

**Harrisonburg City Public Schools  
Governor's STEM Academy**

**Executive Summary  
May 6, 2013**

Partnership Members:	Harrisonburg City Public Schools, James Madison University, Blue Ridge Community College, Blackwell Engineering, Rockingham Group, Shenandoah Valley Electric Cooperative, Serco, Kawneer, Shenandoah Valley Technology Counsel, Stanford Research Institute
Lead Entity and Fiscal Agent:	Harrisonburg City Public Schools
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Academy Location:	Harrisonburg High School
Number Students:	The Governor's STEM Academy will have the capacity to enroll 296 students, grades 9 – 12. During the initial school year (2013–2014) 98 students will be admitted.
Career Pathways:	Science and Mathematics Engineering and Technology
Academy Goals and Performance Measures:	<p>The goal of the Harrisonburg City Public Schools Governor's STEM Academy is to promote student achievement and interest in STEM career fields to prepare students for global competitiveness in high-skill, high-wage, and high-demand STEM careers.</p> <p>The following program objectives and performance measures have been established by the Planning/Advisory Committee:</p> <ul style="list-style-type: none"><li>• preparing students for entry into continued education in a STEM field at the college or university level;</li><li>• developing 21st century skills through team approach to problem-based learning;</li><li>• allowing teachers and students to dissolve artificial barriers between disciplines;</li><li>• increasing the number of students meeting the requirements of the Advanced Studies Diploma by 10 percent over the next four years from 143 in 2012 to 157 in 2017;</li></ul>

- increasing participation in dual enrollment and advanced placement courses by 10 percent over the next four years from 336 in 2012 to 369 in 2017;
- increasing students receiving diplomas with the Governor's Seal by 30 percentage points over the next four years from 21 in 2012 to 27 in 2017;
- increasing the number of students receiving the Virginia Board of Education's Seal of Advanced Mathematics and Technology from zero in 2012 to 15 in 2017;
- increasing the number of students participating in the Pre-Engineering Assessment by National Occupational Competency Testing Institute (NOCTI) or the Engineering Technology Examination by SkillsUSA from zero in 2012 to 20 in 2017;
- increasing the number of students signing the Governor's Early College Scholars Agreement from zero in 2012 to 50 in 2017;
- students will conduct a capstone STEM project in their senior year;
- students will all have field experiences to gain knowledge in a STEM career;
- students will have work-based experiences through either their capstone STEM project or field experience;
- increase the HCPS on time graduation by 4 percent from 85.3 percent in 2012 to 88.7 percent in 2017;
- decrease the HCPS dropout rate by 50 percent from 5.8 percent in 2012 to 2.9 percent in 2017;
- increase enrollment and retention in postsecondary education by increasing college-bound students by 5 percent from 74 percent in 2012 to 77.7 percent in 2017;
- increase the number of students completing a college and career readiness curriculum by increasing number of students with an advanced diploma by 10 percent from 43.5 percent in 2012 to 47.9 percent in 2017;
- reduce the proportion of students requiring remediation in college by 5 percent from 2012-2017 as measured by the number of students who meet the basic college entrance criteria as determined by the Virginia Community College System; and
- increase the number of graduates employed in high-wage, high-demand and high-skill careers as monitored by postgraduate surveys.

To measure these goals for the Harrisonburg High School Governor's STEM Academy, HCPS will:

- analyze Standards of Learning scores, AP Scores and grades in mathematics and science;
- participate in research related to science competency and attitudes through a grant at James Madison University;
- monitor the attainment of college credits through dual enrollment and AP scores;
- track internships and field placements for all students;
- follow students through postsecondary academic choices and careers;
- provide graduates with a rigorous and complete college and workplace readiness curriculum that meets the requirements of the Commonwealth Scholars Course of Study in each designated pathway; and
- incorporate Virginia's Workplace Readiness Skills.

Highlights  
of the  
Program:

As a result of participating in the Governor's STEM Academy in the pathways of Science and Mathematics, and Engineering and Technology, students will:

- Gain a deeper understanding of the skills and knowledge incorporated in their fields of study;
- Benefit from specialized, project-based courses which develop critical-thinking, problem-solving, and decision-making skills, preparing them for the 21<sup>st</sup> century world;
- Acquire greater communication skills;
- Develop workplace readiness skills;
- Receive opportunities to earn industry certifications preparing them to be more competitive in the work force and when applying to advanced training schools or postsecondary institutions;
- Obtain meaningful, real-life, hands-on experiences in their career pathway; and
- Profit from opportunities for internships, mentorships, job shadowing, and cooperative education, which provide students with advantages when entering postsecondary education and/or the workplace.