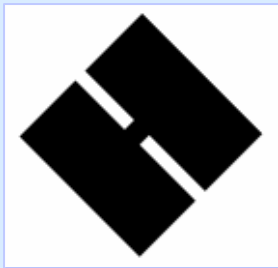


A. Linwood Holton Governor's School

Spring 2009 Newsletter

www.hgs.k12.va.us
Virginia's First Virtual Governor's School

Danny Dixon
Director



Director's News



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The Year in Review

I am pleased to report that the 2008-2009 School Year has been a very productive one here at the A. Linwood Holton Governor's School. During this year, it has been our privilege to serve almost 300 different students from the fifteen school systems with whom we partner. In addition to their high school credits these students will also earn over 2,000 college credits when they complete this semester – all at no cost to them or their parents.

It is our mission here at HGS to provide our students courses that would not otherwise be available to them in their high schools. Presently our course catalogue includes ten very innovative and challenging offerings. Our most popular course this year has been *Anatomy & Physiology* with 114 students, followed closely by *Western Civilization* with 106. A relatively new course for us, *Appalachian History* has taken over the third spot with 42 students.

Our two newest courses, *Methods of Research* and *Introduction to Engineering Methods & Computer Programming* are also off to a good start. Another new course, *Advanced Multi-Media Applications* will be starting up next school year. This exciting new course will be taught by Mrs. Melissa Wilson (who also teaches *Methods of Research*) and will provide students with the knowledge and skills to produce exciting multi-media presentations. Most students will see a need for this course before they graduate from college and certainly once they begin their careers.

As the spring weather returns, the administration and staff of HGS will often be on the road visiting the divisions and schools we serve. We look forward to and appreciate the opportunities we are provided to share information about our school with administrators, teachers, parents groups, and students.

Remember... if we can help, we are only a phone call away.



Anatomy & Physiology

It has been a great spring semester for Anatomy & Physiology students. The highlight was our trip to Eastern Virginia Medical School in Norfolk, Virginia.

While there students learned what it is like to be a first year medical student. Discussions of high school through college preparations, entrance exams, and community service that help with admission to any medical school program took place. Students were able to ask questions about cost, life, and coping with the demands of medical school. Time spent in the gross anatomy laboratory was thrilling and a real learning experience. All of us were especially impressed with the focus of EVMS, which is stressing the important service to the community that medical professionals should always maintain.

All classes are now completing studies of the 11 body systems. As a result students are able to understand how the body is able to function as a whole. As the school year ends the Anatomy & Physiology students have gained a real understanding of the structure and function of the human body, they also know if they really want a career in a medical profession, and realize they have gained experience in handling the rigors of a college science course.



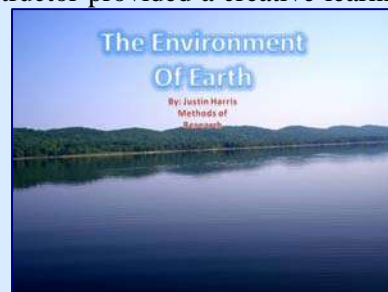
Invigorating research has taken place in Methods of Research this semester where creative ideas hold no limitations. Students ventured through the depths of cyber space studying and learning research principals and applied them to a broad array of topics such as the environment, early childhood development, the Civil Rights Movement, athletic movement, underlining reasons of poverty, the Appalachian area, as well as many other topics. When proposing topics, students develop research questions and begin processing, analyzing, and presenting data in different ways. Students virtually visited some of the world's most captivating places such as Alice Springs, Australia, and the Preah Vihear Temple located on the borders of Thailand and Cambodia. The most enjoyable field work has included visiting libraries and observing different environments. Researchers have interviewed professionals in different fields as they not only sought out new information but also learn new ways to gather and analyze research data! The class has worked both individually and in groups presenting their work utilizing today's technology in photography, audio, and publishing presenting work in an organized clear concise manner. It has truly been a great semester of adventure and learning in Methods of Research!



Kayla Smith is from Holston High School. She has been accepted to Hollins University. She says her interest in Methods came from observing other students who had taken the class. They seemed to enjoy the class and learn so many new research techniques that led her to inquire about the class. She is sure were new skills will be useful to her at Hollins as she studies History and Philosophy and throughout her career.



Justin Harris from Council High School says, "Methods of Research has been one of my most captivating and inspiring classes in high school. At first, I was a little weary of taking a RESEARCH class. I was expecting a quiet, humble professor who would constantly dish out research assignments on dusty time bitten books, but I was wrong! This class utilizes the latest methods and techniques in research to achieve a higher standard of creativity in a shorter period of time. Countless times I dragged out my old digital camera and went out for field work. Yes, field work! The instructor provided a creative learning atmosphere and expected all her students to surprise her in their own special way. I would recommend any person in the world who has the ability to take this class to grasp the opportunity at hand. This will prove to be one of your most valuable classes."



Probability and Statistics

Probability and Statistics: Everything old is new again!

There is a saying that has been used frequently in the recent past: “everything old is new again.” While not exactly “old”, the Governor’s School *Probability and Statistics* course was started soon after the Governor’s School began, and now it is new again. This fall, “Probs and Stats” class will be a very exciting place to be. While the class will still stress practical applications of probability and statistics, much of the way in which students learn the material will change. Projects in topics relevant to the individual student’s interests, from epidemiology to economic impact, will play a key part in the class. Also, even more resources will be available to aid students in their comprehension of the material: more general topic videos, more extra example videos, a “Stat Cave” virtual meeting room where students can meet and work as teams where appropriate, use of statistical analysis software, and much much more.



Students will also be involved with the Governor’s School new Statistics Center, scheduled to come on-line sometime in the 2009-2010 academic year. The Statistics Center will in part be a way in which students can interact with local business and industry. It will also serve as a portal through which students can “publish” their Probability and Statistics capstone course projects.

Join in the fun and excitement of the new Probability and Statistics!

The course is offered by the Governor’s School on both an academic year and block schedule in the 2009-2010 academic year. By taking the class, students fulfill a key requirement of almost all higher education institutions. With the dual enrollment option, a student will earn six hours of college credit upon satisfactory completion of the course.

Students Celebrate 2009 International Year of Astronomy

In this year of 2009, the world celebrates the International Year of Astronomy as it commemorates the 400th anniversary of [Galileo](#)'s use of a telescope to study the heavens. Students at Linwood Holton Governor's School are joining the celebration in a big way. Galileo is noted for his discovery of the 4 large moons of Jupiter, that Venus has phases, and that the Moon has mountains and craters. He made many other discoveries, too numerous to mention here. See this website for more information:

<http://www.astronomy2009.org/general/about/>.

Students in Dr. Steve Rapp's classes are involved in three projects supporting International Year of Astronomy activities. They observed the Orion constellation (right) from March 16-28 using the GLOBE at Night project magnitude charts to measure star brightness. They helped amass a data set from which they begin exploring the concept of light pollution in researching the patterns of light pollution around the world. They also learned a little geography along the way because they must first determine their latitude and longitude using a



GPS unit or by going to this website: <http://www.itouchmap.com/latlong.html>. Next they had to find Orion by looking at the southwest sky between the hours of 8:30-10:00 pm. Magnitude charts are then used to determine the faintest stars that they can see from their location. Students reported their data and make comparisons with other data collected from all parts of the globe. Over 110 countries are involved in the project. The photo below shows one of the students at work on the project.

Moon image used in study of maria
(dark areas in photo)



Pearl at work on the
Globe at Night Project

Secondly, Rapp's students are using Harvard Micro-Observatory telescopes to make observations of interesting celestial objects. They can control the telescopes remotely from their computer at home or at school. At present two telescopes are located in Arizona and two at the Harvard-Smithsonian Center for Astrophysics. Listed below are some of the research projects the students have completed so far: Determining Orbital Velocities of the Galilean Moons, Calculating the Depth and Width of Craters on the Moon, A Comparison of Various Galaxy Types, Voyage to Europa, The Universe in Color, The Moon as a Time Machine, and many others. Students also learn to use image manipulation software to enhance their images. The image above shows a student enhanced image taken in support of Moon research. All the projects are being published on the Harvard-Smithsonian Center for Astrophysics website.

For Buchanan County Sisters, the Appalachian Oral Interviews are Generations Squared!

Wilma Dykeman, noted Appalachian scholar and author, once said, “A sense of one’s place and of history makes distant places less strange and the past more pertinent to the present.” Sometimes, the distance between past and present is merely a generation or two. For Martha and Sarah Mullins, twin sisters enrolled in the spring 2009 Appalachian history class at the ALHGS, their past is much more pertinent after completion of Oral Interviews. Students enrolled in the Appalachian History class are to interview a life-time resident of the Appalachian region. Martha and Sarah, 17, chose to interview their mother Karen Mullins, 49, and their maternal grandmother Faye Vance, 76. The results of these interviews offer a fascinating look at life in far Southwest Virginia from the 1930s to the early 21st century.



For Martha, her mother Karen’s discussion of growing up as one of twelve children of a coal miner reflects the rigors of life for many Appalachian residents well into the 1960s and 1970s. One of the most thought-provoking of Karen’s responses dealt with subsistence farming. Karen recalled that “most of the food we ate consisted of what we grew in our garden in the summer and canned for the winter. We raised chickens, cows, and hogs until I was in high school then we started buying more of these items from the grocery store. I am not sure why we stopped raising the animals. Looking back, I think it was because some of my older brothers and sisters had left home and there were less mouths to feed. However, we rarely had any meat because it was too expensive. It was a real treat to have hamburgers, hot dogs, or a meatloaf on a Sunday once a month. We usually purchased staples such as flour, sugar, dried pinto beans, eggs, and light bread from the store. I remember that my mother only had \$50.00 to spend at the grocery store once a month for our family of twelve.” For Martha, her mother’s account “has made me realize that my mother had a tough life growing up and that her lifestyle made her family very close. I understand a little bit better now how my mom’s family grew up and why they are so thankful for everything they have today. I also understand why my mom tries so hard to give me and my family everything that she can, so we can grow up with everything she didn’t have and that means the world to me.”

Sarah, like her sibling, found food for thought in her grandmother’s recollections of her childhood in rural Southwest Virginia. In particular, Faye’s response to questions about her education denoted a major difference between the past and the present. When asked what her school was like, Faye recalled “It weren’t very far from where we lived. It was a little two room house on a hill. From first to third was in one room and fourth and seventh in the other. I guess the Russell Prater School. There weren’t very many children. You had 1 teacher that taught us all [per room].” Regarding the extent of her schooling, she further recalled that she attended school “through the fifth grade I think. When I got in at that time there was a man teacher I don’t know if he finished high school, if there was something he didn’t know we skipped it. After that I didn’t go back I didn’t learn nothing.” Sarah “found it astounding how my grandmother’s school teacher would skip sections during his teaching because he himself did not understand them. Through this interview experience I have come to realize the challenges that my grandmother as well as my mother faced.” As talented and gifted students enrolled in the ground-breaking A. Linwood Holton Governor’s School, Sarah and her twin can surely appreciate the changes in Buchanan County in the last 50 years.

Mark Hagy, the Appalachian History instructor, praised the work of Martha and Sarah. “These students have utilized oral history in a way that is both pertinent and personal,” Hagy said. “Such interviews are the goal of the Appalachian history course here at the ALHGS. We want the students to appreciate their local history and their unique heritage. Martha and Sarah, working in conjunction, have created both a beautiful family artifact as well as two excellent sources for use by future scholars.”

One of the goals of the Appalachian History course at the ALHGS is to create an on-line archive of oral interviews, reports and projects created by students, accessible to all on the Internet. Martha and Sarah’s interviews will be accessible, in transcript format, at the HGS website (http://www.hgs.k12.va.us/APPALACHIAN_HISTORY_HOME_PAGE.htm).

Engineering Methods & Computer Programming Goes TRIG-less



The inaugural year of *Engineering Methods and Computer Programming* (EM&CP) is coming to an end and what a great year it has been! Students have designed video games, developed methods used to control robots and constructed unique graphics interfaces while at the same time learning the basics of object oriented design.

Next year should be even better. Guest lecturers from industries are scheduled to talk, virtual meeting rooms will be available where students can “meet” and work on problems as a group, and in addition to working with robots, students will also develop applications for their cell phones. Furthermore, students will explore the world of 3-D computer graphics—like that used to make popular “cartoon” movies—using state-of-the-art computer software. There will also be the opportunity for students to compete in Commonwealth-wide computer game design competitions.

But there is more. The curriculum for next year has been re-designed so that trigonometry is no longer a pre-requisite for the course. The algebra pre-requisite remains. The goal is to open the class to students who do not see their academic careers taking them into the technical world. Dr. Norton, the current instructor, recently spoke about the change. “Object-oriented programming is a must have for anyone entering a technical field. The Governor’s School program gives high school students the opportunity to get a huge jump start, taking them far beyond their future college competition. Yet programming is more than a means to only a technical career. Programming, or more specially the design of programs, teaches a variety of skills that are important to many professions: problem solving, attention to detail, critical reading, analytical thinking, and creative design. It should then be a core component of any higher education program. Thus, we made a few minor changes so that any student who wanted to develop and/or improve these skills could do so by taking the class. Nevertheless, those students with technical career field aspirations will be well pleased with the content of the course.”

EM&CP will be offered by the Governor’s School on both an academic year and block schedule in the 2009-2010 academic year. The course is an introductory class for the computer science program at UVA-Wise and Radford University as well as for programs at other Commonwealth schools.

Student Reflections



Jeremy Bise was one of the first A. Linwood Holton Governor's School students. Graduating from Northwood High School in 2001, he spent part of his last year of high school with Mrs. Smith and Dr. Rapp taking Anatomy & Physiology and Astrophysics.

Jeremy graduated high school with a 4.25 GPA. He reflects on his experience participating in the Governor's School:

Yes, I was part of the inaugural class of the Governor's School. I've always been a bit of a techie, so the delivery format was something very unique, especially for this area. I felt that it was a good move on behalf of the parties involved to grant such a great opportunity for the folks in high school who really wanted to excel to have access to higher education earlier in our career. There were only two teachers at that time, "Granny Smith" and Steve, and both were super nice, qualified, and very passionate about their fields. That passion went into the teaching and it really showed. It is so much easier to get into something and truly learn from it when you're learning from someone who shows enthusiasm. Unfortunately, when you get to college, you'll find some boring monotonous professors, and you might wish they were a little more like the folks you'll find at Linwood Holton. I'm glad to know that the program has expanded since then, offering even more opportunity for the kids who are really working hard to excel. I should also mention that sometimes the normal high school courses weren't as preparatory as I would have liked for college work. Taking Governor's School classes helped attune me better for the kind of coursework which was to come.

Jeremy completed coursework from Virginia Highlands Community College and Virginia Tech early in his education, but his degree came from Franklin Pierce University. He originally majored in computer science but soon discovered his interest was in business management.

Jeremy owns two small businesses in Abingdon. ThoseGeeks is a business he started after college as a way to get back on his feet. ThoseGeeks (<http://www.thosegeeks.com>) provides website hosting, design, and e-commerce to small businesses and non-profits. Even though the economy is tough, ThoseGeeks' growth rate is now into the steep part of the exponential curve because the Internet is the most cost effective, 24x7 marketing tool a small business can have. His second business is called Get Noticed (<http://www.getnoticedtoday.com>), which was started recently (January 2009) and focuses on the print side of business marketing. Jeremy is now working on yet a third business.



Jeremy comments on success:

I'm a business person, so I might not see success the same way as others. For me, success keeps getting defined and redefined every day. My ultimate goal is to be able to work for myself full time and feel good about what I'm providing to my customers. To me, success is not an IPO because I went into business so that I could run my life, not to have others breathing down my neck. I don't think success is getting lots of money from venture capitalists and for the same reasons. Success is not having lots of employees under me because I prefer to work with quality people I can really get to know.

To me, success is building businesses I'm proud of and others find valuable. Success is growing revenue and growing my customer base through hard work and honest business. Part of that honesty is sometimes letting others know where you've failed in the past so that they might find value in that and succeed where you didn't. Above all though, I went into business to do things I enjoy. So the biggest gauge of my success is if I step back and think "Am I still enjoying what I'm doing?" If the answer is 'yes', then I'm successful.



National Teachers *Dr. Steve Rapp* Hall of Fame Inductee

Written by: Jenny Harder, Director of Induction and Recognition

On April 22, 2009 - EMPORIA, KANSAS – Virginia teacher Dr. Steve Rapp will take his place among the best teachers in America during a two-day induction into The National Teachers Hall of Fame June 18 - 19 in Emporia, Kan.



Jenny Harder
Presenting Plaque

A 39-year veteran of teaching, Rapp teaches Astronomy, Physics, Engineering, and Robotics at A. Linwood Holton Governor's School in Abingdon, Virginia. Dr. Steve Rapp is the fourth teacher from Virginia to be inducted into The National Teachers Hall of Fame. He learned of his award during a surprise ceremony in Abingdon, Virginia on Wednesday, April 22, at 1:30pm.

"Dr. Rapp was one of the most effective, knowledgeable teachers I have ever had. He was able to bring the complex and vast subject of astrophysics down to a level which high school students were able to easily understand, a large task for a teacher who rarely saw his students. He was able to show us the practical applications of a difficult subject – an awesome accomplishment from an outstanding teacher," said Adam Childers, student.



Rapp will join teachers from Pennsylvania, Kansas, and Kentucky for a series of recognition events in Emporia, Kan. which include meeting with attendees at a Future Teacher Academy, a roundtable discussion, community events, and a banquet and induction ceremony.

"The selection committee is comprised of representatives from educational organizations, NTHF members, and corporate sponsors. The committee evaluates the nominees on responses to questions

regarding their professional profile, their teaching both inside and outside the classroom, educational issues and accountability," said Jenny Harder, Director of Induction and Recognition.

The National Teachers Hall of Fame was founded in Emporia, Kan. in 1989 to honor elementary and secondary teachers - and the teaching profession through a recognition program and museum. Nominees must be certified public or non-public schoolteachers, active or retired, with at least 20 years of experience in teaching grades preK-12.

Since the inaugural induction ceremonies in 1992, 85 educators from 34 states and the District of Columbia have been inducted. This year's class of inductees represents the 18th anniversary of NTHF induction ceremonies.

The National Teachers Hall of Fame is sponsored by The New York Times Knowledge Network, Herff Jones, Inc. and Pearson Education.

Biographies of Rapp and the four other teachers will be available at www.nthf.org. To request biographies, please call the Hall of Fame at 1-800-96-TEACH or 620-341-5660. A list of current Hall of Fame members and schedules for the 18th Annual Induction may be found on the above web site or by calling the Hall of Fame.



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Abingdon High	Grayson County High	Northwood High
Appalachia High	Grundy High	Patrick Henry High
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Carroll County High	Holston High	Powell Valley High
Castlewood High	Honaker High	Richlands High
Chilhowie High	Hurley High	Rocky Gap High
Clintwood High	J.I. Burton High	Rye Cove High
Coeburn High	J.J. Kelly High	St. Paul High
Council High	John Battle High	Tazewell High
Ervinton High	Lebanon High	Thomas Walker High
Galax City High	Lee High	Twin Springs High
Gate City High	Marion Senior	Twin Valley High
Graham High	Mt. Rogers Combined	Virginia High

Participating Schools



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Our Mission:

Is to provide **challenging learning opportunities** for the gifted & talented students of far Southwest Virginia that are not available to them in their regular school program.

We will accomplish this by **strengthening their abilities** and **nurturing their social and emotional well being** - through **mentoring, rigorous academic courses, service to the community, and leadership training** within an *entrepreneurial culture that encourages creativity, initiative, and problem solving.*