

# **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





**Invent Your Tomorrow** 







### Introductions

Nathan Allison, Principal, Nesbitt Discovery Academy nathan.allison@bcsemail.org

Christy Cheek, Career and Technical Education Director

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Cody Cheek, CTE Teacher-Erwin High School

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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 1<sup>st</sup> 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

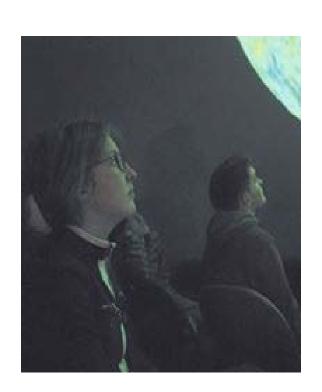






## **NON-Negotiables**

- 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

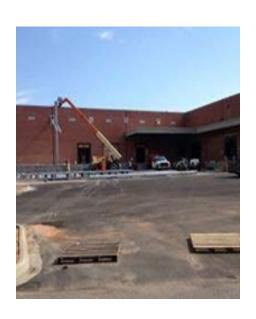
### 2013-2014

- 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













# 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 21<sup>st</sup> Century, Essential Skills
- Partnerships
- Real-world Experiences/Job Shadowing

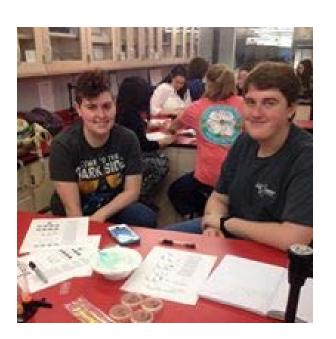






# System of Student Support

- 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







### Work-based Learning for seniors at Nesbitt Discovery Academy

	1# 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
AB Tech Math	AB Tech Math	AB Tech Math	AB Tech Math	Student Support Day for
AB Tech Science	AB Tech Science	AB Tech Science	AB Tech Science	AB Tech Courses, EDD
PLTW EDD	PLTW EDD	PLTW EDD	PLTW EDD	and Internship Course
Internship Group A	Internship Group B	Internship Group A	Internship Group B	work
Internship B reports to	Internship A reports to	Internship B reports to	Internship A reports to	Teachers will be available
internship site for the	internship site for the	internship site for the	internship site for the	and will also be able to
entire day	entire day	entire day	entire day	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** 



# LAS VEGAS



November 30-December 3







**NOAA** 







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



### AGRICULTURE, FOOD AND NATURAL

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
- 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
- Guest services and reception, information desks



### **HUMAN SERVICES**

- o Social workers, counselors and intake coordinators
- o Chaplains



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



### LAW, PUBLIC SAFETY, CORRECTIONS

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
- o Building and equipment engineers
- o Data analytics and clinical informatics

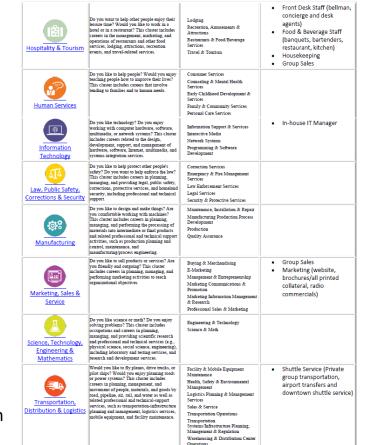


### TRANSPORTATION, DISTRIBUTION AND LOGISTICS

- o Parking services
- o Materials management
- o Vehicle fleet management



Mission Health



Crowne Plaza



# LAS VEGAS

ACTE's CareerTech

November 30-December 3









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