

# **SURRY COUNTY SCHOOLS**

## **NEWS RELEASE**

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### **Mustang Scholars Explore Biotechnology and Biomedical Engineering Fields**

During the 2017-2018 school year, 34 seventh grade students had an amazing opportunity to explore careers in biotechnology and biomedical engineering. Surry County Schools' seventh grade students participated in the Mustang Biomedical and Engineering Science Scholars (MBESS) program this summer after a year-long experience designed to create science opportunities for underrepresented students at Meadowview Magnet Middle School. The goal of the Mustang Scholars program was for students to explore science and related careers in biomedical engineering and biotechnology fields.

Students were invited to take part in the program during their seventh grade year, based upon teacher recommendation. Students engaged in inquiry-based science activities and developed knowledge in the life sciences during both after school and special "Science Saturday" events. Two weeks of the Summer Science Institute provided students career exploration opportunities and experiential field trips.

The National Academy of Sciences has developed *A Framework for K-12 Science Education*, that includes eight practices for scientific inquiry. The program activities designed for the Mustang Scholars were based on the National Academy of Sciences' framework. Thus, the program integrated the use of leading technology to enhance and facilitate hands-on lab activities. The result of these labs produced the design and development of student-created prototypes of medical devices or independent research projects related to biotechnology or biomedicine. Students also competed in science events to increase competence in science and provide the foundational skills necessary for future success in secondary science and math courses.

Career counseling was an important element interwoven throughout the program to provide an easier transition to high school course selection. Career Coach, Mrs. Crystal Folger-Hawks and

Career Teacher, Mrs. Kathy Brintle, spoke to the Mustang Scholars about biotechnology in agriculture and careers available. Mrs. Folger-Hawks commented, “Mustang Scholars, Ashley Flores, Morgan Bryant, & Emieigh Faw were very proud of their community garden they are caring for daily on Meadowview Magnet Middle School’s campus.”

“The comprehensive Mustang Scholars program was funded by a generous Burroughs Wellcome Fund grant. This grant funding was essential to provide the kind of creative enrichment activities the Mustang Scholars explored. The program activities helped students learn scientific inquiry process skills, increased their insight into the investigative process, supplied students with science-related career information, and connected science with other school disciplines. Engaging students in exciting hands-on enrichment activities gave them the opportunity to ask questions and explore relevant topics to nurture their curiosity and enthusiasm for science and mathematics,” stated Dr. Jill Reinhardt, Assistant Superintendent of Surry County Schools.

The Mustang Scholars summer program consisted of two week-long Summer Institutes. Partnership and collaboration between Surry County Schools and grant partners, Northern Hospital of Surry County and Cook Medical were essential to the program’s success. During week one of the Summer Institute, guest engineers from Cook Medical provided sessions that included programming using the Engineering Design Process in a biomedical career. Students also toured Forsyth Technical Community College’s Biotechnology Department and received information on equipment and careers related to biotechnology.

Week two of the Mustang Scholars Summer Institute included students spending an entire day with engineers and other employees at Cook Medical. Students learned how the Engineering Design Process is actually used within a company. Additionally, students took part in an activity simulating how to plan, design and market their own medical device to remove a foreign object from the digestive system and observed how CAD and 3-D printing is used in the prototyping of medical devices. Students also toured Northern Hospital of Surry County, visiting various departments within the hospital to learn about different areas of medicine, surgery, and radiology. Lab activities included designing a solution for helping someone with a severe head trauma to heal, examining different types of bone fractures, and being a disease detective.

Surry County Schools Science Institute Coordinator/Chemical Hygiene Officer, Mr. Jeff Edwards, commented, “The Mustang Scholars program is a unique and awesome opportunity for students to gain science experiences that bring biotechnology and biomedicine to life. It is one thing to learn about these career fields in a book or a classroom. It is life-changing to work alongside engineers and medical professionals solving real-world problems.” Dr. Matthew Carter, Vice-President of Cook Medical remarked, “We enjoyed hosting the Mustang Scholars at Cook Medical. Hopefully, the students had a fun day of hands-on, interactive activities brainstorming product ideas, manufacturing products and learning how products are used. We value opportunities to provide real-life examples that may help students link their coursework to skills and knowledge used in industry.”

“The Mustang Scholars program reflects a concerted effort by the Surry County School system to provide an inquiry-based, future-oriented, and world-class education for all students,” said, Dr. Travis L. Reeves, Superintendent of Surry County Schools. “The partnership between Surry County Schools, Northern Hospital of Surry County, and Cook Medical exemplifies our core values and strategic priorities of engaging business partners and community members to impact student success as we strive to produce globally competitive students prepared for college and careers. I am proud of the work of these young people and the Surry County Schools’ educators who facilitate this type of hands-on, project-based learning on a daily basis.”