

# The Future of **Innovation** Starts Here



NORTH CAROLINA SCHOOL  
OF SCIENCE AND MATHEMATICS

**G**lobalization and the shift to a worldwide, knowledge-based economy have drastically changed the expectations of American education. For decades, business and industry leaders, policy makers, educators and elected officials have expressed a need for strong and focused science and mathematics education to keep the United States competitive on a global scale.

Since 1980, the **North Carolina School of Science and Mathematics** has answered this call, beginning as a one-of-a-kind academic experiment — what would happen if some of the state's brightest and most motivated students came together in a place dedicated to the power of science and math? — and becoming a one-of-a-kind **academic powerhouse**, educating academically and intellectually gifted students from every corner of the state and hundreds more through distance education and online learning.

The School's mission is simple: Provide North Carolina's students access to a world-class education with an emphasis on science, technology, engineering and mathematics (STEM).

*And it's working.*

## Innovative Leadership

The National Science Board reports that the number of American eighteen-to twenty-four-year-olds who receive science degrees has fallen to 17th in the world, whereas the United States ranked third three decades ago.

North Carolina's leaders predicted this trend, noting that the educational system in the United States needed to focus more on science and mathematics. And so, in the late 1970's, former Governor James B. Hunt Jr. convened top educators, business leaders and elected officials to establish the North Carolina School of Science and Mathematics.

The school opened in 1980 on Durham's vacated Watts Hospital campus as **the first public, residential high school** where students study a specialized curriculum emphasizing science and mathematics. It was an approach built on the premise that investments in the creation of human and intellectual capital will receive global economic returns — the key to success in a worldwide economy.

NCSSM has since become the model for 18 like-schools around the globe and has helped found the National Consortium for Specialized Secondary Schools of Mathematics, Science and Technology (NCSSSMST), which now counts more than 100 member institutions from across the country. The early vision of North Carolina's leaders has matured into a vital institution that models and advocates excellence in elementary and secondary education and is **integral to the pursuit of the strategic economic and quality-of-life objectives** so important to North Carolinians and to our nation and world.

**"This is the most diverse school in the state, a melting pot of people from all backgrounds and regions of the state who all want to change the world."**

- Adam Hinnant,  
NCSSM Class of 2006

**"The most common mistake visitors can make is to view it solely as a public boarding school."**

- Denis P. Doyle,  
Wall Street Journal



**"This school,  
objectively, can be  
said to be the best  
in the nation."**

- Charles F. Stone, Ph.D.  
*Chair Emeritus, NCSSM Foundation  
Alumni Parent*

**Newsweek has  
ranked NCSSM  
as a top public  
high school for 14  
straight years.**

## **Innovative Learning**

STEM education is a vital prerequisite to solving some of the most pressing challenges facing our state, nation and world.

The U.S. President's Council of Advisors on Science and Technology stated clearly in 2010: "In the 21st Century, the country's need for a world-leading STEM workforce and a scientifically, mathematically and technology-literate populace has become even greater, and will continue to grow - particularly as other nations continue to make rapid advances in science and technology."

NCSSM confronts these issues every day, inspiring students to have the courage to search and discover; to learn without fear. In addition to mastering content, NCSSM students learn to solve problems through application, experimentation and collaboration — key skills needed to succeed in the global economy of the 21st Century.

As the nation's first public, residential school specializing in science and mathematics, and now, as a leading provider of distance education, NCSSM is a well-known education innovator. In fact, the School serves more students through distance education than it does through its residential program. In 2011-2012, NCSSM partnered with 23 school systems across North Carolina to provide top students with access to advanced courses unavailable in local schools.

The experience at NCSSM shapes minds. It opens doors that lead to individual thought and teaches lessons not found in a table of contents.

As Denis P. Doyle of the *Wall Street Journal* said, "The most common mistake visitors make is to view it solely as a public boarding school."

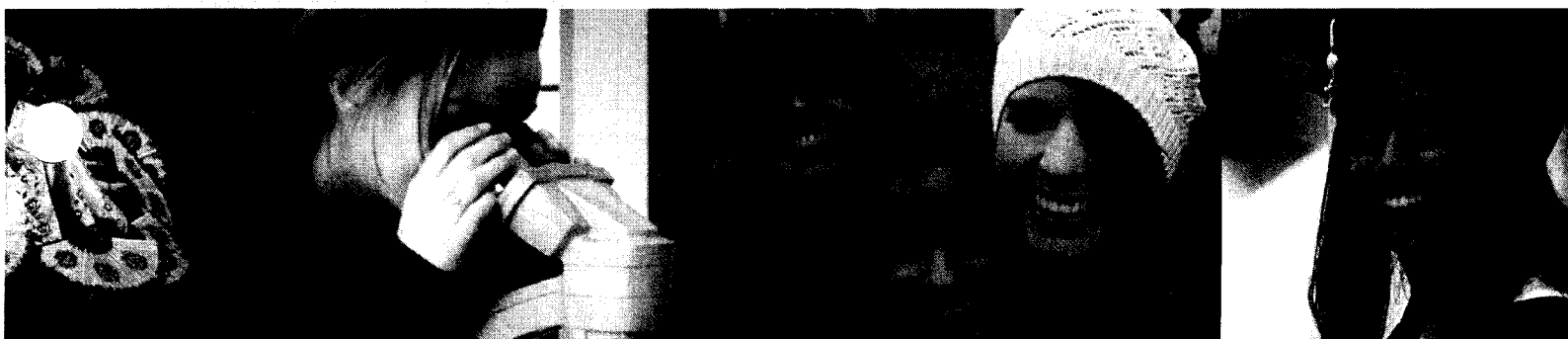
## **Innovative Living**

From across the state of North Carolina, from all corners and all 100 counties, students continue to accept and meet the NCSSM challenge. Each brings his own experiences, her own ideas, and leaves empowered to make a difference.

"This is the **most diverse school in the state**," said Adam Hinnant, NCSSM Class of 2006. "It's a melting pot of people from all backgrounds and regions of the state who all want to change the world."

And since the School opened its doors, that's exactly what its students have done. Every year, NCSSM students place in national and international competitions such as the Siemens Competition and the Singapore International Mathematics Challenge. And every day, NCSSM alumni make an impact in the world as educators, doctors, lawyers, scientists and CEOs.

**At NCSSM, it doesn't matter where students are from. What's important is where they want to go.**



# U.S. and North Carolina STEM Statistics

- STEM workers command higher wages, earning 26% more than non-STEM counterparts.<sup>1</sup>
- STEM occupations in the U.S. are projected to grow 17% by 2018.<sup>2</sup>
- Non-STEM occupations in the U.S. are projected to grow 9.8% by 2018.<sup>2</sup>
- By 2018, it is projected that North Carolina will need to fill 229,000 STEM-related jobs.<sup>3</sup>
- More than 66% of STEM workers have at least a college degree, compared to less than 33% of non-STEM workers.<sup>2</sup>
- Nearly 55% of NCSSM college graduates earn a degree in a STEM field, nearly three times the national average.<sup>4</sup>
- 50% of NCSSM graduates hold a master's or doctorate degree.<sup>5</sup>
- 50% or more of NCSSM graduates live and work in North Carolina, creating \$500 million in annual economic impact.<sup>5</sup>

1 U.S. President's Council of Advisors on Science and Technology, September 2010 report

2 U.S. Department of Commerce, Economics and Statistics Administration, July 2011 Issue Brief

3 Georgetown University Center on Education and the Workforce publication Help Wanted: Projections of Jobs and Education Requirements through 2018. June 2010;

4 NCSSM analysis of data from the Student Tracker service of the National Student Clearinghouse

5 North Carolina School of Science and Mathematics Economic Impact Study, 2010

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## Applying to NCSSM

NCSSM welcomes to its campus about 350 juniors from all corners of North Carolina each year in its residential program. NCSSM also offers an online program that lets students stay at their local high school and take 4-6 NCSSM courses during their junior and senior years. **For more, visit: [www.ncssm.edu/apply](http://www.ncssm.edu/apply)**

## Partnering with NCSSM

NCSSM prides itself on forming collaborative <sup>Sources:</sup> partnerships. By working with schools, universities, private companies and nonprofits, NCSSM provides educational support and opportunities to students and teachers across North Carolina.

Interested in partnering with NCSSM?  
**Contact us: [outreach@ncssm.edu](mailto:outreach@ncssm.edu)**

# NCSSM by the Numbers

**1**

*First public residential high school established for STEM education*

**14**

*Consecutive years named as a top 100 public high school by Newsweek*

**100**

*Out of 100 N.C. counties called home by NCSSM students and alumni*

**680**

*Juniors and seniors from across N.C. who enroll each year*

**1,586**

*Students who received academic credit or enrichment through Distance Education*

**7,888**

*Alumni learning, leading and teaching across the globe*

**21,000**

*Average number of hours volunteered annually at N.C. charities by NCSSM seniors*

**140,000**

*Estimated number of hours volunteered annually by alumni at N.C. charities*

**559,885**

*Pounds of food collected for NCSSM's Guinness World Record food drive*

**1,000,000**

*Students NCSSM seeks to engage within 5 years*

**500,000,000**

*Estimated annual financial impact in dollars of alumni in N.C.*

**NCSSM**

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[www.ncssm.edu](http://www.ncssm.edu)