



North Carolina School of Science and Mathematics



North Carolina's High School

Chancellor Todd Roberts

North Carolina School
of Science and Mathematics

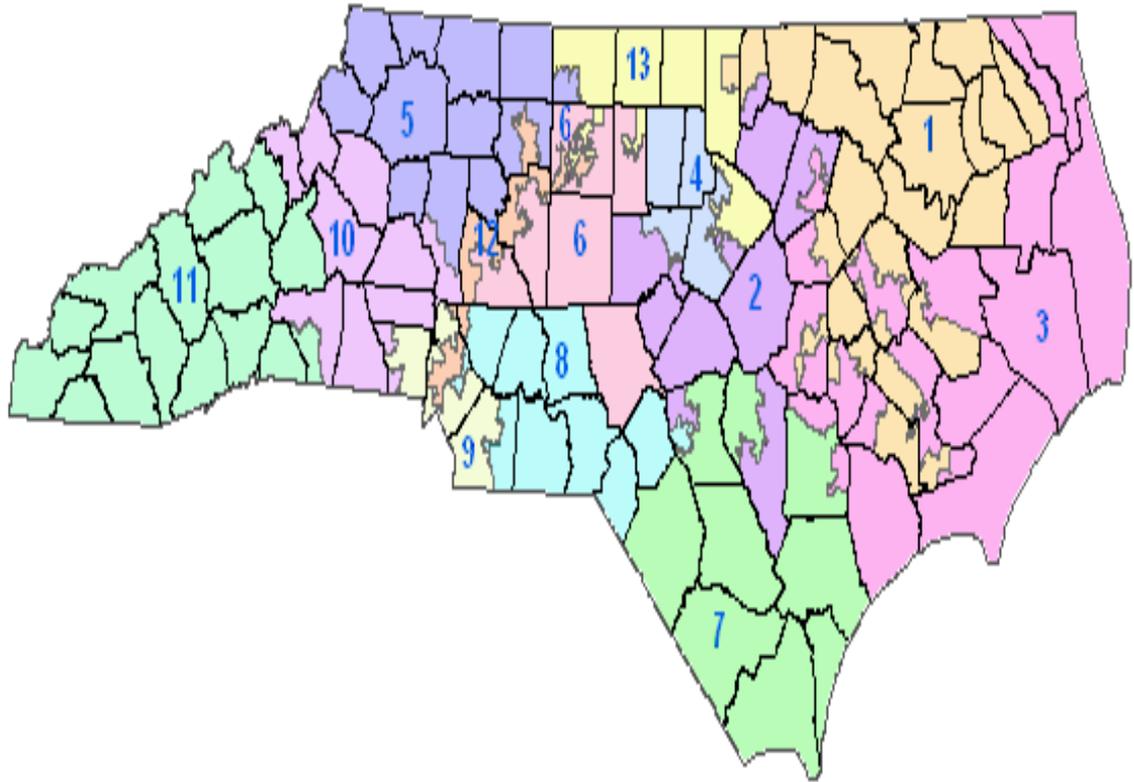
NCSSM Data

- 27 acre campus
- 470,000 sq. feet
- 6 residence halls
- FY 2011 Budget:
 - 93% state funded (**VA STEAM Academy proposes 50-50 public-private funding**)
 - \$18.6 million state approp.
 - \$1.4 million NCSSM Foundation



NCSSM Services

- NCSSM serves students from each of N.C.'s 13 Congressional Districts
- Residential Program
- Interactive Video Conferencing and Online Programs
- Enrichment and Professional Development



NCSSM Student Enrollment

Residential Enrollment (Grades 11-12):

- 2011-2012 = 680 students
- 2011-2012 = 1289 applicants for 350 11th grade spaces

Online and IVC Enrollment (Grades 11-12):

- 2011-2012 = 700 students



NCSSM Profile 2010-11

- Mean SAT 1361 (combined math and reading)
- Class took 575 AP exams; 57% were 5's, 96% scored 3 or better
- 3 of 4 AP Scholars for North Carolina over the past 2 years
- 12 students earned the top merit based scholarships at UNC-CH, NC State and Duke
- 2 of 4 winners in NASA's Conrad Spirit of Innovation Competition
- Semi-finalist in Siemens Competition in Math, Science and Technology
- Students performed 22,000 hours of community service in 2009-2010



NCSSM Academic Opportunities

- NCSSM provides students with outstanding opportunities for problem-based learning in college level, academic courses in math, science, applied sciences, and the humanities.
- NCSSM provides students with outstanding opportunities to apply their learning through research and mentorship.
- NCSSM provides students with outstanding opportunities to apply their learning through academic competitions and entrepreneurial activities.



The Residential Advantage

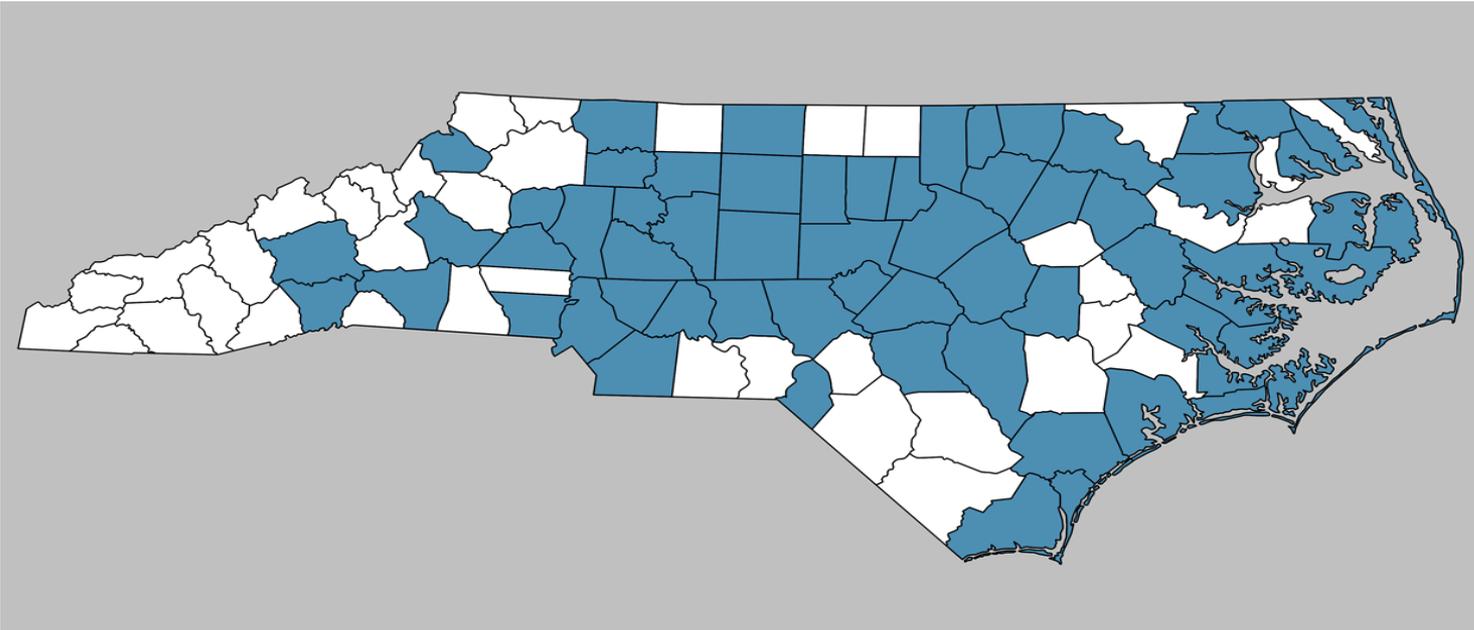
- Promotes personal responsibility
- Promotes and encourages collaboration far in excess of the typical school day
- Provides extensive leadership opportunities for students
- Promotes diversity and cultural understanding
- Prepares students socially for college



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NCSSM Outreach

- Largest provider of K-12 distance education programming in the state
- Interactive Video Conference Courses-for-credit to more than 500 part-time students in 29 schools across N.C. (2010-2011)
- *NCSSM Online* offers 18 honors courses to more than 180 N.C. students
- Academic enrichment programming to nearly 2,500 students at 45 schools across N.C. (2010-2011)
- Professional development to more than 4,000 N.C. educators since 1992



Opportunities Lead to Results

- NCSSM students annually take home top awards at the most prestigious national and international science and math competitions:
 - Intel Talent Search
 - Siemens Competition
 - Conrad Spirit of Innovation Awards
 - National Science Olympiad
 - National Ocean Science Bowl
 - Physics Olympiad
 - USA Biology Olympiad
 - Singapore International Math and Science Competition



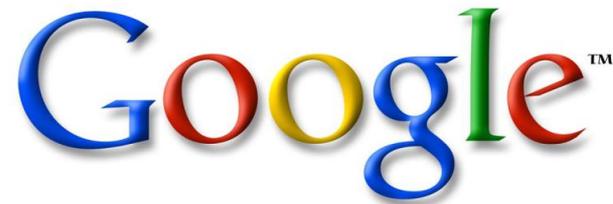
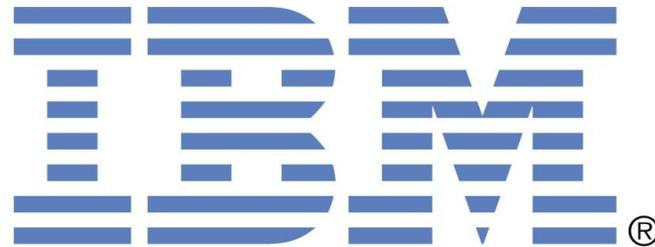
Opportunities Lead to Results

- Greater than 70% of NCSSM's 2011 graduates attend college in North Carolina.
- 57% of NCSSM graduates enter STEM related professions (four times the national average).
- NCSSM alumni volunteer over 140,000 hours of community service each year.
- Nearly 60% of NCSSM graduates live in North Carolina, generating an estimated economic impact of approximately \$500 million annually (NCSSM Economic Impact Study, 2010).



Fueling North Carolina's Economy

NCSSM alumni are working at some of the top companies in North Carolina including:



NCSSM alumni are starting companies that will help drive North Carolina forward:



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**More information:
www.ncssm.edu**





VIRGINIA
STEAM
ACADEMY

Where intellect and innovation converge

.Guide

Judy K. Stewart, PhD and M. Caroline Martin, RN,
MHA, Co-Founders

VA STEAM Academy would have three components

1. Public, residential academy for 1,000, 9th-12th grade Virginia students who show talent in science, engineering, or mathematics
2. Middle school summer residential academy for highly able students in science, engineering, or mathematics
3. Incubator/laboratory for integrated, K-12 STEAM curriculum and pedagogy for students and teachers across the Commonwealth using:
 - high quality, face-to-face and digital professional development
 - online, on demand classroom instruction

Key elements

- Internationally-benchmarked and comprehensive curriculum
- Sustained apprenticeships with STEAM businesses and scientific partners
- Co-curricular and extra-curricular offerings
- Would accept 250, 9th graders each year
- Any rising 9th grader would be eligible to apply
- Open and selective admissions process
- 13:1 student: teacher ratio
- Explore articulation agreements with partner colleges and universities
- If local and state dollars follow the student, expect no additional cost to state

2011 Contacts

Business and Philanthropy

- TowneBank
- W.M. Jordan
- Zel Technologies
- Microsoft
- ExxonMobil
- Rolls-Royce
- Beazley Foundation

2011 Contacts, Contd.

Public, K-12

- Superintendent Linda Shifflette, Hampton City Schools
- Superintendent Dave Stuckwisch, Portsmouth City Schools
- Superintendent James Merrill, Virginia Beach Schools

Higher Education

- College of William and Mary
- Tidewater Community College
- University of Virginia
- Virginia Tech
- University of Maryland-Baltimore County
- Approaching Old Dominion University

2011 Contacts, Contd.

Other

- Former Del. Glenn Oder, executive director, Fort Monroe Authority
- North Carolina School of Science and Mathematics
- Illinois School of Science and Mathematics
- Center for Excellence in Education
- Approaching regional Tech Councils

If awarded \$200,000 planning grant, we would...

- Match it 2:1 with private funds
- Study all aspects of the VA STEAM Academy design:
 - Governance
 - Per pupil cost, funding model, sustainability plan
 - Faculty and administration recruitment, retention, and promotion
 - Student selection criteria and process
 - Curriculum, instruction, assessment, and professional development
 - Apprenticeship model, standards, and outcomes
 - Building, grounds, and site configuration

If awarded \$200,000 planning grant, we would...

- Report back to the General Assembly in one year with full proposal for the Virginia STEAM Academy
 - Ensure 50-50 public-private funding
 - Invite every local school division to participate at the Virginia STEAM Academy
 - Leverage the concentration of STEAM-related businesses and scientific R&D centers in Hampton Roads (e.g., NASA Langley, Langley Air Force Base, National Institute of Aerospace, Jefferson Lab, Newport News Shipbuilding, Virginia Modeling Analysis and Simulation Center)