurance</p>	
<p>Marketing, Sales & Service</p>	<p>Do you like to sell products or services? Are you friendly and outgoing? This cluster includes careers in planning, managing, and performing marketing activities to reach organizational objectives.</p>	<p>Buying & Merchandising E-Marketing Management & Entrepreneurship Marketing Communications & Promotion Marketing Information Management & Research Professional Sales & Marketing</p>	<ul style="list-style-type: none"> Group Sales Marketing (website, brochures/all printed collateral, radio commercials)
<p>Science, Technology, Engineering & Mathematics</p>	<p>Do you like science or math? Do you enjoy solving problems? This cluster includes occupations and careers in planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering), including laboratory and testing services, and research and development services.</p>	<p>Engineering & Technology Science & Math</p>	
<p>Transportation, Distribution & Logistics</p>	<p>Would you like to fly planes, drive trucks, or pilot ships? Would you enjoy planning road or power systems? This cluster includes careers in planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water as well as related professional and technical-support services, such as transportation-infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.</p>	<p>Facility & Mobile Equipment Maintenance Health, Safety & Environmental Management Logistics Planning & Management Services Sales & Service Transportation Operations Transportation Systems/Infrastructure Planning, Management & Regulation Warehousing & Distribution Center Operations</p>	<ul style="list-style-type: none"> Shuttle Service (Private group transportation, airport transfers and downtown shuttle service)

Crowne
Plaza



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