PLANNING SESSION AGENDA
April 27, 2011

B. ***VIRGINIA'S SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS (STEM) PROGRAMS***

A panel of STEM program directors:

- The Governor's Academy for Innovation, Technology and Engineering (GAITE)

- The Governor's Career and Technical Academy in Arlington (GCTAA)

- The Loudoun Governor's Career and Technical Academy

Profiles of the STEM programs represented on the panel are attached.

The Governor's Academy for Innovation, Technology and Engineering (GAITE)

Career Focus: Electrical Engineering Technology, Mechanical Engineering Technology

Partnerships: New Horizons Regional Education Centers (NHREC); Greater Peninsula Public School Divisions: Gloucester County, Hampton City, Newport News City, Poquoson City, Williamsburg-James City County, York County, Thomas Nelson Community College (TNCC), Old Dominion University (ODU), Virginia Space Grant Consortium, Northrop Grumman Corporation, The Apprenticeship School of Northrop Grumman, Cooperating Hampton Roads Organization for Minorities in Engineering (CHROME), Peninsula Council for Workforce Development, Peninsula Workforce Investment Board, and Peninsula Technical Preparation

Lead Entity: New Horizons Regional Education Centers

Fiscal Agent: Hampton City Public Schools

Contact: Vikki Wismer, GAITE Director

Number of Students Served: Approximately 75-100 students in grades 7 and 8; 150 students in grades 9 and 10; and 180 students in grades 11 and 12

Highlights of the Academy:
- A regional partnership facilitated by a Regional Education Center to establish regional and divisional programs focused initially on Electrical Engineering Technology and Mechanical Engineering Technology.
- The Virginia Space Grant Consortium will design and facilitate enrichment programs to include Engineering Technology Exploratory Saturdays and Engineering Technology Summer Camp.
- The Academy for Engineering Technology curriculum (eleventh and twelfth grades) will be aligned with Thomas Nelson Community College's and Old Dominion University's Engineering Technology degree programs.
- The Academy for Engineering Technology will be based in the school divisions, and courses will be offered at divisional high schools, NHREC, TNCC, and/or through distance learning.
- Students will earn college credits and industry credentialing as well as participate in a senior year internship, mentorship, or project learning experience.

Governor's Career and Technical Academy in Arlington (GCTAA)

Career Focus: Engineering and Technology, Audio and Video Technology and Film, (Health Sciences) Support Services, Information and Support Services, Facility and Mobile Equipment Maintenance

Partnerships: Northern Virginia Community College and Arlington County Public Schools are co-lead partners for the Governor's Career and Technical Academy in Arlington. Partners include The American Service Center; Arlington Employment Center; Passport Nissan; Nortel Telecommunications; The American Youth Policy Forum; Viral Media Productions; and Virginia Polytechnic Institute and State University. Other supporters include The American Association of Community Colleges; Arlington Economic Development; DeVry University; Farrish of Fairfax; National Science Foundation; Nortel Telecommunications; Passport Chrysler; and Passport Infiniti.

Lead Entity: Northern Virginia Community College

Fiscal Agent: Northern Virginia Community College

Contact Person: Kris Martini, Director of Career, Technical and Adult Education
Arlington County Public Schools

Academy Location: The Arlington Career Center

Number of Students Served: At least 50 students will be served during the 2008-2009 academic year, while up to 600 will be served at full implementation in the 2012-2013 academic year.

Highlights of the Academy:
- The Governor's Academy will be a joint secondary/postsecondary institution.
- Students can earn a college degree at no cost one year after high school graduation.
- Dual enrollment opportunities will exist for grades 11, 12, and beyond.
- Cross disciplinary pedagogy informed by Virginia Polytechnic Institute and State University's I-STEM Education program will be the major focus of staff development for teachers.
- The flexible academy model will incorporate several pathways beyond the initial five over time.
- Student job shadowing and internships will be available across a variety of disciplines.
- Required Stretch projects will introduce students to real work-related projects.
- Involved business partners will assist in keeping curriculum relevant.
- Summer college course work will be available.
- Students will be better prepared for work and additional higher education opportunities.

Loudoun Governor's Career and Technical Academy

Career Focus: Plant Systems, Diagnostics Services, Therapeutic Services, Engineering and Technology, Facility and Mobile Equipment Management

Partnerships: Loudoun County Public Schools; Monroe Technology Center; Northern Virginia Community College; Shenandoah University; Virginia Polytechnic Institute and State University; George Washington University; REHAU; Fortessa, Inc.; Lockheed Martin; Metropolitan Washington Airports Authority; America Online, LLC; Loudoun County Economic Development, The Claude Moore Charitable Foundation; TELOS/Xacta Corporation; Hayes-Large Architects; Jerry's Automotive Group

Lead Entity: Loudoun County Public Schools

Fiscal Agent: Loudoun County Public Schools

Contact Person: Shirley L. Bazdar, Director, Career and Technical Education

Academy Location: The Loudoun Governor's Career and Technical Academy

Number of Students Served: One hundred twenty-five high school students will have the opportunity to enroll in the Academy for the 2008-2009 school year. Future plans are in place to expand and grow Academy programs.

Highlights of the Academy:
- Dual enrollment opportunities available through Northern Virginia Community College and Virginia Polytechnic Institute and State University. Future dual enrollment opportunities will be made available through the George Washington University and Shenandoah University.
- Academy students receives enhanced science, technology, engineering, and mathematics instruction via the staff development opportunities, curriculum enhancement, and partnerships with the Loudoun Academy of Science, as well as advisory and planning committee member participation.
- The Health Science cluster pathways contain two new and innovative pathway programs. Curriculum is currently being developed at the CTE Resource Center for these two pathways. The Medical Laboratory Technology and Radiology Technology pathway programs have been created through the support and partnership of the Claude Moore Charitable Foundation and the Inova Healthcare System.
- The Agriculture, Food and Natural Resources Plant Systems pathway is aligned with the global movement to develop more green technologies and practices to conserve and protect earth's natural resources.
- The Transportation, Distribution and Logistics Facility and Mobile Equipment Maintenance pathway will provide direct instruction in the development and maintenance of alternative fuels and hybrid vehicles.
- The Engineering and Technology pathway offers a digital visualization and animation program. This program prepares students to enter the evolving career fields of animation, gaming and software development, prototyping, and rendering.