



WILLIAMSBURG
JAMES CITY COUNTY
PUBLIC SCHOOLS



VIRGINIA BOARD OF EDUCATION MARCH 16, 2016

GREATER PENINSULA GOVERNOR'S STEM ACADEMY (GPGSA) CONNECTING BUSINESS AND POST-SECONDARY PARTNERS

GPGSA Overview: Established in **2007** as one of the first six Governor's Academies, the GPGSA is a regional Academy facilitated by New Horizons Regional Education Centers (NHREC) for the counties of Gloucester, York and James City, and the cities of Williamsburg, Poquoson, Newport News and Hampton. Initial career pathways were Mechanical and Electrical Engineering Technology with Information Technology added in 2014.

Exploratory Saturdays Middle School: Initiated in **2008** for up to ninety 7th and 8th grade students and parents. Designed and coordinated by Virginia Space Grant Consortium and facilitated by NHREC. Consists of three events sponsored by business and Community College: "Designing the Future" - TNCC; "Connecting the Future" - Canon Virginia, Inc.; and "Automating the Future" - NASA. Students experience hands-on applied learning while the parent strand includes: College Planning, Employment Opportunities, and Financial Aid. The Exploratory Saturdays Program was recognized by the Virginia Math and Science Coalition (VMSC) as one of the 2015 Programs that Work for having a positive impact on student learning. Twenty-seven Exploratory Saturday events have served approximately 1800 students and 1500 parents, with average satisfaction survey ratings being 4.49 for students and 4.64 for parents (1-5 scale of 1 - disagree to 5 - agree).

Exploratory Saturday High School: Initiated in February **2016** as a one day event for sixty 9th and 10th grade students and parents. Designed and coordinated by Virginia Space Grant Consortium and ECPI University, facilitated by NHREC, and sponsored by ECPI. Sessions included: "To be the Hacker," "Fiber Optics," "Mobile Gaming," and "Networking." Parent sessions were the same. Satisfaction Survey ratings averages were 4.16 for students and 4.72 for parents (1-5 scale of 1 - disagree to 5 - agree).

ECPI and Poquoson City Schools: As part of their GPGSA pathway, Poquoson City Public Schools and ECPI in 2010-2011 developed an on-line asynchronous dual enrollment Electronic Systems 1, and A+ Computer Hardware and Operating Systems program with the college faculty visiting the high school class twice a month and monthly on-site labs for students at ECPI. Courses have served an average of 10 to 15 students each year.

High School Students United with NASA to Create Hardware (HUNCH): NASA, through the GPGSA Advisory, established NHREC as a HUNCH site due to its regional design. HUNCH provides projects and competitions for high school students to innovate or problem solve issues addressing the International Space Station (ISS) or NASA's mission. In 2012-2013 HUNCH used NHREC and Kecoughtan High School to design and fabricate a Barney Chair simulator to train astronauts for the G-force of space travel. This involved a six week internship at NASA where students had to weld and fabricate the chair to NASA's rigorous specifications. The HUNCH project for 2013-2015 was to create an interactive exhibit for the Johnson Space Station simulating the Racks on the ISS as an educational tool. This project involved the Gloucester High School video production program, Newport News Aviation Academy Electronics program, and NHREC's Carpentry and Auto Body Painting program.

TNCC and Newport News Shipbuilding: TNCC and Newport News Shipbuilding awarded a planning grant to NHREC as part of its Master Plan to transition the **regional GPGSA** to an **NHREC Academy for the Technical Trades** focused on Advanced Manufacturing, Automotive Technology, and Construction Technology in 2016-2017. This Academy would include a Public/Private Partnership with a focus on student apprenticeships.

TNCC Advanced Integrated Manufacturing (AIM) Center: TNCC and NHREC have developed a three year lease and instructional agreement beginning 2016-2017 to provide a one-year Mechatronics training program to 16 high school students earning 22 college credits, Siemens Mechatronic Certification and a Career Studies Certificate. This will be the first Mechatronics training program in Virginia.